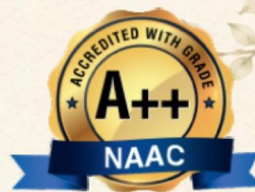




JAIN
DEEMED-TO-BE UNIVERSITY



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National Conference

on

Global Relevance of Indian Knowledge
Systems in Management:
Driving Business, Innovation,
and Leadership in the 21st Century

4th & 5th September 2026

133, JU-CMS, Lalbagh Road
Bengaluru

International Journal of Multidisciplinary Research and Technology
Special Issue (September 2026)



Proceedings of National Conference on

Global Relevance of Indian Knowledge

Systems in Management: Driving Business,

Innovation, and Leadership in the 21st

Century

4th & 5th September, 2026

Organized by

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About JAIN (Deemed-to-be University)

JAIN (Deemed-to-be University) aims to foster human development through quality education, research, entrepreneurship, and sports. Over the years, the university has made conscious and concrete efforts to build on its strengths and consolidate its achievements.

The university has been accredited by the National Assessment and Accreditation Council (NAAC) with an A++ and a CGPA of 3.71, leading to being graded autonomy Category-1 by the University Grants Commission (UGC), Government of India. Additionally, the university is ranked 62nd by the National Institute of Ranking Framework (NIRF) 2025, Ministry of HRD. It is a member of the Association of Universities of Asia and the Pacific. It has been awarded five stars in the Young University Category in Karnataka by KSURF ICARE Ratings. The university hosted Khelo India 2021 and won the overall championship. In Khelo India 2022, held in Uttar Pradesh, JAIN secured the 2nd runner-up position. The university also hosted the AIU Youth Fest in 2023. It was ranked 6th among the top private universities in India by India Today in 2024.

JAIN (Deemed-to-be University) has been conferred the prestigious Rashtriya Khel Protsahan Puruskar 2023 by the Ministry of Youth Affairs and Sports in the category of "Identification and nurturing of Budding and Young Talent" for the year 2023.

Additionally, we are immensely proud to announce that, according to India Today's July 2024 report, JAIN (Deemed-to-be University) has achieved the No. 1 position among private universities for the highest number of patents published over the past three years. With 1,600 patents filed and 1,399 published, this accomplishment highlights our unwavering dedication to innovation and research excellence.

In Khelo India 2022, held in Uttar Pradesh, JAIN secured the 2nd runner-up position. Additionally, we are immensely proud to announce that, according to India Today's July 2024 report, JAIN (Deemed-to-be University) has achieved the No. 1 position among private universities for the highest number of patents published over the past three years. With 1,600 patents filed and 1,399 published, this accomplishment highlights our unwavering dedication to innovation and research excellence.

Center for Management Studies (CMS)

JAIN (Deemed-to-be university) - Center for Management Studies, is an institute that harnesses an international outlook with the commitment to create top business leaders and aspiring management professionals. CMS is a top ranked institution, known for producing some of the best management graduates.

Through a dynamic entrepreneurship program and a diverse range of socio-cultural activities, CMS fosters creativity and problem-solving skills, empowering students to pursue their ideas with a profound perspective on life. The faculty of Management Studies holds the 73rd rank in the National Institutional Ranking Framework (NIRF), Ministry of Education, Government of India 2025. And also has achieved the prestigious ISO 21001:2018 certification, reflecting our commitment to high educational standards.

Furthermore, we are honoured to share that as per Times BBA Educational Ranking Survey, 2024, CMS has achieved the No.1 place among top BBA institutes for placement, No. 5 in the South regional rankings, and No. 19 among the top 70 BBA institutes in India.

As per the India Today Best College Surveys 2026, CMS has secured the 8th overall rank for BBA programs in India and the 3rd place in the category of Academic Excellence.

These accolades underscore our institution's steadfast commitment to academic excellence and its pivotal role in shaping the leaders of tomorrow.

About the National Conference

The **Two-Day National Conference on “Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century”**, organized by **JAIN (Deemed-to-be University) – Centre for Management Studies, Bengaluru**, is scheduled on **4th and 5th September 2026**. The conference aims to provide a meaningful academic platform for exploring the relevance and application of **Indian Knowledge Systems (IKS)** in contemporary management and organizational practices.

Indian Knowledge Systems represent a rich intellectual heritage encompassing values, ethics, strategic thinking, leadership principles, sustainability, holistic well-being, and indigenous approaches to knowledge creation. The conference seeks to examine how these perspectives can be meaningfully integrated with modern management theories and practices to address emerging business and societal challenges.

The conference brings together **academicians, researchers, scholars, industry professionals, students, and experts** to share research insights, practical experiences, and innovative perspectives. Key discussions will focus on responsible business, ethical leadership, innovation, sustainability, entrepreneurship, organizational effectiveness, and the evolving global relevance of Indian wisdom.

Through **research paper presentations, keynote addresses, expert interactions, panel discussions, and knowledge-sharing sessions**, the conference aims to encourage interdisciplinary dialogue and collaborative research. It seeks to bridge traditional knowledge with contemporary management practices and contribute towards building **ethical, sustainable, innovative, and responsible organizations for the future**.

Message from the Chancellor



Dr. Chenraj Roychand

*Founder Chairman, JAIN Group
Chancellor, JAIN (Deemed-to-be University)*

The National Conference on “**Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century**” provides a meaningful platform to explore India’s rich intellectual heritage and its relevance to contemporary management. At a time when organizations seek ethical, sustainable, resilient, and human-centred approaches, Indian Knowledge Systems offer timeless insights into leadership, governance, strategy, decision-making, and holistic development.

The *Arthashastra*, *Bhagavad Gita*, and *Upanishads* present profound perspectives on strategic thinking, responsible action, self-discipline, ethical leadership, and sustainable resource management. Integrating these principles with modern management practices can inspire innovative approaches to business, leadership, organizational resilience, and inclusive growth.

I am confident that this conference will foster meaningful dialogue among academicians, researchers, industry leaders, and students, creating opportunities for interdisciplinary learning and collaboration. May the deliberations inspire new perspectives that connect **Indian wisdom with global management challenges** and contribute to building responsible, purpose-driven, and sustainable organizations for the future.

With my best wishes for the success of the conference.

Warm Regards,

Dr. Chenraj Roychand
Founder Chairman, JAIN Group
Chancellor, JAIN (Deemed-to-be University)

Message from the Vice President – JGI Group



Sri. Ravindra Bhandary
Vice President – JGI Group

I am delighted to extend my warm greetings to all participants of the **Two-Day National Conference** on the theme “**Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century**”, organized by **JAIN (Deemed-to-be University), Centre for Management Studies (CMS), Bengaluru**.

In today’s rapidly changing world, Indian Knowledge Systems (IKS) offer timeless wisdom and valuable perspectives on management, leadership, ethics, sustainability, innovation, and human well-being. Integrating these traditional insights with contemporary management practices can create meaningful approaches to address emerging challenges and foster responsible, inclusive, and sustainable growth.

This conference provides an excellent platform for academicians, researchers, industry professionals, scholars, and students to exchange knowledge, present innovative research, and explore the contemporary and global applications of IKS in management and business.

At JAIN University, we remain committed to promoting academic excellence, research, innovation, and value-based education. I am confident that this initiative will encourage interdisciplinary dialogue, inspire new perspectives, and strengthen the connection between India’s rich intellectual heritage and modern management thought.

I congratulate the organizers, faculty members, researchers, and students for their dedicated efforts and wish the conference great success. May the deliberations lead to meaningful insights, collaborations, and knowledge that contribute to building ethical, sustainable, and future-ready leaders.

Warm Regards,

Shri. Ravindra Bhandary
Vice President – Jain Group

Message from the In-Charge Vice Chancellor & Registrar



Dr. Jitendra Kumar Mishra

*In-Charge Vice Chancellor & Registrar
JAIN (Deemed-to-be University)*

It is with great pride and pleasure that I welcome all participants to the Two-Day National Conference hosted by JAIN (Deemed-to-be University), Centre for Management Studies, on the theme “Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century.”

Indian Knowledge Systems represent India’s rich intellectual heritage and offer valuable insights into management, leadership, ethics, sustainability, innovation, and human well-being. In today’s changing world, connecting this timeless wisdom with contemporary management practices can help build responsible, resilient, and future-ready organizations.

This conference provides a valuable platform for academicians, researchers, industry professionals, scholars, and students to exchange ideas, share their research work, and explore the relevance of IKS in contemporary management and business.

I congratulate the organizers for this meaningful initiative and appreciate the contributions of all speakers, researchers, and participants.

I wish the conference a grand success, enriching discussions, meaningful collaborations, and valuable outcomes.

Warm Regards,

Dr. Jitendra Kumar Mishra
In-charge Vice Chancellor & Registrar
JAIN (Deemed-to-be University)

Message from the Chief Academic Officer



Dr. Shradha Kanwar
Chief Academic Officer
JAIN (Deemed-to-be University)

The conference theme "Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century" underscores a pivotal paradigm shift—moving from purely Western-centric management models to holistic, value-driven Indian perspectives.

Ancient India's strategic thought leaders pioneered practices that remain directly applicable to contemporary global enterprise. Master strategists like Chanakya (Kautilya), through the Arthashastra, demonstrated revolutionary governance, financial acumen, risk mitigation, and ecosystem-based statecraft. Furthermore, decision-makers of ancient India derived transformational insights from texts like the Bhagavad Gita and Upanishads, embedding principles of Dharma (righteous duty), Nishkama Karma (action without attachment to outcome), and sustainable resource stewardship into systemic planning.

Integrating these contemporary perspectives infuses the conference with profound strategic depth, elevating traditional wisdom into actionable tools for global governance and innovation. It bridges ancient Indian leadership principles with modern complexity, offering global thinkers a grounded, value-driven roadmap for the future. Ultimately, this dialogue opens a vibrant path to write a new historical chapter—one where Indian Knowledge Systems actively redefine 21st-century management paradigms.

Warm Regards,

Dr. Shradha Kanwar
Chief Academic Officer
JAIN (Deemed-to-be) University

Message from Conference Chair Person



Dr. Rajani Jairam

*Dean, Office of Student Affairs
JAIN (Deemed-to-be) University*

It is my distinct privilege and immense pleasure to welcome you to the International Conference on “Global relevance of Indian Knowledge systems in management: Driving Business, Innovation and Leadership in the 21st century”

As modern organizations navigate rapid technological shifts, artificial intelligence, and complex global challenges, contemporary management theory increasingly recognizes the limits of purely materialistic or short-term operational models. There is a vital need to rediscover timeless, value-driven paradigms that foster resilience, ethical governance, and sustainable growth.

Rooted in an unbroken intellectual heritage of over several millennia, Indian Knowledge Systems (IKS)—ranging from the foundational principles of Dharma and ethics in governance to strategic insights from classical texts like the Arthashastra—offer profound frameworks for human-centric leadership and organizational well-being.

Modern management practices often prioritize short-term efficiency and linear growth. However, contemporary global challenges demand a more holistic approach. This conference serves as a vital bridge between ancient wisdom and modern organizational science.

Indian Knowledge Systems offer profound, time-tested insights into sustainable governance, ethical leadership, human-centric human resource practices, and collective well-being. By integrating these classical paradigms with contemporary management frameworks, we can build resilient institutions capable of sustainable global impact.

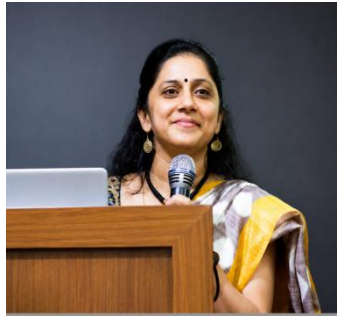
Our agenda features visionary keynote addresses, peer-reviewed research presentations, and interactive panel discussions. We aim to spark rigorous academic debate and foster actionable strategies for today’s business landscape.

Thank you to our co-hosts, committee members, and reviewers for their dedication.

Most importantly, thank you to our authors and attendees for bringing your insights to this dialogue.

I wish you an inspiring, collaborative, and transformative conference experience.

Message from Conference Chair Person



Dr. Sangeeta Devanathan

*Head of Institution, Centre for Management Studies
Deputy Dean- Academics, JAIN(Deemed-to-be) -CMS, Bengaluru*

It gives me immense pleasure to welcome all participants to the Two-Day National Conference hosted by JAIN (Deemed-to-be University), Centre for Management Studies, on the theme “**Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century.**”

The fact that a management institution is convening a dialogue on Indian Knowledge Systems is both significant and timely. Management education is not merely about developing the skills to run businesses; it is about shaping individuals who will make decisions, lead organisations, create value, and influence society. In an increasingly complex and interconnected world, this responsibility calls for a broader understanding of what constitutes effective and responsible management.

Indian Knowledge Systems offer a distinctive perspective by bringing together **purpose, ethics, knowledge, action, leadership, and collective well-being**. Our intellectual traditions have long explored questions that remain central to management today—how leaders should make decisions, how resources should be governed, how individual ambition can be aligned with collective good, and how organisations can pursue prosperity without losing sight of responsibility.

For a management institution, therefore, engaging with IKS is not an exercise in looking back at the past. It is an opportunity to **rethink the future of management**. The challenge before us is to critically interpret these traditions, connect them with contemporary organisational realities, and explore how they can enrich management thought and practice in areas such as leadership, strategy, innovation, entrepreneurship, governance, sustainability, and responsible business.

This conference reflects our belief that management education must prepare students not only to succeed in the world of business, but also to understand the larger purpose and consequences of their decisions. By creating a dialogue between India's knowledge heritage and contemporary management scholarship, we hope to encourage perspectives that are globally relevant while remaining rooted in values and context.

I am confident that the deliberations of this conference will contribute to a richer and more inclusive conversation on the future of management and inspire new avenues for research, teaching, and practice.

I congratulate the organising team and extend my best wishes to all academicians, researchers, industry practitioners, scholars, and students participating in this important academic endeavour. I look forward to the ideas, conversations, and collaborations that emerge from this conference.

Message from the Conference Convener



Dr. Lakshman Kumareshan

*Associate Professor & Assistant Dean-Student Affairs
JAIN (Deemed-to-be) University*

It gives me immense joy to welcome all the participants to the **Two-Day National Conference** on the theme “**Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century**”, organized by **JAIN (Deemed-to-be University), Centre for Management Studies (CMS)**.

This conference embodies our vision of bringing together academicians, researchers, industry practitioners, scholars, and students on a common platform to explore the contemporary relevance and global applications of **Indian Knowledge Systems (IKS)** in management, business, leadership, innovation, ethics, and sustainable development.

The discussions, research paper presentations, and intellectual interactions planned over these two days are aimed at fostering meaningful knowledge exchange, interdisciplinary learning, collaborative research, and thought leadership. The conference also seeks to connect India's rich intellectual heritage with contemporary management practices and emerging global challenges.

As the **Convener**, I am confident that this academic initiative will stimulate meaningful dialogue, encourage critical thinking, inspire innovative research, and open new avenues for collaboration. I sincerely thank our esteemed management, faculty members, organizing committee, student volunteers, researchers, and all contributors for their valuable support in making this conference possible.

Warm Regards,

Dr. Lakshman Kumareshan
National Conference Convener

Message from Conference Co-Convener



Dr. Varalakshmi S

Associate Professor, JAIN (Deemed-to-be) University

It is my privilege to extend a warm welcome to all the distinguished speakers, delegates, academicians, researchers, and participants of the **Two-Day National Conference** on the theme **“Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century.”**

The conference provides a vibrant platform for knowledge creation, exchange, and dissemination, where India’s rich intellectual heritage can be explored in the context of contemporary management and global challenges. At **JAIN (Deemed-to-be University), Centre for Management Studies (CMS)**, we believe in fostering academic excellence while encouraging the integration of traditional wisdom with modern knowledge and practices.

As Co-Convener, I feel honoured to be part of this academic endeavour that brings together diverse perspectives from academicians, researchers, industry professionals, scholars, and students. I sincerely hope that the deliberations, research presentations, and interactions during these two days will inspire meaningful research, interdisciplinary collaboration, and innovative approaches to management, leadership, sustainability, and responsible development.

I extend my heartfelt gratitude to our esteemed leadership, organizing team, faculty members, volunteers, and participants for their valuable support and contribution towards making this conference a meaningful academic gathering.

Warm Regards,

Dr. Varalakshmi S
National Conference Co-Convener

Message from Conference Co-Convener



Dr. Kesavulu Poola

Associate Professor, JAIN (Deemed-to-be) University

It gives me immense pleasure to welcome you to the National Conference on “**Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century.**” This conference is an endeavour to revisit India’s profound intellectual traditions and examine their significance in addressing the evolving challenges of modern management.

Indian Knowledge Systems offer a distinctive perspective that connects **knowledge with values, action with responsibility, and leadership with purpose.** From strategic thought and governance to ethical decision-making, sustainability, and human well-being, these principles provide valuable foundations for developing more conscious and responsible organizations.

The conference seeks to create a vibrant platform for academicians, researchers, industry professionals, and students to exchange ideas, challenge conventional perspectives, and explore innovative applications of Indian wisdom in contemporary business and management.

I am confident that the discussions and deliberations will inspire meaningful research, collaboration, and new approaches to leadership and organizational excellence.

I extend my warm greetings to all participants and wish the conference **a successful, insightful, and intellectually enriching journey.**



National Conference on Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century

4th & 5th September 2026 | # 133, JU-CMS, Lalbagh Road, Bengaluru

ITINERARY

Day - 01 • Friday, 04.09.2026

08:30 – 09:30 am	Registration at the Reception
09:30 – 09:50 am	Inauguration, Invocation and Lighting of the Lamp
09:50 – 09:55 am	Welcome Address by Dr. Sangeeta Devanathan Conference Chair, Deputy Dean - Academics, HOI, JAIN (Deemed-to-be University), CMS
09:55 – 10:00 am	Address by Dr. Rajani Jairam , Conference Chair, Dean-Student Affairs, JAIN (Deemed-to-be University)
10:00 – 10:05 am	Address by Dr. Chenraj Roychand , Chancellor, JAIN (Deemed-to-be University)
10:05 – 10:10 am	Address by Dr. Jitendra Kumar Mishra , In-charge Vice Chancellor and Registrar, JAIN (Deemed-to-be University)
10:10 – 10:20 am	Address by Dr. Ravindra Bandari , Vice President, JGI
10:20 – 10:30 am	Address by Dr. Shradha Kanwar , Chief Academic Officer, JAIN (Deemed-to-be University)
10:30 – 11:00 am	Address by Guest of Honor – Dr. Anil Srinivas Chilla Founder, IKS Expert, and Author of The Ramayana Guide to Practical Leadership
11:00 – 11:20 am	Address by Keynote Speaker- Dr. Vinayachandra Banavathy Director – Communications and Director, Centre for Indian Knowledge Systems, Chanakya University
11:20 – 11:30 am	Release of Conference Proceeding
11:30 – 11:40 am	Vote of Thanks by Dr. Lakshman Kumareshan Conference Convener, JAIN (Deemed-to-be University) - CMS
11:40 – 11:55 am	Tea Break
12:00 – 01:30 pm	Plenary Session (Multiple Tracks)
01:00 – 02:00 pm	Networking Lunch
02:00 – 04:00 pm	Plenary Session (Multiple Tracks)



National Conference on Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century

4th & 5th September 2026 | # 133, JU-CMS, Lalbagh Road, Bengaluru

ITINERARY

Day - 02 • Saturday, 05.09.2026

08:30 – 09:15 am	Plenary Session (Multiple Tracks)
09:30 – 09:40 am	Welcome Address by Dr. Varalakshmi S
09:40 – 10:30 am	Keynote Address by Sri. Vinay Pandurang Kulkarni , Founder & CEO, ALCHMI, Upadesha Academy, IKS Conclaves & Adjunct Professor, RVIM
10:30 – 11:30 am	Panel Discussion Topic: "Indian Knowledge Systems for Responsible Business, Innovation, and Sustainable Growth: Perspectives for Future – Ready Organizations:" Moderator: Dr. Rajani Jairam , Dean – Office of Student Affairs & Conference Chairperson, JAIN (Deemed-to-be University) Panelists: Dr. Bhupendra Bahadur Tiwari , Director, SOEC & IKS Specialist, CMR University, Bengaluru Dr. Ramakrishna Pejathaya , Professor and Director, Centre for Indian Knowledge Systems, Chanakya University Dr. Mahesh Pavan Sathavalli , Associate Director, Kyndryl India Pvt: Ltd., Bengaluru Dr. Aurobindo Kiriakere , IKS Expert, Presidency University
11:30 – 11:45 am	Valedictory Address by Dr. Krishna Koppa , Deputy Director, CMS Business School JAIN (Deemed-to-be University)
11:45 – 11:55 am	Announcement of Best Paper Award – Dr. Lakshman Kumareshan , Convener
11:55 – 12:00 pm	Concluding remark and Vote of Thanks by Dr. Keshavulu Poola , Co – Convener
12:00 pm	National Anthem

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Global Relevance of Indian Knowledge Systems in Management: Driving Business, Innovation, and Leadership in the 21st Century

4th & 5th September 2026

133, JU-CMS, Lalbagh Road, Bengaluru

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Dr. Chenraj Roychand
Chancellor
JAIN (Deemed-to-be University)



Dr. Jitendra Kumar Mishra
In-charge Vice Chancellor and Registrar
JAIN (Deemed-to-be University)



Sri. Ravindra Bhandary
Vice President
JGI Group



Dr. Shradha Kanwar
Chief Academic Officer
JAIN (Deemed-to-be University)



Dr. Sangeeta Devanathan
Deputy Dean - Academics
JAIN (Deemed-to-be University)



Dr. Rajani Jairam
Dean - Office of Student Affairs &
Conference Chairperson

— Guest of Honour —



Sri. Anil Srinivas Chilla
Founder - Startup in IKS
Author - Ramayana Guide to
Practical Leadership, Singapore



Dr. Vinayachandra Banavathy
Chief Consultant - Strategic Initiatives
Chanakya University



Sri. Vinay Pandurang Kulkarni
Founder & CEO
ALCHIME, Upadadisha Academy
IKS Curatives & Adjunct Professor, RVKM

— Keynote Speaker —



Dr. Ramakrishna Pejathaya
Professor & Director,
Centre for Indian Knowledge Systems,
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Dr. Bhupendra Bahadur Tiwari
Director, SDEC & IKS Specialist
CMB University, Bengaluru



Dr. Mahesh Pavan Sathavalli
Associate Director,
Syndry India Pvt. Ltd.,
Bengaluru

— Panelists —

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National Conference

on Global Relevance of Indian Knowledge Systems in Management
Driving Business, Innovation, and Leadership in the 21st Century

4th & 5th September 2026 | Venue : # 133, JU-CMS, Lalbagh Road, Bengaluru

4th September 2026

5th September 2026

Guest of Honour



Sri. Anil Srinivas Chilla
Founder - Startup in ICS
Author - Ramayana Guide to
Practical Leadership, Singapore

Keynote Speaker



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Panel Discussion

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Indian Knowledge Systems
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Innovation, and Sustainable
Growth: Perspectives for
Future-Ready Organizations.

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INDIAN KNOWLEDGE SYSTEMS AS A GOVERNANCE LENS FOR ETHICAL AND SUSTAINABLE FINTECH

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Abstract

Purpose – This article proposes Indian Knowledge Systems (IKS) as a governance lens for addressing ethical and sustainability challenges in the FinTech ecosystem. It aims to develop a conceptual framework that integrates IKS principles with FinTech governance to promote responsible digital finance.

Design/methodology/approach – The study adopts a conceptual research design based on a comprehensive review and synthesis of literature on Indian Knowledge Systems, FinTech governance, artificial intelligence, digital finance, and indigenous governance perspectives.

Findings – The proposed framework positions the IKS principles of Dharma, Nyaya, Artha, Karmayoga, and Lokasangraha as foundational drivers of FinTech governance, leading to improved Ethical AI, Data Governance, Financial Inclusion, and Sustainable FinTech Performance.

Originality/value – This study is among the first to integrate Indian Knowledge Systems with FinTech governance, offering a culturally grounded governance framework for ethical and sustainable digital finance while providing a foundation for future empirical research.

Keywords: Indian Knowledge Systems, FinTech Governance, Ethical AI, Data Governance, Financial Inclusion, Sustainable FinTech Performance.

1. Introduction

Financial Technology (FinTech) has fundamentally reshaped the global landscape of financial services by integrating new technologies such as artificial intelligence (AI), blockchain, big data analytics, cloud computing and digital payment systems to deliver innovative, efficient and inclusive financial solutions (Jain 2026; Bawack 2025). Adoption of FinTech has greatly improved accessibility to finance, operational efficiency and customer experience; however, it has also introduced major governance challenges related to bias in algorithms, privacy of data, cybersecurity, transparency, accountability and ethical decision making (Jain 2026; Ray 2026). These challenges have heightened the need for governance frameworks that support innovation technology but also promote fairness, trust and long-term sustainability at the same time. Parallel to this, Indian Knowledge Systems (IKS) have received more scholarly interest as rich sources of ethical, philosophical and governance principles applicable to contemporary management and organizational practice (Agrawal 2026; Shanmugaraja 2026). Rooted in classical Indian texts, IKS stresses values such as Dharma (ethical duty), Nyaya (justice), Artha (sustainable prosperity), Karmayoga (selfless action) and Lokasangraha (collective welfare). Collectively these values promote responsible leadership and stakeholder orientation and decision making based on values (Srinivasan 2025; Nigam 2025; Sadineni 2024). Despite independent growth of research on governance in FinTech and Indian Knowledge Systems (IKS), integration of these two areas remains underexplored. Current research on IKS has looked at leadership, sustainability, ethical organization and financial decision making, while FinTech research has mostly focused on regulatory, technological and operational dimensions (Agrawal, 2026; Jain, 2026; Bawack, 2025). There is a notable absence of conceptual frameworks that use IKS as a normative lens to deal with ethical challenges related to AI and digital finance. This paper aims to fill this gap by proposing a conceptual framework that integrates core principles of IKS with governance of FinTech and thereby promotes ethical innovation, responsible AI and inclusion and sustainable ecosystems of digital finance.

2. Statement of the Problem

FinTech has grown rapidly through use of AI, blockchain and digital platforms but this has also created ethical issues such as algorithm bias, concerns about privacy of data, lack of transparency and exclusion from digital finance. Governance frameworks for FinTech rely mainly on Western ethical perspectives and provide little consideration of governance approaches grounded in culture. Indian Knowledge Systems (IKS) have well established principles for ethical governance, justice, sustainability and welfare of stakeholders but their use in governance for FinTech is still very little explored. This disconnect shows that there is a need for conceptual framework that integrates these IKS principles into governance of FinTech to promote ethical finance that is inclusive and sustainable.

3. Need for the Study

Increasingly, there is a need for governance models that combine technological innovation with ethical responsibility. While IKS has been recognized as relevant in leadership, management, and organizational ethics, it has received little scholarly attention regarding its contribution to AI governance, digital finance, and FinTech decision-making. This study will address this gap by developing an IKS-based governance framework to enhance the ethical use of AI, responsible innovation, financial inclusion, and stakeholder trust in digital financial services.

4. Scope of the Study

This study is conceptually based and integrates the core principles of Indian Knowledge Systems — Dharma, Nyaya, Artha, Karmayoga, and Lokasangraha — with FinTech governance. The study explores the relevance of IKS to ethical AI, data governance, algorithmic fairness, responsible innovation, financial inclusion, and sustainable digital finance. However, the study does not empirically examine the proposed framework and provides a theoretical foundation for future empirical research and policy development in FinTech governance.

5. Review of Literature

5.1 Indian Knowledge Systems as a Governance Lens

Indian Knowledge Systems (IKS) are gaining recognition as a rich source of governance principles for managing organizational challenges. The emergence of IKS is seen as offering a holistic approach to governance grounded in the principles of ethical responsibility, stakeholder welfare, sustainability, and long-term value creation for society, as opposed to just economic objectives (Agrawal, 2026; Jain, 2026). At the same time, FinTech research has placed considerable emphasis on technological innovations in areas like artificial intelligence, blockchain, digital payments, and algorithmic decision making in financial services. These innovations have greatly increased financial inclusion, efficiency and access to financial services. However, they have also created numerous new governance and ethical challenges (Bawack, 2025). Very few studies have examined the relationship between IKS and FinTech governance. Thus, this represents an important opportunity for both theoretical and practical research.

5.2 IKS Principles in Management and Corporate Governance

Research continues to illustrate how IKS can be used as a comprehensive ethical framework for corporate governance through the use of various principles such as Dharma, Nyaya, Artha, Karmayoga, and Lokasangraha. One common thread running throughout all of these studies is the role of Dharma as the foundation of ethical leadership. Dharma emphasizes one's duty or obligation to act in a way that is morally correct and to take responsibility for their actions rather than acting out of greed or self-interest (Shanmugaraja, 2026; Agrawal, 2026; Srinivasan, 2025).

In addition to Dharma, Nyaya promotes principles related to fairness, justice, equity and dispute resolution. As such, Nyaya promotes fair treatment of stakeholders (Nigam, 2025). Similarly, the use of Nyaya in the area of finance creates a moral compass for financial decisions and encourages fair treatment of customers and employees.

Artha has gained a great deal of academic interest as a means of creating wealth in a manner that is sustainable. Similar to profit maximization models of wealth creation, Artha seeks to balance the pursuit of wealth with social well-being and long-term sustainability (Krishnamurthy, 2026; Nigam, 2025). As such, Artha has many similarities to current discussions related to responsible capitalism and sustainable finance.

Karmayoga has also garnered a number of studies as a means of establishing process excellence and detached focus on achieving desired results. Research indicates that companies which follow Karmayoga exhibit more resilience and employee commitment along with better organizational performance than companies who pursue short term financial gains at the expense of long-term success (S., 2026; Agrawal, 2026).

Finally, Lokasangraha expands upon organizational responsibilities by referencing collective good and inclusive development. Research suggests that this philosophical approach aligns with ESG goals and UN SDGs by promoting value for society rather than solely for shareholders (Sadineni, 2024; Shanmugaraja, 2026; Srinivasan, 2025).

Together, these five principles provide a foundational set of value-based governance principles that complement modern management theories through culturally rooted ethical standards (Fuloria, 2025; Agrawal, 2026).

5.3 Governance Challenges in FinTech

FinTech has revolutionized the delivery of financial products through artificial intelligence (AI), blockchain, mobile payment platforms and other forms of algorithmic decision making. FinTech has provided increased accessibility and efficiency for consumers and businesses alike through improvements in financial inclusion. On the flip side however, these advancements have raised concerns about governance and ethics that were previously non-existent (Ray, 2026).

Some of the largest concerns revolve around algorithmic bias. Algorithmic bias occurs when an AI driven platform discriminates against certain demographic groups unknowingly because the dataset was developed without consideration of those groups' needs. For example, AI lending platforms are accused of discriminating against low-income individuals and minorities because they rely heavily on credit score algorithms that do not account for income inequality or past discrimination (Bawack, 2025). Other key concerns include explainable AI (XAI), data security/privacy breaches (Ray, 2026), consumer protection laws that lack clarity (Ray, 2026), digital trust (Ray, 2026), and algorithmic fairness.

While existing governance structures encourage transparency, accountability fairness and regulatory compliance (Ray, 2026), these are generally centered on western ethical traditions. As such they may ignore values from different cultures that promote collective responsibility and indigenous ethical frameworks that could offer additional ways to manage digital financial activities responsibly.

Additionally recent literature on indigenous knowledge systems (IKS) argues that mainstream information system research pays too little attention to culturally grounded governance mechanisms that allow indigenous knowledge systems to be incorporated into digital technologies (Bawack, 2025). Furthermore, digital financial inclusion research indicates that formal regulatory bodies alone do not fully explain why people in marginalized communities adopt digital financial services when informal IKS continue to affect financial behavior (Bawack, 2025).

5.4 Convergence of Indian Knowledge Systems and Artificial Intelligence

Recently researchers have started looking into convergence between IKS and artificial intelligence and propose a theoretical underpinning for using IKS as part of FinTech governance. IKS is believed to have principles that can inform AI design via principles such as dharma, nyaya and ecological wisdom so that culturally aware socially responsible technological innovations occur (PAIthankar, 2025; Singh, 2026).

Unlike simply considering computational efficiency IKS can be used to develop AI design methods that incorporate human values, ethical considerations and sustainability considerations so that transparent accountable fair processes can be developed for public consumption while attempting to avoid cultural limitations found in most AI governance frameworks (Singh et al., 2019).

Although this developing literature primarily deals with artificial intelligence in general terms the implication for AI enabled FinTech governance remains almost entirely unexamined.

5.5 Empirical Evidence Supporting IKS-Based Governance

Although no studies exist to date specifically investigating the application of IKS in FinTech governance several studies provide indirect support for such an investigation.

Bontot (2025) demonstrated that Hindu-based governance principles resulted in improved financial performance and community trust for over 1,300 village credit institutions in Bali Indonesia by operationalizing Dharma kama kama artha. A case study on Zerodha similarly demonstrated how niskama karman influenced organizational sustainability through ethical leadership financial education programs customer centric innovative practices and long-term strategic planning (S., 2026).

Furthermore, Nyaya was shown to increase stakeholder trust Artha improved sustainable profitability and Dharma resolved conflicts associated with financial decision making within an oil company (Nigam et al., 2018). Even though conducted outside of FinTech these results show that the principles found within IKS have great potential for enhancing governance in virtually all financial contexts.

Outside of India Vijayasimha (2017) demonstrated that dharmic governance & sama darshana share many characteristics with OECD guidelines for responsible business practice therefore suggesting international applicability of IKS based governance. Additionally, Ray (2018) demonstrated that incorporating māori & navajo indigenous knowledge into AI governance increased ethical decision making & decreased implementation failure rates. Finally, Suruchi (2019) stated that philosophies from Bhagavad Gita including karma yoga jnana yoga & bhakti yoga led to resilient & ethically oriented innovation in technology entrepreneurship.

6. Research Gap

While several studies (and numerous books) show the successful application of Indian Knowledge Systems to the disciplines of leadership, governance, sustainability, organizational ethics, financial decision making and artificial intelligence; likewise, in the area of FinTech, many researchers have explored AI governance, digital trust, financial inclusion, cybersecurity and responsible innovation. These two bodies of knowledge have developed largely independently.

There are no empirical or conceptual studies which investigate the systematic applications of IKS principles such as Dharma, Nyaya, Artha, Karmayoga and Lokasangraha to issues including algorithmic fairness, AI-driven lending, data governance, digital financial inclusion and sustainable FinTech performance. Therefore, there is an evident need for a structured conceptual framework that applies IKS principles to FinTech governance. Such a contribution will be beneficial to both theoretical and practical purposes as it will introduce ethically grounded perspectives based on local culture to digital finance and expand the use of Indian Knowledge Systems to one of the most rapidly growing areas of the world's economy.

7. Objectives of the Study

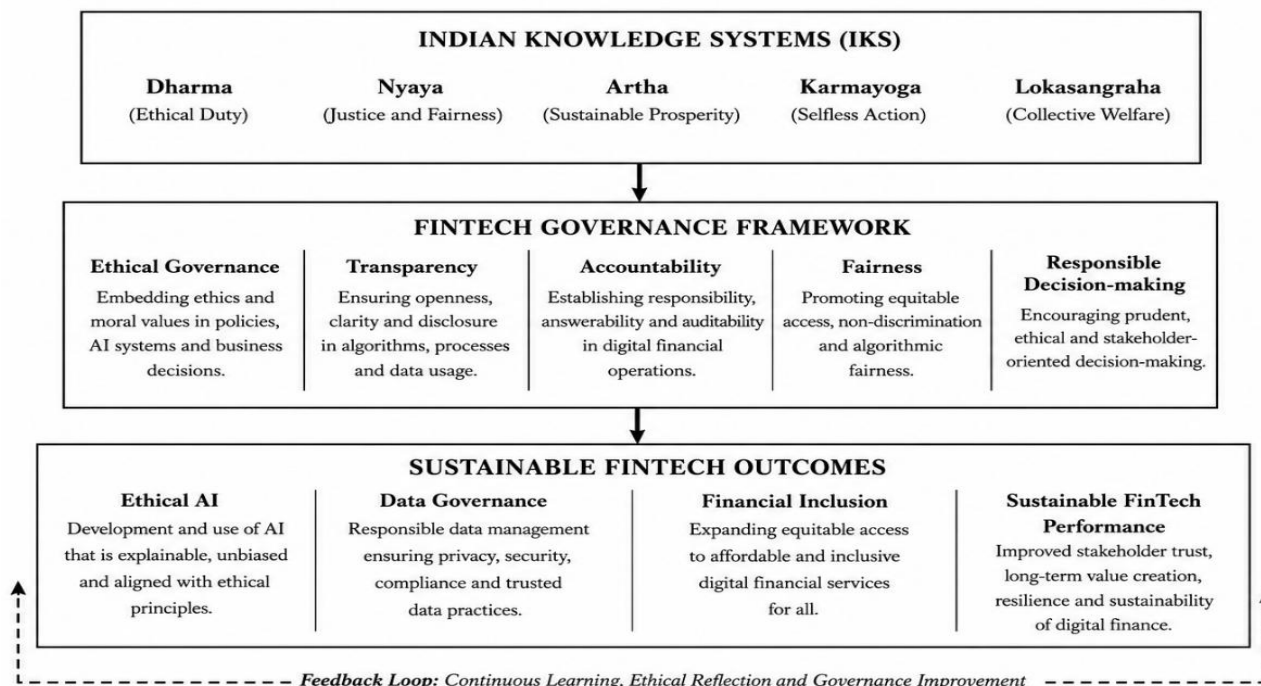
- To explore the relevance of Indian Knowledge Systems (IKS) principles in FinTech governance.
- To propose a conceptual framework integrating IKS principles with FinTech governance for promoting ethical AI, data governance, financial inclusion, and sustainable FinTech performance.

8. Proposed Conceptual Framework

Based on the synthesis of the literature, a conceptual framework is proposed to explain how Indian Knowledge Systems influence FinTech governance and contribute to ethical and sustainable digital finance outcomes.

Proposed Conceptual Framework

Indian Knowledge Systems (IKS) as a Governance Lens for FinTech



Developed by: Komal.S

The Conceptual Framework will show how Indian Knowledge Systems (IKS) can be used as a governing basis for the FinTech ecosystem. The framework will contain three levels (sequential) to explain the way from the ethical Principles to the governance mechanisms and then to the organization/society Results.

Layer 1: IKS-Principles (foundational Principles)

The top level contains the five primary Principles of IKS which constitute the ethically-founded basis of the framework.

- **Dharma (ethical responsibility):** provides guidelines for Organizations to act responsibly, ethically, and fairly in their dealings with stakeholders and customers. Dharma Focuses on acting responsibly and ethically instead of just maximizing profits.
- **Nyaya (Fairness and Justice):** supports Fairness, equity, Transparency, and impartiality in governance and financial services delivery.
- **Artha (prosperous sustainability):** concentrates on Sustainable Prosperity by balancing economic success with sustainable long-term progress.
- **Karmayoga (unselfish work):** fosters unselfish work, quality, ethical actions, and unselfish deeds.
- **Lokasangraha (welfare of all):** Focuses on collective welfare, inclusive development, and providing benefit to all members of society.

All of these together create the foundational ethically/philosophically governed base for governance in FinTech companies.

Layer 2: FinTech Governance Mechanism

The Second level represents FinTech Governance as a transitional mechanism that translates IKS-Principles into practices at organizational level. It includes five governance dimensions:

- **Governance ethics:** guarantees that business decisions and innovative uses of technology align with ethical values.
- **Transparency:** creates Transparency concerning AI-algorithms; financial transactions; organizational policies etc.
- **Holding people accountable:** clearly assigns responsibility for decisions made; management of data; and regulatory compliance.
- **Fairness:** provides equal treatment of all users; minimizes bias/discrimination due to use of algorithms.
- **Ethic Decision-making:** assures that digital finance related decisions are informed; ethic; and fair towards stakeholders. This layer creates a connection between traditional wisdom and modern FinTech-operations.

Layer 3: sustainable FinTech-outcomes

The last layer shows what should result when FinTech-governance is conducted according to IKS-Principles.

- **Ethical AI:** creates more understandable; accountable; unbiased; explainable AI-systems.
- **Data governance:** improves data-quality; privacy-protection; cyber-security; and regulatory compliance.
- **Financial Inclusion:** creates more accessible; affordable; inclusive digital financial services especially to disadvantaged groups.
- **Sustainable FinTech Performance:** achieves sustainable growth; builds trust among stakeholders; stimulates innovation; ensures resilience and creates sustainable value.

Connection between the Layers

The arrows in the framework indicate a logical sequence:

IKS-Principles

→ establishes the ethical foundation for FinTech-governance.

→ through governance, develops Ethical AI, data governance, Financial Inclusion, and Sustainable FinTech Performance.

Thus the framework states that governance is the decisive link that enables the translation of IKS-Principles into responsible and sustainable FinTech-practices.

9. Theoretical Explanation of the Framework

9.1 Dharma (Ethical duty): Dharma highlights the importance of ethical duties and responsibilities in organizational Decision-making processes. In the context of FinTech, it supports the development of Ethical AI, responsible lending practices, transparent operations, and customer-centric governance. Thus, Dharma creates conditions under which Organizations can build trust with their stakeholders through responsible digital financial practices. Therefore, Dharma is considered as the ethical foundation for FinTech Governance.

9.2 Nyaya (Justice and Fairness): Nyaya stands for Justice, Fairness and impartiality in governance. It fosters fair and unbiased AI-algorithms, transparent Decision-making processes, efficient procedures for complaint resolution, equitable access to digital financial services. Through applying Nyaya in FinTech, algorithmic-bias can be reduced, and trust can be built through fair and responsible governance-mechanisms. Therefore, Nyaya increases Fairness and Accountability in digital financial systems.

9.3 Artha (Sustainable Prosperity): Artha Advocates for responsible wealth creation by combining economic growth with sustainable long-term development. Within FinTech it Promotes ESG oriented innovation, responsible innovation, stakeholder-value creation and sustainable business performance. Instead of prioritizing short-term financial gain, Artha links FinTech-innovation to sustainable value creation.

9.4 Karmayoga (Selfless Action): karmayoga Promotes selfless service, ethical execution and commitment to excellence. In the context of the FinTech-ecosystem, it supports responsible innovation, customer orientation, continuous improvement, and ethical implementation of digital technologies. Thus, karmayoga facilitates organizational-resilience through responsible behavior of Organizations in FinTech.

9.5 Lokasangraha (well-being of all): Lokasangraha aims at improving welfare of all individuals through inclusive and sustainable development. For example, in FinTech it supports rural banking initiatives; socially responsible innovation aligned with SDG's; Financial Inclusion; digital education etc.. Through expanding governance beyond organizational interests, it supports equitable access to digital financial services; thus, contributing to long-term welfare of society. Therefore, Lokasangraha expands FinTech-governance beyond profit-maximization to inclusive societal-development.

10. Conceptual Propositions

Proposition 1(p1): Indian Knowledge Systems (IKS) provide a value-based ethical foundation for enhancing governance in FinTech via Principles of Dharma; Nyaya; Artha; karmayoga; and Lokasangraha.

Proposition 2(P2): IKS-guided FinTech-governance leads to enhanced Ethical AI via increased Transparency; Fairness; Accountability; and responsible algorithmic Decision-making.

Proposition 3(p3): IKS-based FinTech-governance improves data governance by developing responsible data-management; protecting privacy-data; ensuring secure data-use; complying with regulations.

Proposition 4(P4): IKS-inspired FinTech-governance increases Financial Inclusion by offering equal access to digital financial services; promoting welfare for stakeholders; and supporting inclusive-digital-financial-services.

Proposition 5(P5): IKS-based FinTech-governance enhances sustainable performance of FinTech by supporting sustainable innovation; building long-term-stakeholder-values; and enabling sustainable-digital-finance.

Link with the Proposed Framework

IKS Principles	FinTech Governance Dimension	Proposed Outcome	Proposition
Dharma, Nyaya, Artha, Karmayoga, Lokasangraha	Ethical Governance, Transparency, Accountability, Fairness, Responsible Decision-making	Strengthened FinTech Governance	P1
FinTech Governance	Ethical Governance	Ethical AI	P2
FinTech Governance	Transparency & Accountability	Data Governance	P3
FinTech Governance	Fairness & Stakeholder Responsibility	Financial Inclusion	P4
FinTech Governance	Responsible Decision-making	Sustainable FinTech Performance	P5

Collectively, these propositions provide the theoretical foundation for the proposed conceptual framework and offer directions for future empirical validation.

11. Theoretical Contributions

This study contributes theoretically in four ways. first, it closes the gap between Indian Knowledge Systems (IKS) and FinTech-governance by integrating two formerly distinct areas of research. Second, it introduces a new Conceptual Framework that presents Dharma-Nyaya-Artha-karmayoga-lokasangraha as the fundamental basis for Ethical FinTech-governance. Thirdly, it adds to governance-theory by providing an indigenous culturally-grounded ethics-perspective to deal with problems of Ethical AI-data governance-Financial Inclusion-sustainable-performance-of-FinTech. Fourthly, the study sets up the theoretical foundations for further empirical-research to test the proposed framework across various digital finance-environments.

12. Practical Implications

- **FinTech companies:** Helps create an ethical governance environment; builds trust with customers; helps deploy AI responsibly; creates transparency; improves decision making; fosters sustainable business practices.

- **Regulators:** Will assist in creating policy on governance; will help regulate AI; will improve digital governance standards; will ensure data privacy; will provide accountability for digital financial services.
- **Policymakers:** Will help achieve Digital India Initiatives; will advance financial inclusion; will help achieve Environmental Social & Governance (ESG) and United Nations Sustainable Development Goals (SDGs); will help develop ethically based digital finance policy.
- **AI Developers:** Will encourage the creation of AI systems that are explainable, fair, transparent and accountable and reduce algorithmic bias; and help develop responsible AI.
- **Financial institutions:** Will provide a value-based governance model to enhance risk management, increase stakeholder confidence, regulatory compliance, and long-term organizational sustainability.

13. Future Research

Empirical validation of the conceptual framework could take place via studies using PLS-SEM or other quantitative methods. Future studies could use Delphi studies and case study methodology to further refine the conceptual framework. Comparative cross-country studies would be useful to assess the application of the conceptual framework in multiple cultural environments. Future research could expand the conceptual framework into emerging areas including digital banking, central bank digital currencies (CBDCs) and blockchain governance.

14. Conclusion

This research project presents Indian knowledge systems (I.K.S.) as a governance lens to address ethical and sustainability issues related to the FinTech eco-system. Through the incorporation of the I.K.S. principles of dharma, nyaya, artha, karmayoga, and Lokasangraha the proposed conceptual framework illustrates how traditional ethical values from India can enhance governance in FinTech and contribute to Ethical AI, data governance, financial inclusion and sustainable performance for FinTech.

The significant contribution of this paper is to fill the gap between I.K.S. and FinTech governance by developing a culturally based governance framework for digital finance. The conceptual framework develops practical applications for FinTech firms, regulators, policymakers and AI developers to facilitate responsible innovation, transparency and customer trust.

Although this paper is a conceptual study it has provided a basis for future empirical studies to test the validity of the proposed conceptual framework within various FinTech settings. The proposed framework contributes to the growing discourse on responsible digital finance by demonstrating how indigenous ethical knowledge can complement modern governance practices and foster sustainable innovation in the FinTech ecosystem. Overall, this study has shown the potential for I.K.S. to support ethical and inclusive digital finance while contributing to both academic theory and practice.

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INDIAN KNOWLEDGE SYSTEM AND MODERN MANAGEMENT

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ABSTRACT

IKS refers to the texts which have a vast repository of knowledge, encompassing various disciplines such as philosophy, science, mathematics, linguistics, astronomy and much more.

This is high time that we must infuse our Indian thoughts, knowledge, tradition, art, skills, craftsmanship, and management into every sphere of life. The IKS sector is expected to generate over millions of jobs in future times which will help to reset the image of India's self-esteem and self-respect. Indian ancient wisdom and knowledge serves as the lighthouse for modern management principles. Srimad Bhagavad Gita is the soul of modern management principles for bringing harmony and cohesiveness and enhancing efficiency in the organization.

The present paper aims to analyse –(i) The relevance of knowledge of Srimad Bhagwad Gita for modern management principles at workplace and in personal life; (ii) The application of spiritual dimensions in modern management. This is a descriptive and analytical research study. The source of knowledge is the basic principles of Srimad Bhagavad Gita. The technique is to discuss these principles in harmony with modern management principles. Shrimad Bhagavat Gita unfolds philosophy of work and gives valuable lessons on setting goals, motivation for better work culture and organizational behavior. It highlights five factors which help in execution of work- ego, physical and mental faculties, inbuilt values and external forces.

Srimad Bhagvad Gita talks of three ultimate management values Success, Prosperity and Happiness. The Srimad Bhagvad Gita lessons for management are: The less you govern, the better you govern. Let us work with each other (Team Work)-Dharma. Those who look at each other with eye of friendliness, must help each other (compassion). Enhance the Satvik energy and Channelize energy to create knowledge (trainings) at work (Satvik-Creativity).

The Indian Knowledge System is enriched with life values and life skills which can be incorporated in various principles of managements in modern management principles.

KEYWORDS: Indian Knowledge System, Srimad Bhagwad Gita, Management, Corporate Sector

INTRODUCTION:

The concept of Indian Knowledge System (IKS) is much popular and it gained momentum recently. The aim is to revive India's traditions and wisdom. India is embarking on a transformative journey. There is need to restructure the entire modern value and management systems. It is essential to set education system based on Indian knowledge traditions and values. Vedic literature plays a significant role in this direction. The Vedic texts, comprising the Rigveda, Samaveda, Yajurveda, and Atharvaveda, hold immense importance in Indian culture and spirituality. IKS refers to the texts which have a vast repository of knowledge, encompassing various disciplines such as philosophy, science, mathematics, linguistics, astronomy and much more. The implementation of Indian Knowledge System will not only revolutionize education and henceforth our society but also rejuvenate our modern and mechanized life styles. This is high time that we must infuse our Indian thoughts, knowledge, tradition, art, skills, craftsmanship, and management into every sphere of life.

The IKS sector is expected to generate over millions of jobs in future times which will help to reset the image of India's self-esteem and self-respect.

IKS AND MANAGEMENT PRINCIPLES:

Indian ancient wisdom and knowledge serves as the lighthouse for modern management principles. The Vedic ideals, vision and Values in Vedas, Ramayana, Mahabharat and Shrimad Bhagavat Gita have great impact on our lives. Modern Management is an integral part of our lives, especially in the life of an organization and corporate sector. Srimad Bhagavad Gita is the soul of modern management principles for bringing harmony and cohesiveness and enhancing efficiency in the organization. The knowledge of Shrimad Bhagwat Gita enlightens the human beings to explore their weaknesses and convert them into strengthened persons and perform all the works assigned and

share responsibilities, build good teams and meet the challenges at work place.

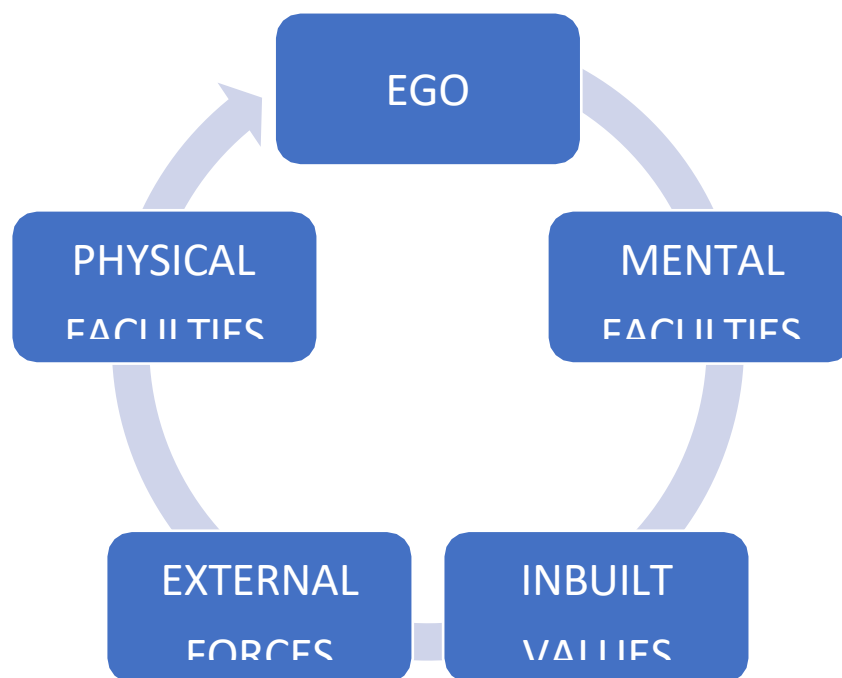
OBJECTIVES: The present paper aims to analyse –(i) The relevance of knowledge of Srimad Bhagwad Gita for modern management principles at workplace and in personal life;

(ii) The application of spiritual dimensions in modern management.

METHODOLOGY: This is a descriptive and analytical research study. The source of knowledge is the basic principles of Srimad Bhagavad Gita. The technique is to discuss these principles in harmony with modern management principles.

DISCUSSIONS:

- It is essential to solve the problems in modern work life in the materialistic world where money, power, authority are the main guiding forces in all the spheres of life especially in the corporate world. Modern management tries to motivate the workers and help them to perform optimally. It focuses on the following issues- How to motivate the workers, how should workers be made to work in an efficient manner and how to satisfy the consumers. The significant factor is to understand the behavior of human beings who live in the state of uncertainty, doubts and confusions.
- Shrimad Bhagavat Gita unfolds philosophy of work and gives valuable lessons on setting goals, motivation for better work culture and organizational behavior. It highlights five factors which help in execution of work- ego, physical and mental faculties, inbuilt values and external forces.



The verses of Srimad Bhagvad Gita are life lessons. They provide wisdom and practical solution to each and every problem.

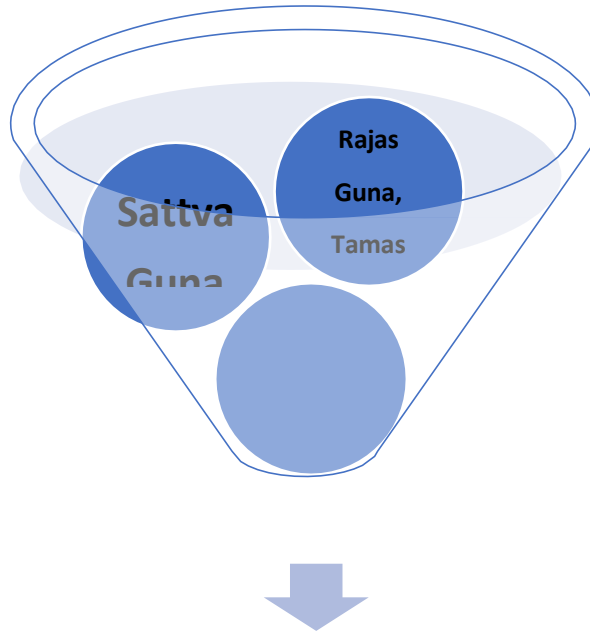
अधधष्ठानं तथा कता करणं च पृथग्विधम् ।

धिधिधाश्च पृथक्चेष्टा दैिं चैिात्र पUमम् ॥ 14॥

In chapter 18, verse 14- (BG 18.14): The body, the doer (soul), the various senses, the many kinds of efforts, and Divine Providence—these are the five factors of action. Without considering these 5 together, a person or a worker will remain disoriented and disintegrated person who will fail to achieve the goal.

In this verse, Sri Bhagavān explains five factors that influence the success of any action.

1. अधधष्ठानं- It represents the physical body or the environment upon which the action is performed.
2. तथा कता -Tatha" means 'also' or 'similarly', and "karta" means the doer or the performer of the action. It is the conscious entity responsible for decision-making and execution.
3. करणं च पृथग्विधम्- It includes the senses, the organs of action and the mind that facilitate the execution of the action.
4. धिधिधाश्च पृथक्चेष्टा- This part of the verse indicates the diversity of actions and the variety of efforts involved. It emphasizes that actions are multifaceted and can
5. manifest in various forms. Each action is unique, and individuals engage in different kinds of endeavors based on their abilities, inclinations, and circumstances.
6. दैिं चैित्र पमम्- Daivam refers to the divine or the factors beyond human control. It encompasses destiny, fate, or the cosmic order. This factor highlights that despite meticulous planning and effort, certain outcomes are influenced by factors beyond human comprehension or manipulation. It acknowledges the role of providence or the higher power in shaping the results of actions.
7. Despite all the instruments of action, if one does not put in effort, nothing is ever done. As per Chankya Neeti-With sufficient effort, even poor destiny can be transformed into good fortune. Without proper effort, even good destiny can be converted into misfortune.
8. It is only when the worker enjoys his work that he can touch his source of inner freshness and he will remain self-motivated.
9. The workers should be able to identify the work and the mode of training that his innate nature which is composed of three Gunas or Characteristics-
 - Sattva Guna (Creativity);
 - Rajas Guna (Activity);
 - Tamas Guna (Inertia) - lack of energy.



Nature

- With these lessons, the recruitment and training professional can communicate better with the workers.
- Srimad Bhagvad Gita uses many words like Karma - individual work, Dharma-group-oriented work. Both help the individual in becoming a good performer individually and as part of team.
- Srimad Bhagvad Gita talks of three ultimate management values
- **Success,**
- **Prosperity;and**
- **Happiness.**



- योगः कमासु कौशलम्: Full dedication brings more success. Modern times need skill development through full dedication. A skilled person who is expert and dedicated in his work will definitely succeed. Therefore, excellence in action is yoga. All must be skilful or excellent in action. Complete focus and dedication to action without any attachment to the ensuing results is the real key to living a fulfilling life as a true Karma Yogi. The message to an employee is that give your hundred percent to your work assigned to you.
- योगस्थः कुरु कर्माध्वन सङ्गं त्यक्त्वा धनञ्जय। धसद्ध्यधसद्ध्योः समो भूत्वा समत्वं योग उच्यते॥2.48॥

Abandoning attachment and established in Yoga, perform works, viewing success and failure with an even mind. — Evenness of mind is said to be Yogal- Swami Adidevananda. In every sphere of life, we have to face a number of challenges. Circumstances changes very quickly but we should always do our duty honestly. Accept the failure and difficulties and enjoy the success with humbleness. When an employee performs his job assigned with full dedication and enjoys his work, the good fruits of his hard work will automatically flow to him. They manager must show

trust in his employees and the team work of both sides will bring the organization on a successful path

1. The whole of Srimad Bhagvad Gita can be summed up in the four points.
2. It advocates the law of infinite potentiality.
3. Command thoughts and activities which are in harmony with dharma.
4. The attitude should be to give
5. Give and receive.
6. Srimad Bhagvad Gita helps to train the body and the mind.

PRACTICAL SOLUTION TO REAL LIFE MANAGEMENT ISSUES AND CHALLENGES:

Leadership qualities: Dutifulness, discipline, compassion and much more qualities have been told in Srimad Bhagvat Gita. Effective leaders must understand of who they are, own self, own physical and psychological conditions. Understanding one's own self entails more than just being aware of one's own physical and psychological conditions. Deeper levels of consciousness are reached by this understanding.

The most crucial aspect of communication is to be honest, and respectful of others. Leaders must be able to inspire their followers when they speak in order to direct them toward the shared vision and goals. Good leaders are good managers. It is essential to be sincere to the duty; fighting for the sake of duty.

- **Set new examples:** Demonstrate qualities like humility, integrity, and compassion to inspire your team. Have a learning attitude which will make the team members more well-knit.
- **Conflict Resolution:** Srimad Bhagavad Gita provides guidance on resolving conflicts peacefully and diplomatically. Managers can learn techniques for effective conflict resolution and negotiation, fostering harmony and productivity in the workplace.
- **Self-Development and spiritual motivation:** Srimad Bhagavad Gita emphasizes self-awareness and self-improvement. Managers can engage in introspection and self-reflection to identify their strengths and weaknesses, leading to personal growth and professional development.
- **Inclusivity and Collaboration:** Srimad Bhagavad Gita promotes inclusivity and collaboration by emphasizing the interconnectedness of all beings and the importance of working together harmoniously. In higher education, fostering a culture of inclusivity and collaboration among students, faculty, staff, and administrators promotes diversity of thought, innovation, and collective achievement.
- **Stay united and create a strong sense of unity:** The manager must inculcate a spirit of unity so that team members work together towards shared goals. A good manager must support morally and physically his team so as to face challenges.
- **Resilience and Perseverance:** A good manager must practice these qualities of resilience and perseverance. A person must persevere in the face of adversity. This will help in team work where each one learns the attitude of ‘never-give-up’.
- **Devote yourself to your team:** Accept leadership as an opportunity to serve your team members rather than command them. Understand their welfare and prioritize their well-being and success. Become a facilitator and supporter.
- **Collaboration, empowerment and harnessing collective wisdom:** The manager must appreciate and value the input and contributions of your team members. Delegate tasks effectively and empower them to take ownership and make decisions.
- **Encouraging spiritual practices:** The manager should always be ready to provide opportunities for spiritual growth of team members which will guide them to connect with their inner selves. Such programs can be chalked out. This will lead to no other lesson from Srimad Bhagavad Gita regarding self-Awareness and Dharma.
- By integrating these management lessons from Srimad Bhagavad Gita into higher education practices, institutions can cultivate ethical leadership, resilience, and a supportive learning environment conducive to academic excellence and personal growth.

FINDINGS:

The Srimad Bhagavad Gita lessons for management are:

- The less you govern, the better you govern.
- Let us work with each other (Team Work)-Dharma.
- Those who look at each other with eye of friendliness, must help each other (compassion).
- Enhance the Satvik energy and Channelize energy to create knowledge (trainings) at work (Satvik-Creativity).
- Understand each other's ability and attitude. The manager must invoke the various aspects of the workers' personality like consumption patterns and behavior patterns.
- The person with Rajas Guna (Activity, Power and Organizational capacities) should not be put in Satvik work.
- BG.III -35- Yajna Karma- says that – ‘in your effort to work according to your nature, even if you die that is enjoyable experience. Therefore, Yajna Karma or team work is collective ever dedicated to high purpose (Spiritual dimensions).

- Unless you are a humble person you will not be able to unfold your inner potential because you will always be in conflict with someone or the other- leading to internal conflicts in the organization.
- Modern management principles based on Shrimad Bhagavad Gita will develop all the outer and inner faculties of a worker.
- It will focus to enhance the Satva Gunas, team work (Yajna karma), inculcate ethics at work such as positive values, respect for colleagues, dedication and honesty at work.
- One key lesson is that a leader must be humble and serve others.
- Focusing on the process rather than obsessing over immediate outcomes like profits or market share. Leaders should embrace rather than avoid formidable challenges because they bring out the leaders' greatest strengths.
- Leaders should be resilient in their actions and should not be weakened by pain and pleasure.

CONCLUSION:

The Indian Knowledge System is enriched with life values and life skills which can be incorporated in various principles of managements in modern management principles.

Dharma (righteous conduct): Ethical decision-making, prioritizing integrity and moral values in business practices. Karma Yoga (selfless service): Focusing on the collective good, encouraging employees to work with a sense of purpose beyond personal gain.

Swa Dharma (duty): Understanding individual roles and responsibilities within an organization, promoting accountability.

Srimad Bhagavad Gita is relevant today because its teachings can help people manage stress, find inner peace, and live selfless lives. It helps in maintaining equanimity can help people manage stress and anxiety and lead to be true towards duty which can help people live noble lives. Srimad Bhagavad Gita can help people find inner peace and to understand the universe. It teaches that selfless action and service to mankind can help people work and perform duties with selfless devotion.

Srimad Bhagavad Gita lays the founding principles of management and can help modern managers attain their goals efficiently.

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FINANCIAL PROSPECT OF PROTECTING TRADITIONAL KNOWLEDGE: A CONCEPTUAL STUDY ON THE BENGALI PRIESTS OF SILCHAR

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ABSTRACT

Traditional knowledge is the knowledge transmitted from generation to generation. There are many different traditional knowledges in India based on different culture, different state, different language, different religion, difference caste etc. This research is based on the study to find the financial prospect of protecting traditional knowledge with special emphasis on Bengali Priests. This research aims to study the financial benefit in acquiring traditional knowledge required to be a Bengali Priest, to study the opportunities and benefits of traditional knowledge from National and International perspective and to analyse the measure to preserve and transmit traditional knowledge. The research has been conducted on 50 Bengali Priests. The analysis of their responses has helped the researcher to find that although the monetary benefit of being a Bengali Priest is not bad yet it is not always regular or constant. Moreover, the respondents want their next generation to learn about this traditional knowledge but they do not want them to practice this traditional knowledge or to take this up as a profession. Thus, this study is significant to understand the position of this traditional knowledge and its growth prospects. This research also aims to study the prospects of Bengali Hindu Priests as a career.

Keywords: Traditional knowledge, Bengali Priests, Career Prospect, Financial prospect.

INTRODUCTION:

Traditional knowledge refers to the beliefs, rituals, stories, cultural values, art and craft, dance, music etc.; that has been transmitted from generation to generation. But with the advent of modern lifestyle these traditional knowledges have lost its essence. Traditional knowledge can also bring financial prospect to the people. Many people have adopted the traditional knowledge to convert these knowledges into a profession to earn their livelihood. Dhamail being the traditional dance in the Barak Valley Region of Assam is done on various joyous, ritualistic occasions like: weddings, baby shower, rice feeding ceremony, or Hindu Treading Ceremony. Kirtan is a type of songs sung by the devotees of God to pray to the Lord for purification of the environment both within and outside the body. Also, for all the occasions if any Hindu ritual has to be performed the most important component without whom these rituals cannot be performed are the practitioners of those rituals, who are specifically Brahmins, the Hindu Priests. All those traditional knowledges are rich in culture and are transmitted from time immemorial. These traditions have slowly started to lose the grip over the people and people are therefore getting more modernised, forgetting their roots and traditions. As our Indian Government has also recognised the priests of few temples as government employees who would draw salaries. This has raised question that is this step correct? Will it have any impact on the priesthood to be chosen as a profession. Also, not only financial benefits but following this traditional knowledge also leads to spirituality, peace, healthy life style etc. Which would help youth to stay grounded with their roots and be more tolerant and understand the true application of knowledge for the benefit of the people and remove the social taboos. Thus, driving the youth of today towards this traditional knowledge becomes important as the combination of traditional knowledge with the contemporary mindset will help in uplifting the society and thus, this study is significant both in terms of social as well as financial perspectives.

OBJECTIVE:

- 1) To examine the financial benefit of acquiring traditional knowledge required to be a Bengali Priest.
- 2) To analyse the opportunities and benefits of traditional knowledge for a Bengali priest
- 3) To suggest the measures to impart and protect traditional knowledge.

RESEARCH METHODOLOGY:

This research falls under the type of descriptive and conceptual research as well as exploratory research as this area of research is very new and untrodden by other researchers. Also this research adds to the concept of preserving traditional knowledge as well as describes the opportunities or plights of the priest community. The researcher used

primary data to achieve the objectives of the research. For the completion of the research, some Bengali Hindu priests of Silchar are contacted and data has been collected from them through face-to-face interview as well as telephonic interview. Structured schedule has been prepared for data collection. The data are collected from the members of Barak Brahman Parishad, Silchar. Barak Brahman Parishad, Silchar is a community group created to unite all the Bengali hindu priests of Silchar. Barak Brahman Parishad Silchar has approximately 135 members of which 50 members are undertaken as a sample for the study. Samples are selected from the total number of members through convenience sampling and snowball sampling technique. Tables and graphs are used for proper analysis and interpretation. Also, in some area percentages are used for making comparison. Researcher also used observation technique to gather certain information.

REVIEW OF LITERATURE:

Some researchers have taken up the study relating to the priests of different communities. Some of which are:

Kumar, R. (2025) in their research identified the need to safeguard and combine traditional knowledge with the modern contemporary concepts which would lead to cultural preservation, sustainability and economic growth. The researcher is of the opinion that traditional knowledge has the potential to lead the current generation towards holistic and inclusive development. The researcher is thus of the opinion to introduce policies and development strategies to integrate traditional knowledge with modern concepts and learnings.

Sarma, U. K., & Barpujari, I. (2012) are of the opinion that current legal frameworks lack effectiveness because traditional knowledge or knowledge holders do not form a part in the process and thus, practical applicability of the traditional knowledge is also hindered. Researchers identified that this gap or loophole exists because traditional knowledge is not placed in any area where local economic, social or political matters are concerned and local indigenous people find themselves to be a part of.

Dua, A. (2026) is of the opinion that local communities are the preserver of traditional knowledge which are actually the basis on which all the recent innovations and commercial products are introduced. But intellectual property rights fail to recognize traditional knowledge resulting in unequal distribution of traditional knowledge. This leads to enjoyment of benefits by other without the real inventor or the preserver getting any recognition, compensation or control. Thus, this research undertakes literature review approach to suggest measures which are legally viable and supported by community and institutions that would benefit the indigenous people to get benefit of their traditional knowledge through IP rights.

Kujur, S. (2025) is of the opinion that India is rich in traditional knowledge which has assisted Indians in almost all fields like engineering, agriculture, management, health and education etc. but the value of such knowledge is not recognized in western countries. Thus, this paper attempts to identify the need of incorporating traditional knowledge and identify the areas where government initiatives would help in such incorporation. The researcher is of the opinion that combined effort of all the sectors like, government agency, research centres, farmers, doctors, tribal communities, scientists, teachers etc are essentially needed to preserve, document, wide spread or incorporate traditional knowledge in the contemporary life style and knowledge of the people.

Uddin, A. (2024) is of the opinion that Sufis, apart from being Islamic scholars were social reformers as well, who contributed in religious and socio-economic development of the people of Bengal by enhancing inclusivity and reformative ideas. The research used qualitative and archaeological techniques to analyse the primary and secondary data collected which are used to identify the contributions of the Sufis in the socio-economic development of Bengal. The research therefore highlights the reason behind the attitude of the Sufis to transform the society and the influence of politics on these efforts of the Sufis.

Ezedum, N. (2022) through their research highlighted that Nigeria was rich in culture, ethnic groups and customs the knowledge of which has been passed on over generations which are being used and benefitted by many from different communities in the current years as Nigeria opened gates for other communities to enter their boundary. Thus, the researcher tries to identify answers to certain questions like giving proper credit to the custodian of this traditional knowledge through intellectual property rights. The researcher therefore, used doctoral research method and both primary and secondary data has been collected to reach to the conclusion that there is a need to protect traditional knowledge and also to identify the steps taken to protect this traditional knowledge and the challenges faced in this process.

Knapp L James, Pruett D Charles, Hicks L Jennifer (2009) did a research on the topic, “*Clergy and retirement: An exploratory study on housing and financial preparedness*” to understand housing facilities provided to the clergy members at the time of their retirement. The results of the study indicate that factors like age, years served as clergy, size of the church worked at, and the intention to retire, influence the financial preparedness of this clergy and this is related to the housing facility as well. The research therefore suggest educating clergies before retirement of their situation and also to the one who intends to hire them.

The research done by **Olson S Joann (2009)** titled, “*Lifelong learning and the full-time minister: Non-pastoral Clergy and Continuing education*” which was conducted on 18 full-time non-pastoral ministers aimed to study their perception towards life-long learning and professional development. The research revealed that the clergies have value for long term learning and relationships but they do not prefer formal, full-time, structured education.

A study on “*Indigenous traditional knowledge protection: Prospects in South Africa’s intellectual property framework?*” by **Masango A Charles (2010)** aims to examine if the intellectual property framework of South Africa is able to protect their indigenous traditional knowledge. Through these research the researchers identified the areas in indigenous knowledge which cannot be protected using Intellectual property rights and those areas which could be protected as per South Africa’s intellectual property rights rule.

Research Gap:

The review of literature revealed that several researches have been undertaken about preservation and need of incorporating traditional knowledge with contemporary knowledge but no studies has been conducted exclusively on Bengali Hindu Priests aiming at their financial condition and prospects of growth nationally and internationally and the benefits of imparting traditional knowledge to next generation. Also, no study relating to this topic has been conducted in Barak valley region of the State Assam in India. Thus, this study is important for the upliftment of the Bengali Hindu Priests and also to explore the benefit and necessity for the preservation and transmission of traditional knowledge to the next generation.

DATA ANALYSIS AND INTERPRETATION:

The data collected for the completion of the research has been analysed and interpreted in this section. This section attempts to throw more light to the objectives of the study and to find appropriate answers to achieve the objectives of the study. A structured schedule has been used by the researcher to collect the data from the members of Barak Brahmin Parishad. Sample of members has been selected by the researcher on the basis of convenience sampling and snowball sampling techniques and data has been collected through telephonic interview.

FORM OF PROFESSION

Data has been collected from the respondent regarding the form in which they take up the profession of being a priest. The responses of the respondents are thus represented through table 1.1

TABLE 1.1 FORM OF PROFESSION

FORM OF PROFESSION	NUMBER OF RESPONDENTS
PART- TIME	23 (46%)
FULL- TIME	27 (54%)
TOTAL	50 (100%)

Source: Questionnaire (field survey)

From the above it can be seen that majority of the respondents take up being a Bengali Hindu Priest as a full-time profession.

FREQUENCY OF RECEIVING CLIENTS

The respondent’s responses relating to the frequency of receiving clients in analysed and interpreted with the help of the table 1.2

TABLE 1.2 FREQUENCY OF RECEIVING CLIENTS

FREQUENCY OF RECEIVING CLIENTS	NUMBER OF RESPONDENTS
VERY FREQUENTLY	20 (40%)
FREQUENTLY	15 (30%)
NEUTRAL	05 (10%)
RARELY	03 (6%)
VERY RARELY	07 (14%)
TOTAL	50 (100%)

Source: Questionnaire (field survey)

From the above table it can be seen that most of the members i.e.; (20+15) 35 respondents, responded stating that they receive clients very frequently or frequently.

ABILITY TO MEET MONTHLY EXPENSES

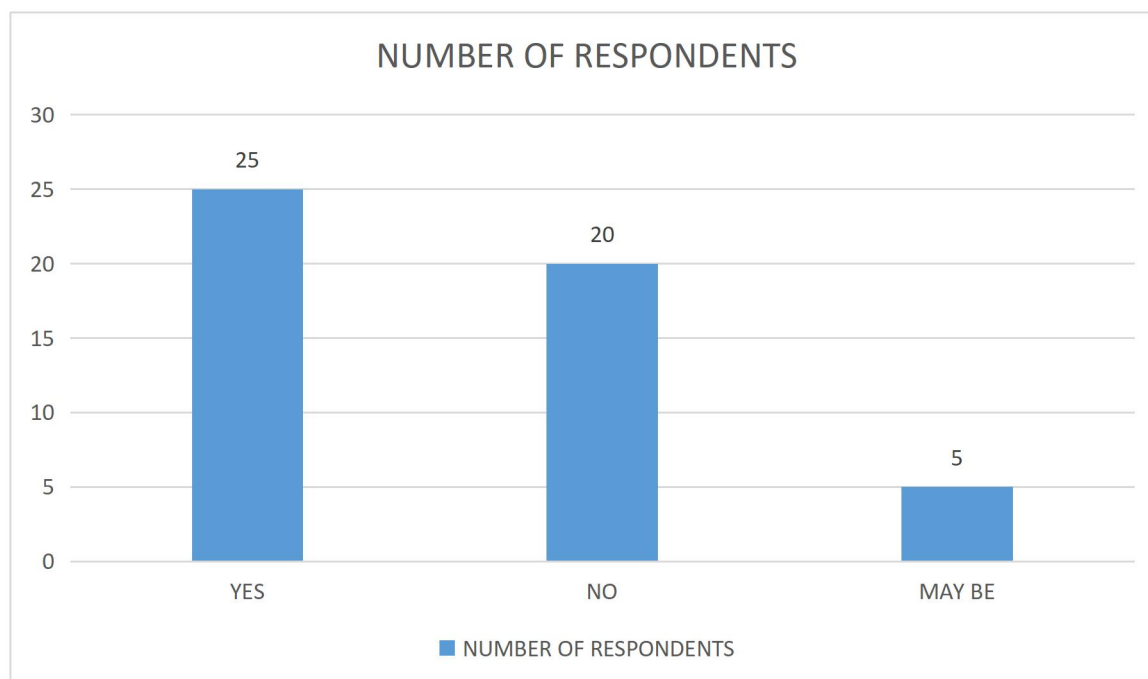
The data collected from the respondents to know whether they are able to meet the monthly expenses from the income earned solely by practicing to be the Bengali Hindu priest, has been analysed using table 1.3 and figure 1.1 for better interpretation.

TABLE 1.3 ABILITY TO MEET MONTHLY EXPENSES BY TAKING BENGALI HINDU PRIEST AS THE ONLY PROFESSION

ABILITY TO MEET MONTHLY EXPENSES	NUMBER OF RESPONDENTS
YES	25 (50%)
NO	20 (40%)
MAY BE	05 (10%)
TOTAL	50 (100%)

Source: Questionnaire (field survey)

FIGURE 1.1 ABILITY TO MEET MONTHLY EXPENSES BY TAKING BENGALI HINDU PRIEST AS THE ONLY PROFESSION



From the above table and figure, it can be seen that 50% of the respondents, i.e.; 25 respondents, are of the opinion that they can meet their monthly expenses by only working as a Bengali Hindu Priest.

REASON OF CHOOSING, BENGALI HINDU PRIEST AS A PROFESSION

Data has been collected from the respondents so as to know their reason to get into the profession as a Bengali Hindu Priest. The table 1.4 has been used to properly analyse the data thus collected.

TABLE 1.4 REASON OF CHOOSING, BENGALI HINDU PRIEST AS A PROFESSION

REASONS	NUMBER OF RESPONDENTS
FAMILY PROFESSION	10 (20%)
I LIKE DOING THIS	20 (40%)
HAVE LOTS OF OPPORTUNITY	03 (6%)
HAVE NOTHING ELSE TO DO FOR LIVELIHOOD	17 (34%)
BECAUSE OF FRIENDS	00
TOTAL	50 (100%)

Source: Questionnaire (field survey)

From the above table it can be seen that majority of the respondents has taken up being a Bengali Hindu priest as a profession, because they like to do so. From deeper investigation the researcher got to know that majority of the respondents took this profession because they had nothing else to do and as this was their family profession so it was easy for them to take up.

SOURCE OF KNOWLEDGE

The data that has been collected from the respondents to know the source of their knowledge, required to be a Bengali Hindu priest has been tabulated in table 1.5 for better interpretation

TABLE 1.5 SOURCE OF KNOWLEDGE

SOURCE	NUMBER OF RESPONDENTS
FAMILY /ANCESTORS	20 (40%)
FRIENDS	00
BOOKS	00
OTHERS	30 (60%)
TOTAL	50 (100%)

Source: Questionnaire (field survey)

From the above table it can be seen that majority of the people has gained their knowledge from other sources like Sanskrit tool, Bangio Tantrik Samaj, and from Ustads etc. Few also gained their knowledge from Family or Ancestors.

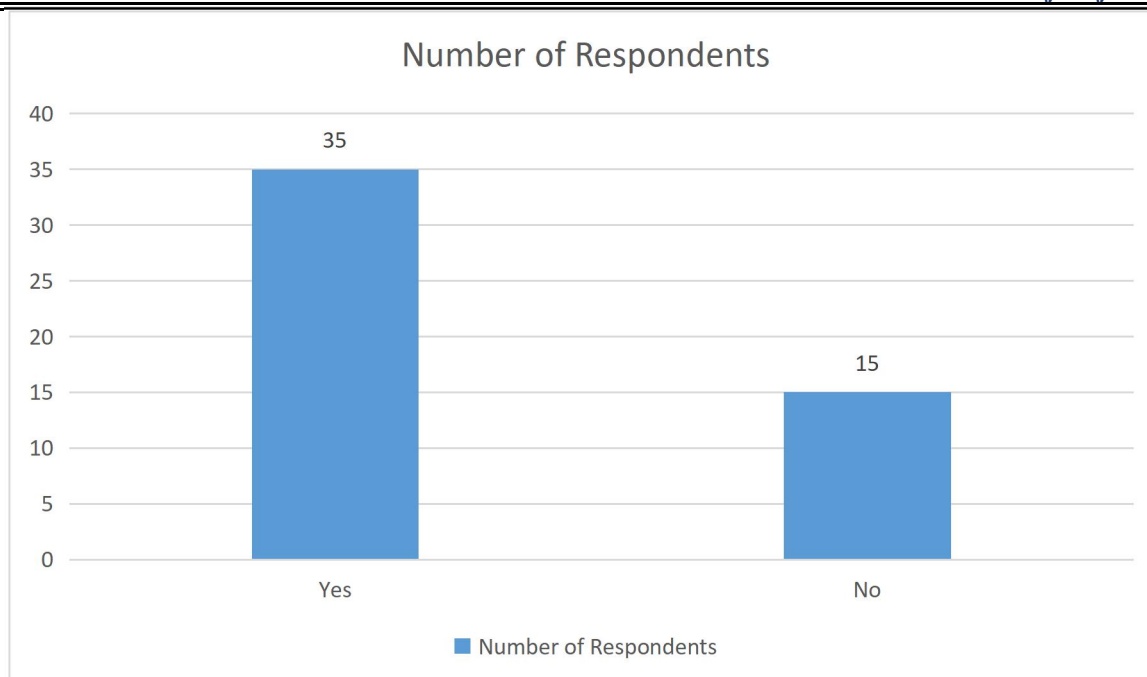
DESIRE TO TRANSMIT KNOWLEDGE TO OFFSPRINGS OR NEXT GENERATION

The information related to desire to transmit knowledge to offsprings or next generation has been collected by the researcher which has been analysed with the help of the table 1.6 and figure 1.2

TABLE 1.6 DESIRE TO TRANSMIT KNOWLEDGE TO NEXT GENERATION

DESIRE TO TRANSMIT	NUMBER OF RESPONDENTS
YES	35 (70%)
NO	15 (30%)
TOTAL	50 (100%)

Source: Questionnaire (field survey)



From the above table and figure it can be seen that majority of the respondents are willing to transmit their traditional knowledge to become a Bengali Hindu Priest to their offspring or next generation.

CHOICE AS A PROFESSION

Data has been collected from the respondents to know if they desire their offspring or next generation to take up being the Bengali Hindu Priest as a Profession. The data thus collected has been tabulated in the table 1.7

TABLE 1.7 CHOICE AS A PROFESSION

CHOICE	NUMBER OF RESPONDENTS
YES	23 (46%)
NO	27 (54%)
TOTAL	50 (100%)

Source: Questionnaire (Field Survey)

From the above table it can be seen that majority of the respondents i.e.; 55%, do not want their offspring or next generation to take up being a Bengali Hindu Priest as a Profession.

ENTHUSIAST TO LEARN TRADITIONAL KNOWLEDGE

Data has been collected from the respondents to know whether their offspring are enthusiast to learn from them the traditional knowledge. The information thus received has been tabulated in table 1.8 for better interpretation.

TABLE 1.8 ENTHUSIAST TO LEARN TRADITIONAL KNOWLEDGE

ENTHUSIAST TO LEARN TRADITIONAL KNOWLEDGE	NUMBER OF RESPONDENTS
YES	43 (86%)
NO	07 (14%)
TOTAL	50 (100%)

Source: Questionnaire (Field Survey)

From the above table it can be seen that majority of the respondent's offspring or next generation are willing to learn the traditional knowledge from them.

PERCEPTION REGARDING NECESSITY OF TRANSMISSION OF TRADITIONAL KNOWLEDGE

Data has been collected from the respondents to know their perception regarding the necessity of transmitting the traditional knowledge. The data has been tabulated in table 1.9 for better interpretation.

TABLE 1.9 NECESSITY OF TRANSMISSION OF KNOWLEDGE

TRANSMISSION OF TRADITIONAL KNOWLEDGE IS NECESSARY	NUMBER OF RESPONDENTS
YES	50 (100%)
NO	00
TOTAL	50 (100%)

Source: Questionnaire (field survey)

It can be seen from the table that all the respondents are of the opinion that transmission of traditional knowledge is necessary for the next generation.

DIGITALIZATION OF TRADITIONAL KNOWLEDGE

The data regarding the perception of respondents towards the digitalisation of traditional knowledge is collected and tabulated in the table 1.10 for better interpretation.

TABLE 1.10 DIGITALIZATION OF TRADITIONAL KNOWLEDGE

DIGITALIZATION OF TRADITIONAL KNOWLEDGE IS BENEFICIAL	NUMBER OF RESPONDENTS
YES	38 (76%)
NO	12 (25%)
TOTAL	50 (100%)

Source: Questionnaire (Field Survey)

From the above table it can be seen that majority of the respondents i.e; 76% of the respondents think that it would be beneficial if the traditional knowledge like Vedh, Upanishads and Puranas etc. are digitalized.

PROSPECTS OF BENGALI HINDU PRIESTS NATIONALLY AND INTERNATIONALLY

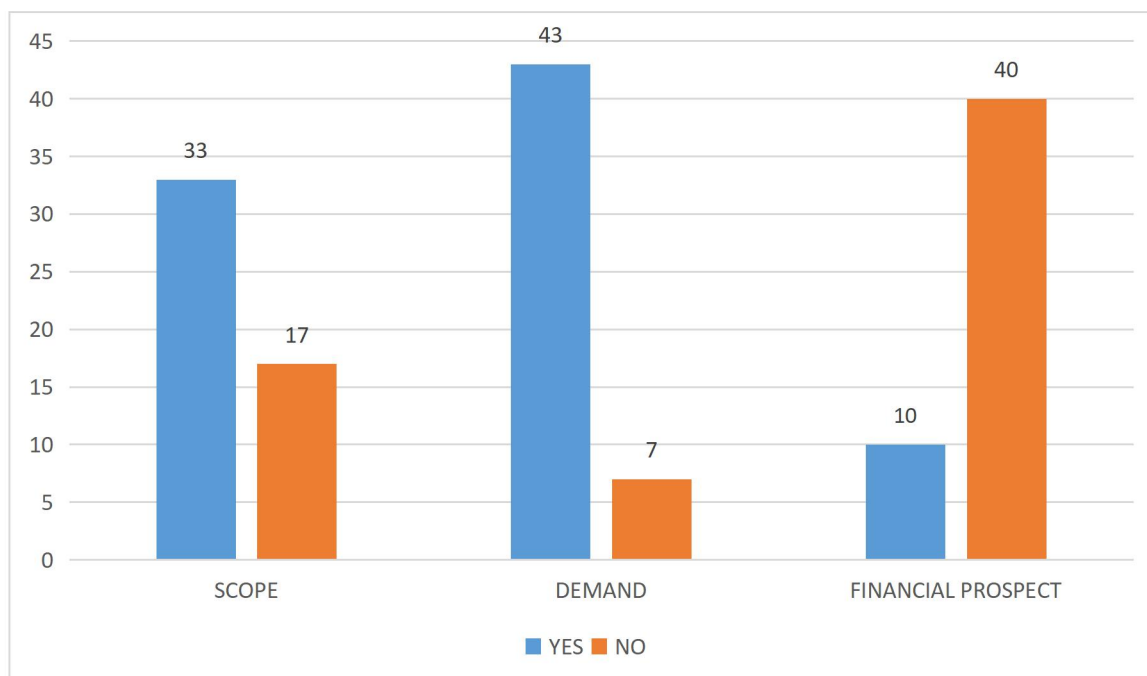
Respondents have been asked about their perception relating to the scope, demand and financial prospect of Bengali Hindu Priest nationally and internationally. The data thus received has been shown in table 1.11 and figure 1.3

TABLE 1.11 PROSPECTS OF BENGALI HINDU PRIESTS NATIONALLY AND INTERNATIONALLY

	YES	NO	TOTAL
SCOPE	33 (66%)	17 (34%)	50 (100%)
DEMAND	43 (86%)	07 (14%)	50 (100%)
FINANCIAL PROSPECT	10 (20%)	40 (80%)	50 (100%)

Source: Questionnaire (Field Survey)

FIGURE 1.3 PROSPECTS OF BENGALI HINDU PRIESTS NATIONALLY AND INTERNATIONALLY



Source: Table 1.11

From the above table and figure it can be seen that majority of the respondent are of the opinion that there is both scope and demand for Bengali Hindu Priests, nationally and internationally. But majority of them think that financial prospect of Bengali Hindu Priest is more in Silchar than in any other state or country.

YEARLY INCOME OF BENGALI HINDU PRIESTS

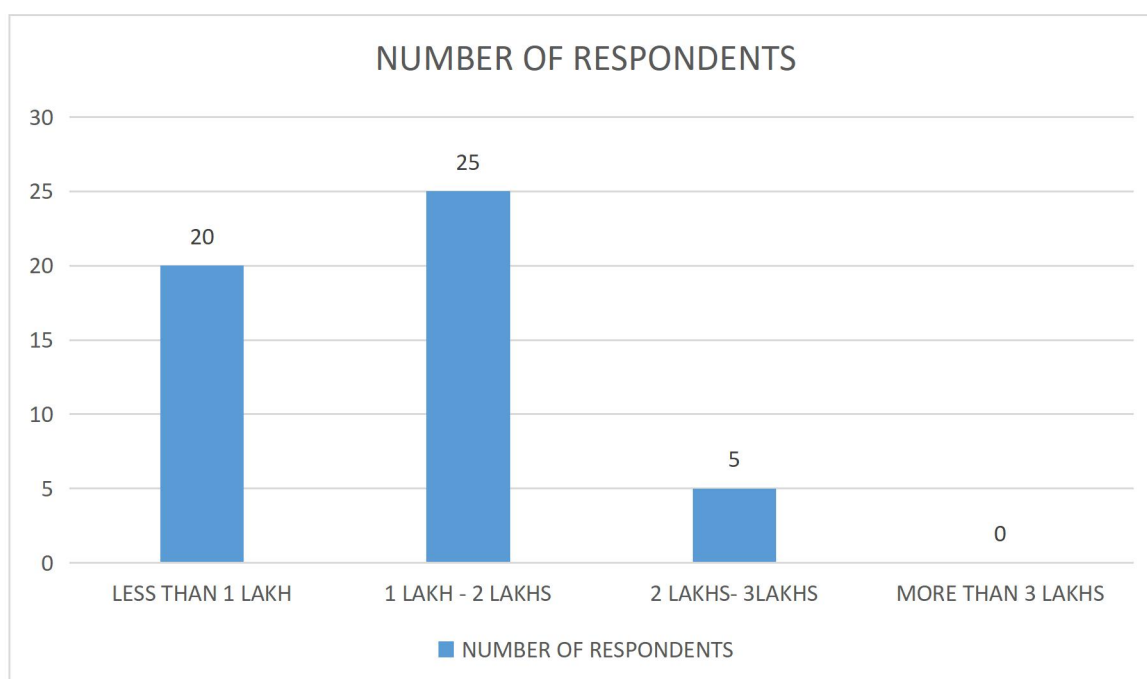
Respondents have been asked about their yearly income exclusively from their practise of being the Bengali Hindu Priest. The data thus gathered has been shown in the table 1.12 and figure 1.4 for better analysis and interpretation.

TABLE 1.12 YEARLY INCOME OF BENGALI HINDU PRIEST

APPROXIMATE YEARLY INCOME	NUMBER OF RESPONDENTS
LESS THAN 1 LAKH	20 (40%)
1 LAKH- 2 LAKHS	25 (50%)
2LAKHS – 3 LAKHS	5 (10%)
MORE THAN 3 LAKHS	00
TOTAL	50 (100%)

Source: Questionnaire (Field Survey)

FIGURE 1.4 YEARLY INCOME OF BENGALI HINDU PRIEST



Source: Table 1.12

From the above table and figure it can be seen that majority of the respondents earn in the range of rupees 1 lakh to 2 lakhs, exclusively from the profession of being Bengali Hindu Priest.

MAJOR FINDINGS:

After analysis and interpretation of the data collected from the respondents the major findings of the study are:

- 1) It is found that although majority of the respondents are Bengali Hindu priest on a full-time basis, some of them are engaged in other part-time work as well.
- 2) It is found that majority of the respondents receives clients very frequently or frequently and thus they do not face any difficulty in meeting their monthly household expenses.
- 3) It is found that majority of the respondents transmit this traditional knowledge to their offspring or next generation but majority of them also do not want their offspring or next generation to become professional Bengali Hindu priest as in this profession there are lots of difficulties like irregularity of food and sleep which they fear might result in their health issues.
- 4) It is found that the offspring or the next generation of the majority of the respondents are enthusiastic to learn this traditional knowledge.
- 5) It is found that majority of the respondents believe that scope and demand for Bengali Hindu Priest exists nationally and internationally as there are approximately 284.3 million Bengali speaking people all over the world. But majority of them believe that their financial prospect is more in their native place that is Silchar. Although their income outside the native place is more and people also provide for their accommodation but that income is a one-time income whereas in their native place they receive frequent clients.
- 6) It is found that majority of the respondents earn within the range of 1lakh – 2 lakhs rupees yearly which is a decent amount of earning exclusively from their practise as Bengali Hindu Priest.

SUGGESTIONS:

- 1) Government has taken step and decided to provide regular salary to the priests working in the temple. Similarly, other allowances and benefits like other regular jobs should be provided to the priests of the temple.
- 2) Government should recognize and register few temples under it.

- 3) An online application can be created to connect all the Bengali Hindu Priests that is accessible nationally or internationally. Also, the application should be able to connect the service provider and the service receiver where they can communicate, negotiate and confirm service.
- 4) Traditional knowledge should be imparted to the next generation or else it will get lost. Hence, interest needs to be created in the minds of the next generation so that they willingly learn about this traditional knowledge.
- 5) There are many online platforms to learn about Vedas, Upanishads and Puranas in different preferable languages. People are required to be made aware of the same.
- 6) Being Priest should be treated as a profession and Educational institutions should also incorporate this knowledges in their curriculum as an elective paper so that those who are interested can get traditional knowledge.

CONCLUSION:

Traditional knowledge is the knowledge, art, skill etc. that has been prevailing in the society since time immemorial and is being transmitted from generation to generation. But now in the modern society, with every new generation this traditional knowledge is getting lost. People of new generation have lost interest to learn or practice this traditional knowledge which once had a very high value in the society. Although there are many different traditional knowledges but this study focuses only on the Bengali Hindu Priest, as this knowledge is also prevailing since long time from generation after generation. Thus, this study has been conducted on the Bengali Hindu Priests of Silchar to understand the scenario better. This study is important to save the traditional knowledge from getting completely extinct. Though being a Priest will not get extinct in the near future but if there is no financial benefits and prospects then it may surely get extinct at one point of time in the future. So, this research aims to study the financial prospects of learning this traditional knowledge so that this can create interest in the minds of the people of the new generation and can help them to understand the actual scenario and eventually will help in saving the traditional knowledge to some extent.

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EMOTIONAL INTELLIGENCE THROUGH THE LENS OF STHITAPRAJNA: A MULTI-LEVEL FRAMEWORK FOR EMPLOYEE WELL-BEING AND WORKPLACE TRANSFORMATION

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Abstract

Emotional Intelligence (EI) has emerged as a critical determinant of workplace effectiveness. However, major EI frameworks have mainly evolved within Western psychological traditions and are often applied narrowly at the individual level, overlooking how emotional competence shapes — and is shaped by — different levels of organizational functioning. This conceptual paper draws on the Bhagavad Gita's concept of Sthitaprajna — the person of steady wisdom, characterized by equanimity, self-mastery, and freedom from emotional volatility — and proposes a theoretically grounded, multi-level framework rooted in Indian Knowledge Systems. The paper examines the theoretical convergence between Goleman's EI model and Sthitaprajna, mapping core EI competencies (self-awareness, self-regulation, motivation, empathy, and social skill) onto the philosophical dimensions of steady wisdom. Building on this convergence, it develops a three-tier framework spanning the individual (personal emotional resilience), managerial (interpersonal regulation and team leadership), and organizational (collective emotional culture and values-driven governance) levels. The paper further explores the implications of this framework for employee well-being and workplace transformation, arguing that Sthitaprajna offers a scalable, culturally-rooted alternative to conventional EI models for addressing stress, burnout, and disengagement. The paper concludes by discussing implications for Human Resource Management, particularly in leadership development, employee training, and organizational culture, while outlining avenues for future empirical validation of the proposed framework.

Keywords: Emotional Intelligence, Sthitaprajna, Indian Knowledge Systems, Employee Well-being, Workplace Transformation, Multi-Level Framework

1. Introduction

Emotional Intelligence (EI) has become one of the most widely studied constructs in organizational behaviour, recognized as a critical driver of leadership effectiveness, employee well-being, and workplace performance (Goleman, 1995, 1998). EI has been conceptualized primarily through Western psychological frameworks most notably Daniel Goleman's model, which identifies self-awareness, self-regulation, motivation, empathy, and social skill as its core competencies. While these frameworks offer valuable insights into individual emotional competencies and interpersonal relationships, they primarily focus on individual capabilities. Consequently, they give limited attention to how emotional intelligence is shaped by managerial relationships and organizational culture. EI is therefore better understood as a multi-level phenomenon involving employees, leaders, and the organizational environment.

This gap creates an opportunity to look beyond conventional Western psychological models toward alternative epistemologies that may offer a more integrative understanding of emotional functioning. Indian Knowledge Systems (IKS), with their long philosophical engagement with the mind, self-regulation, and inner equanimity, present one such alternative. Among these, the concept of *Sthitaprajna*, or "person of steady wisdom," in the *Bhagavad Gita* (Chapter 2) is described as one who remains emotionally balanced through self-mastery. Beyond an individual ideal, it offers a philosophical basis for understanding emotional intelligence across interpersonal and organizational contexts. This paper argues that *Sthitaprajna* not only parallels Goleman's EI model but also extends it to the managerial and organizational levels, proposing a multi-level, IKS-grounded framework of Emotional Intelligence.

This paper advances Emotional Intelligence scholarship by positioning *Sthitaprajna* as a culturally grounded lens for understanding emotional competence as a multi-level organizational capability. Integrating Indian Knowledge Systems with contemporary EI theory, it proposes a novel framework spanning individual, managerial, and

organizational levels, offering new insights into employee well-being, leadership, organizational transformation, and future empirical research.

2. Literature Review

2.1 Emotional Intelligence: Theoretical Foundations

Emotional Intelligence (EI) was introduced by Salovey and Mayer (1990) and popularized by Goleman (1995), who identified competencies such as self-awareness, self-regulation, empathy, and social skills as essential for professional success. Goleman's model, widely applied in organizational contexts, defines EI as the ability to recognize and manage one's own emotions and those of others, encompassing self-management and relationship management competencies. Research consistently links EI with employee performance, resilience, and leadership effectiveness, with emotional and social competencies distinguishing high performers across organizational roles.

2.2 The Individual-Centric Limitation

Despite its extensive application, EI scholarship primarily conceptualizes emotional competence as an individual capability or leadership competency. Even when linked to organizational outcomes, EI is generally treated as an individual-level variable rather than a construct operating across multiple organizational levels. This leaves a conceptual gap: existing frameworks do not systematically distinguish how emotional competence functions for an individual employee, a manager navigating team dynamics, and an organization shaping its collective culture the gap this paper's three-tier framework addresses.

2.3 Indian Knowledge Systems and Sthitaprajna

The concept of *Sthitaprajna* ("one of steady wisdom") is presented in the *Bhagavad Gita* (Chapter 2, Verses 55–72) in response to Arjuna's question on the characteristics of an enlightened person (Radhakrishnan, 1948). It describes a person who has relinquished selfish desire, attained inner self-contentment, and remained undisturbed by sorrow, pleasure, attachment, fear, and anger (Radhakrishnan, 1948, vv. 2.55–2.56). Scholarly interpretations identify the defining qualities of *Sthitaprajna* as equanimity, non-attachment, freedom from fear and anger, and disciplined self-mastery rather than passive detachment. The Gita further illustrates this state through the metaphor of the ocean, whose calm remains undisturbed despite many rivers flowing into it, symbolizing inner stability amidst external change (Radhakrishnan, 1948, v. 2.70). Together, these qualities present a structured psychological portrait characterized by mastery over internal emotional states, stability amid external fluctuations, and sustained, duty-bound engagement with the world, with clear parallels to contemporary emotional competence. Although *Sthitaprajna* has been discussed within broader leadership and management literature, it has rarely been examined as a distinct foundation for Emotional Intelligence. This structured psychological portrait forms the philosophical basis for extending Emotional Intelligence beyond the individual to the managerial and organizational levels, as developed in Section 3.

2.4 Positioning This Paper's Contribution

This paper positions *Sthitaprajna* as a distinct psychological foundation for Emotional Intelligence by explicitly mapping it onto Goleman's EI model. Moving beyond existing literature, it proposes a multi-level framework spanning the individual, managerial, and organizational dimensions of emotional functioning.

3. Objectives of the Study

- To examine the theoretical convergence between Goleman's Emotional Intelligence model and the concept of *Sthitaprajna* in the *Bhagavad Gita*.
- To develop a multi-level Emotional Intelligence framework encompassing the individual, managerial, and organizational levels based on the principles of *Sthitaprajna*.
- To explore the implications of the proposed framework for employee well-being and workplace transformation.
- To derive HRM implications from the proposed framework.

4. Research Approach

This paper adopts a conceptual qualitative approach based on a structured synthesis of two streams of literature: established Emotional Intelligence (EI) scholarship, principally Goleman's model, and textual and scholarly interpretations of *Sthitaprajna* from the *Bhagavad Gita* (Chapter 2). The analysis relies exclusively on secondary sources, including peer-reviewed EI literature, Indian Knowledge Systems (IKS) scholarship, and the *Bhagavad Gita*. The proposed framework provides a conceptual foundation for future empirical validation and discussed.

5. Conceptual Foundation: Sthitaprajna and Emotional Intelligence

5.1 Framing the Convergence

Goleman's Emotional Intelligence (EI) model identifies five competencies self-awareness, self-regulation, motivation, empathy, and social skill as the foundation of effective emotional functioning. When viewed alongside the qualities of *Sthitaprajna* discussed in Section 2.3, both frameworks reveal a similar progression from inner awareness to social engagement. While Goleman's model emerges from organizational psychology and *Sthitaprajna* from ethical and contemplative philosophy, both converge on a disciplined understanding of emotional maturity. This section maps the two frameworks competency by competency, providing the theoretical foundation for the proposed multi-level framework.

5.2 Self-Awareness and Discrimination of the Self

Goleman defines self-awareness as recognizing one's emotions and their influence on behaviour. Similarly, *Sthitaprajna* begins with relinquishing selfish desire and attaining inner self-contentment (Radhakrishnan, 1948, v. 2.55), emphasizing awareness of transient emotions without identifying with them. Both frameworks therefore treat awareness of one's emotional states as the foundation of emotional competence.

5.3 Self-Regulation and Freedom from Reactivity

Self-regulation in Goleman's model involves managing disruptive emotions and impulses. Likewise, *Sthitaprajna* describes one who remains undisturbed by sorrow and pleasure, free from attachment, fear, and anger (Radhakrishnan, 1948, v. 2.56). Where Goleman's self-regulation is typically operationalized as impulse control and emotional composure under workplace pressure, the *Sthitaprajna* formulation adds a developmental dimension: this composure is not innate but cultivated through sustained self-discipline (Radhakrishnan, 1948), offering IKS-based management scholarship a theory of how self-regulation develops, not merely a description of the competency itself.

5.4 Motivation and Engaged, Outcome-Independent Action

Goleman views motivation as an internal drive independent of external rewards. This parallels *Nishkama Karma*, where action is performed with full engagement but without attachment to outcomes (Radhakrishnan, 1948, v. 2.47). Within this framework, such action is understood as the behavioural expression of *Sthitaprajna*, suggesting motivation rooted in duty and steady wisdom rather than external incentives.

5.5 Empathy and Even-Mindedness Toward Others

Empathy, for Goleman, involves sensitivity to and understanding of others' emotional states. Although the *Bhagavad Gita* does not explicitly conceptualize empathy in contemporary psychological terms, the *Sthitaprajna*'s impartiality, absence of attachment and aversion, and equal regard toward others provide a philosophical basis for emotionally balanced interpersonal relationships. The same freedom from attachment, fear, and anger that stabilizes the individual internally (Radhakrishnan, 1948, v. 2.56) extends outward, such that a mind no longer driven by passion or aversion is likewise less influenced by favoritism, grievance, or reactive judgment in its dealings with others. This suggests a route to empathy distinct from Goleman's not an active, effortful attunement to others' emotions, but a by-product of inner steadiness: a person no longer destabilized by their own desires and aversions is better positioned to attend fully and evenly to others, without the distortions of self-interest or reactivity. This is a philosophical inference rather than a textual claim the *Gita* makes directly, and is offered here as a plausible extension rather than an established equivalence. This interpretation is offered as a philosophical inference rather than a direct textual claim.

5.6 Social Skill and Steadiness as a Stabilizing Presence

Goleman's final competency, social skill, concerns the ability to manage relationships and influence others constructively, typically through communication, persuasion, and the active shaping of group dynamics. *Sthitaprajna* offers a distinctive and underexplored contribution. Rather than framing social skill as persuasion or charisma, it presents it as stabilizing presence: the capacity to remain a fixed point around which others find their own equilibrium during conflict, uncertainty, or crisis. The *Bhagavad Gita's* image of the *sthitaprajña* as an ocean that receives many rivers without losing its depth or calm (Radhakrishnan, 1948, v. 2.70) serves as a fitting metaphor for a person whose inner steadiness function socially as an emotional anchor, much as a calm presence can lower the emotional temperature of a tense meeting without a word being spoken.

This interpretation extends the conventional understanding of social skill beyond communication and influence to include emotional steadiness as a leadership capability in its own right. Where Goleman's model primarily emphasizes what leaders do communicating, negotiating, and persuading the *Sthitaprajna* framework suggests that social skill also reflects what leaders **are**: a quality of presence that shapes the emotional climate of a team independent of any specific communicative act. This provides the conceptual foundation for extending Emotional Intelligence to the managerial and organizational levels, where steadiness itself is proposed as a distinct leadership resource.

5.7 Summary: A Structural Convergence

Table 1 consolidates this mapping.

Table 1: Sthitaprajna–Goleman Mapping

Goleman's EI Component	Sthitaprajna Characteristic	Bhagavad Gita Reference
Self-Awareness	Discrimination between the self and transient desires/emotions	Radhakrishnan (1948), v. 2.55
Self-Regulation	Equanimity, disciplined self-mastery, non-attachment, freedom from fear and anger	Radhakrishnan (1948), v. 2.56, 2.58–2.70
Motivation	Engaged action without attachment to outcome (<i>Nishkama Karma</i>)	Radhakrishnan (1948), v. 2.47
Empathy	Even-mindedness extended outward to others (philosophical inference)	Radhakrishnan (1948), v. 2.56 (implied)
Social Skill	Stabilizing presence amid others' volatility	Radhakrishnan (1948), v. 2.70 (ocean metaphor)

Source: Authors' own conceptual synthesis based on Goleman (1995, 1998) and Radhakrishnan (1948).

The mapping presented in Table 1 should not be interpreted as suggesting that Goleman's Emotional Intelligence model and *Sthitaprajna* are identical constructs. Rather, it demonstrates convergence in core emotional competencies despite their distinct philosophical foundations. While Goleman's model originates from organizational psychology and behavioural science, *Sthitaprajna* is grounded in ethical self-mastery and spiritual wisdom. This structural convergence provides the theoretical foundation for the proposed multi-level Emotional Intelligence framework, extending emotional competence from the individual to the managerial and organizational levels through an Indian Knowledge Systems perspective.

5.8 Conceptual Framework of the Study

Building on the preceding discussion, this paper proposes a multi-level Emotional Intelligence framework grounded in the concept of *Sthitaprajna*. As illustrated in Figure 1, ethical self-mastery and equanimity form the foundational principles through which Emotional Intelligence manifests across the individual, managerial, and organizational levels, ultimately contributing to employee well-being, leadership effectiveness, and workplace transformation

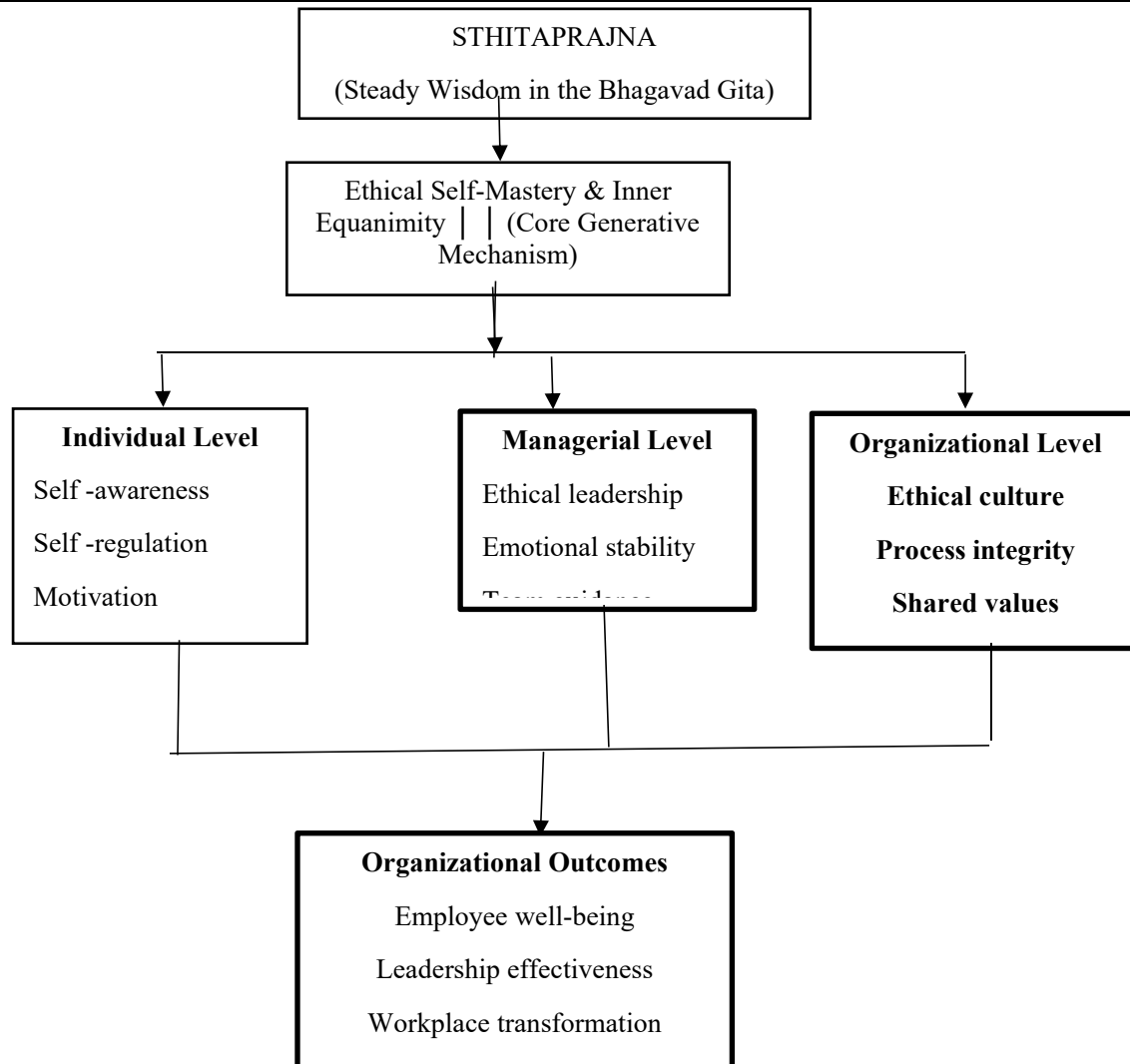


Figure 1. Proposed Multi-Level Emotional Intelligence Framework grounded in Sthitaprajna

Source: Developed by the authors

6. A Multi-Level Framework: From Individual Equanimity to Organizational Resilience

6.1 From Competency Convergence to Level-Specific Mechanism

Section 5 established the structural convergence between Goleman's EI competencies and the qualities of *Sthitaprajna*. However, convergence alone does not explain how Emotional Intelligence operates across organizational levels. This framework argues that a single underlying mechanism equanimity grounded in non-attachment and ethical self-mastery manifests differently at each level: as an internal psychological state for the individual, a leadership practice for the manager, and an institutionalized cultural property for the organization. Thus, what extends across levels is not a list of competencies but a single generative mechanism expressed with increasing social scope.

6.2 Individual Level: Inner Equanimity as Foundation

At the individual level, *Sthitaprajna* reframes self-awareness and self-regulation as a unified capacity inner equanimity rather than separate competencies. Where Goleman's model conceptualizes self-awareness and self-regulation as distinct, though interrelated, competencies (first recognizing emotions and then regulating them),

Sthitaprajna treats discrimination between the self and transient emotional states (Radhakrishnan, 1948, v. 2.55) and freedom from reactivity (v. 2.56) as a single achievement: once a person is no longer identified with craving or aversion, they are no longer governed by them. Unlike Goleman's model, which primarily describes emotional competence, *Sthitaprajna* offers a developmental explanation by locating emotional stability in sustained self-discipline and the relinquishment of attachment. It therefore not only complements Goleman's first two competencies but explains their origin through the cultivation of inner equanimity.

6.3 Managerial Level: From Self to others Stabilizing Leadership

At the managerial level, inner equanimity becomes stabilizing leadership. Outcome-independent engagement (*Nishkama Karma*; Radhakrishnan, 1948, v. 2.47) reduces defensive behaviours such as blame-shifting, favoritism, and reactive micromanagement under uncertainty. At the same time, social skill is expressed as stabilizing presence (Radhakrishnan, 1948, v. 2.70), enabling managers to function as emotional anchors during conflict and uncertainty. Unlike Goleman's model, where managers apply individual EI competencies more effectively, this framework proposes that a manager's cultivated equanimity itself becomes a transferable interpersonal resource through which team members regulate their own emotional responses. This is the point at which the framework's added value becomes concrete: it specifies a mechanism steadiness as a transferable interpersonal resource that conventional EI models, organized around individual competencies, do not explicitly identify.

6.4 Organizational Level: From Individual Trait to Institutional Property

At the organizational level, the question is not whether individual managers can be emotionally steady, but whether steadiness can become a property of the collective – an emotionally resilient culture rather than a personality trait distributed unevenly across individual leaders. The framework proposes that this happens through institutionalization rather than aggregation: when ethical self-mastery and outcome-independent engagement are embedded in how an organization designs its decision-making processes, crisis-response protocols, and performance evaluation criteria, and not only in individual leadership behaviour, equanimity ceases to depend on any specific manager's disposition and becomes a structural feature of the organization itself. This distinguishes the framework's organizational level from generic references to “positive culture” or “psychological safety” in the EI literature: the specific mechanism proposed here is that organizations institutionalize non-attachment to outcome and ethical self-mastery as governance principles for instance, evaluating decisions by process integrity rather than by results alone, or building deliberate space into crisis response for steady, non-reactive judgment rather than rewarding visible urgency. An emotionally resilient culture, in this sense, is what stabilizing leadership looks like once it is no longer contingent on which individual happens to be in the room.

6.5 The Vertical Mechanism: What Moves Across Levels

Table 2 summarizes the framework by showing that what extends across levels is not a fixed Emotional Intelligence competency but a single mechanism equanimity grounded in non-attachment and ethical self-mastery. This mechanism is expressed differently at each level, from individual psychological capacity to managerial practice and organizational design. It is this vertical progression that distinguishes the proposed framework from conventional multi-level EI models, explaining not only that Emotional Intelligence operates differently across levels but why it does.

Table 2: Sthitaprajna-Based Multi-Level Framework of Emotional Intelligence

Level	Sthitaprajna Mechanism	Behavioural / Structural Manifestation	Organizational Outcome
Individual	Inner equanimity: discrimination of the self from transient craving and aversion (Radhakrishnan, 1948, vv. 2.55–2.56)	Personal emotional resilience; reduced reactivity to sorrow, pleasure, fear, and anger	Foundation for consistent performance and sound judgment under stress
Managerial	Stabilizing leadership: outcome-independent engagement (<i>Nishkama Karma</i>) and steadiness as a stabilizing presence (Radhakrishnan, 1948, vv. 2.47, 2.70)	Non-reactive decision-making; reduced favoritism and blame-shifting; teams regulate around the manager's steadiness	Psychological safety, team cohesion, and effective leadership under uncertainty
Organizational	Emotionally resilient culture: ethical self-mastery and non-attachment institutionalized as governance principles	Process-integrity-based evaluation; deliberate, non-reactive crisis-response protocols; values-driven decision-making	Sustained employee engagement; reduced burnout, attrition, and culture of blame

Source: Authors' own conceptual synthesis based on Goleman (1995, 1998) and Radhakrishnan (1948).

7. Discussion

The multi-level framework developed in Section 6 clarifies this paper's central theoretical contribution. Rather than arguing that Goleman's Emotional Intelligence model and *Sthitaprajna* describe the same phenomenon, the paper argues that *Sthitaprajna* provides a foundational mechanism equanimity rooted in non-attachment and cultivated through ethical self-mastery that Goleman's model does not explicitly explain. This distinction is important because the contribution lies not in demonstrating similarity between an ancient philosophical text and a contemporary psychological model, but in showing that the philosophical text supplies something the psychological model needs an account of where emotionally intelligent behaviour comes from, and how it can propagate from a single person's inner state into a team's climate and, eventually, into an organization's structure.

A further limitation concerns generalizability. The framework is grounded in the Indian Knowledge Systems tradition and derives its central construct from the *Bhagavad Gita* (Chapter 2). Whether the proposed mechanism equanimity as a transferable interpersonal and institutional resource operates similarly across organizations embedded in different cultural and philosophical traditions remains an empirical question beyond the scope of this conceptual paper. This provides an important direction for future research.

7.1 Positioning Relative to Existing EI Extensions

The proposed framework is not the first attempt to extend Emotional Intelligence beyond Goleman's original individual-level model. Cultural Intelligence (Earley & Ang, 2003), Spiritual Intelligence (Zohar & Marshall, 2000), and mindfulness-informed leadership research (Reb, Narayanan, & Chaturvedi, 2014) have each broadened understanding of emotional competence beyond individual competencies. The distinctive contribution of the *Sthitaprajna* framework lies in the specificity of its mechanism. Whereas Cultural Intelligence extends EI through cross-cultural adaptability and mindfulness-informed leadership emphasizes present-moment awareness, this framework identifies equanimity grounded in discrimination between the self and transient states, non-attachment

to outcomes, and stabilizing presence as the mechanism through which Emotional Intelligence operates across the individual, managerial, and organizational levels. Because these mechanisms are explicitly grounded in the *Bhagavad Gita* and linked to distinct behavioural expressions at each level, the framework provides a coherent theoretical basis for future empirical operationalization and testing.

8. Implications for Human Resource Management

The multi-level framework developed carries direct implications for leadership development, employee well-being initiatives, and governance structures. These implications are organized here by HRM function, following from the mechanism identified at each level rather than as a generic call for mindfulness at work.

8.1 Leadership Development

If stabilizing leadership depends on outcome-independent engagement and steadiness as a transferable interpersonal resource, leadership development programs should cultivate these as distinct skills rather than subsuming them under generic resilience or mindfulness modules. This includes structured reflection practices that help managers separate personal competence from the outcome of individual decisions, and simulation-based training for crisis and conflict situations that rewards non-reactive judgment over visibly decisiveness. Since the framework treats equanimity as cultivated rather than innate leadership, development becomes a legitimate intervention rather process of selecting fixed personality traits.

8.2 Employee Well-being and Training

The individual-level mechanism discrimination between the self and transient emotional states provides a foundation for well-being initiatives that extends beyond common wellness practices such as subsidized apps or occasional workshops. Training based on this mechanism would develop employees' ability to observe stress, frustration, and other emotional states without being immediately controlled by them, treating emotional regulation as a workplace competency rather than a therapeutic intervention. Such training is not a substitute for clinical mental health support but a complementary preventive layer for everyday emotional reactivity.

8.3 Organizational Culture and Governance Design

Since the organizational level of the framework locates emotional resilience in institutional design rather than individual leader dispositions (Section 4.4), the key HRM intervention is structural redesign rather than culture messaging. This involves integrating process integrity into performance evaluations alongside outcome metrics, ensuring that sound judgment under uncertainty is rewarded even when outcomes are unfavorable, and creating space within crisis-response protocols for non-reactive decision-making. Values statements promoting steadiness or resilience are meaningful only when evaluation and governance systems reflect these principles.

9. Future Research Directions

As a conceptual paper, this work provides a theoretical foundation rather than an empirically validated model. The multi-level framework developed therefore generates a focused empirical research agenda.

First, the core constructs inner equanimity, stabilizing leadership, and emotionally resilient culture require operationalization and scale development. Future research should develop a Sthitaprajna-informed EI measure distinct from existing Goleman-based instruments, capturing dimensions such as outcome-independence and self-mastery that this paper argues remain underexplored.

Second, the framework's central causal claim that individual equanimity propagates upward into managerial practice and organizational outcomes requires multi-level empirical testing. Research should examine links between individual equanimity, managerial stabilizing behaviours, and organizational outcomes such as psychological safety, burnout, and attrition through multi-level designs rather than isolated single-level studies.

Third, qualitative studies involving managers and organizations using Gita-based or Indian Knowledge Systems-informed leadership development could examine whether practitioners experience equanimity as a transferable interpersonal resource, as proposed by this framework, or reveal areas requiring theoretical refinement.

Finally, cross-cultural research is needed to determine whether the proposed mechanism operates similarly beyond Indian and South Asian contexts or whether its applicability is culturally bounded.

10. Conclusion

This paper examined the theoretical convergence between Goleman's Emotional Intelligence model and the Bhagavad Gita's concept of Sthitaprajna, developing a multi-level framework to explain its implications for employee well-being, workplace transformation, and Human Resource Management practice. The study has demonstrated competency-level convergence between the two frameworks while avoiding overstated claims, particularly regarding empathy, where the parallel is presented as a plausible inference rather than a direct textual equivalence. The research extended this comparison by identifying a generative mechanism: equanimity rooted in non-attachment and cultivated through ethical self-mastery, which operates as inner equanimity at the individual level, stabilizing leadership at the managerial level, and an emotionally resilient culture at the organizational level.

The central contribution of this paper is that Sthitaprajna extends Emotional Intelligence by positioning ethical self-mastery and equanimity as foundational capabilities that enable emotionally intelligent functioning across individual, managerial, and organizational levels. The Bhagavad Gita, therefore, does not merely parallel Goleman's model; it enriches it by providing a mechanism and developmental pathway through which emotional intelligence can be cultivated and translated from individual consciousness into organizational practice.

As a conceptual paper, this framework represents a theoretical foundation rather than a validated model. The study has identified the empirical research required to evaluate its propositions through scale development, multi-level testing, qualitative inquiry, and cross-cultural replication. By positioning Sthitaprajna not only as a philosophical ideal but as a theoretically grounded lens for understanding Emotional Intelligence across multiple levels, this paper contributes to the integration of Indian Knowledge Systems into contemporary management scholarship. It offers a culturally grounded perspective that expands current approaches to leadership, employee well-being, and organizational transformation while creating new directions for theory development and empirical research.

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AI AND THE FUTURE OF WORK IN INDIA: BALANCING AUTOMATION, EMPLOYEE SKILLS AND HUMAN CAPITAL DEVELOPMENT

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Abstract

The research analyses the changing role of artificial intelligence (AI) with regard to the future of work in India by highlighting the relationship between automation in the workplace, the skills of employees, and the development of human capital. The goal is to explore the effect of AI-induced transformation on changes in employment patterns, skill needs, and the practices of workforce development in organizations. The research employs a qualitative conceptual approach involving a review of current scientific literature, industrial publications, policy papers, and data on AI implementation in India. Results show that even though automation leads to higher productivity and efficiency, it is accompanied by skill mismatches, occupational replacement, and inequalities in access to new opportunities. It is suggested that constant reskilling and upskilling, digital literacy, adaptability, and human-centered workforce policies are vital for comprehensive progress powered by AI. The novelty of the research consists in the inclusion of automation, skills of workers, and human capital development into the Indian context.

Keywords: *Artificial Intelligence; Future of Work; Automation; Employee Skills; Human Capital Development*

1. Introduction

In today's economy, artificial intelligence (AI) has become one of the defining technologies, changing the face of contemporary organizations, labour markets, and economies. Rapidly developing machine learning, generative AI, natural language processing, robotics, predictive analytics, intelligent decision-support systems, and other technological advances have increased the number of activities that can now be conducted by intelligent machines. In contrast to previous waves of automation, affecting mainly routine physical and routine clerical activities, the contemporary wave of automation has become increasingly associated with interacting with cognitive activities, including processing, predicting, communicating, generating information and decisions. Thus, the interplay between technological advances and employment has become increasingly complicated and can be described not only as a replacement of human activity by machines. AI can simultaneously automate certain activities, augmenting human employees' skills, increasing productivity and creating demand for new activities and occupations (Autor, 2015; Acemoglu & Restrepo, 2018; Webb, 2020; Brynjolfsson et al., 2023).

From the perspective of a task-based approach, there exists a theoretical explanation of the above transformation. Occupations are not homogeneous units, consisting of different kinds of activities, which are differently affected by technological changes. While some activities can become automated when being predictable, repetitive, and sufficiently codifiable, other activities can become more productive as the result of using technological systems as complements to human skills (Autor, 2015; Acemoglu & Restrepo, 2018). The importance of the above differentiation to AI is obvious since the technology can conduct increasingly sophisticated cognitive activities without necessarily automating the whole occupation in which these activities are conducted. Thus, the future of work should be viewed as a reconfiguration of tasks, restructuring of occupations, and human-technological interaction, rather than job destruction (Felten et al., 2019; Webb, 2020).

The above transformation has especially serious implications for India. The country is characterized by the combination of a large and diverse labour force, digitalization, significant role of the information-technology sector, developing service industries, Industry 4.0 capabilities, and substantial variations in the level of education and skills, and availability of digital infrastructure. Such combination implies both opportunities and vulnerabilities for India. AI can increase productivity, stimulate innovation and generate new forms of employment, however, people engaged in activities more vulnerable to automation can become more vulnerable to unemployment or need to undergo occupational transitions. Therefore, the effects of the technological transition are expected to vary significantly depending on the occupation, industry, education, gender, geography and access to workforce development opportunities (Miah et al., 2024; International Labour Organization, 2023).

However, the core issue implied by the above transformation is not so much whether AI is going to replace human workers, but whether employees and organizations will be able to gain capabilities necessary for working together with the technology. With the increasing automation of predictably and codifiable activities, human capabilities like critical thinking, creativity, analytical reasoning, complex problem solving, communication, adaptability, and ethical judgment become increasingly important complement to the technological capabilities (Webb, 2020; Jaiswal et al., 2022). Therefore, reskilling, upskilling and lifelong learning are becoming key elements of workforce strategy. Human capital development is crucial in determining whether AI adoption leads to increased productivity or skill mismatches and labour market inequalities.

In this context, the current research addresses the future of work in India in terms of the interrelated issues of AI-induced automation, employee skills and human capital development. It is argued that the capacity of India to benefit from AI will depend not only on the rate of technology adoption, but also on the investment into complementary human capabilities. The paper aims at developing an integrated view of the relationship between technology adoption and workforce adaptability and employability.

2. Review of Literature

2.1 Artificial Intelligence and the Future of Work

While the discussion regarding the interplay between AI and the future of work has shifted from the conventional debate about automation towards understanding the impacts of technological systems on the composition of work, AI presents a particular kind of technological change due to the nature of its capabilities. AI can include prediction, language, classification, pattern recognition, and knowledge processes among other skills of technological systems (Felten et al., 2019; Webb, 2020). As a result, AI can affect not only routinized but also non-routinized occupations, including professional and managerial occupations that are usually thought of as quite hard to automate.

At the same time, the increased capability of generative AI systems to produce text, code, images, and other forms of knowledge work expands the areas where AI can be applied in the future. However, the presence of AI in an occupation does not mean that the occupation will disappear in the future. According to Autor (2015), technological change should be viewed in terms of the tasks that make up an occupation. As the technology starts performing certain tasks, people start doing something else in their jobs, where the human skills are still valuable. In his paper, Acemoglu & Restrepo (2018) show that, in adding to the dislodgment consequences, there can be efficiency and restoration effects of mechanisation.

This means that the future of work depends on how occupations will be redesigned after the implementation of technological change. It is especially significant in India since the occupational structure of this country includes not only occupations of a highly technological nature but also massive occupations of routine, informal, and low-productivity workers. Thus, AI exposure is heterogeneous.

2.2 AI-Driven Automation and Job Displacement

Automation refers to the use of technology systems in conducting tasks that were traditionally conducted by human workers. The evolution of AI has enabled the automation of even more sophisticated processes since intelligent machines are able to learn from data, discover patterns, create information and assist in decision making. (Acemoglu & Restrepo, 2018; Webb, 2020).

However, the link between automation and employment is not always deterministic. In similar terms, Autor (2015) illustrates how the same technological change can destroy some tasks but create demand for other complementary tasks. Therefore, the employment impact of AI depends on the trade-off between task displacement, productivity gains, occupational restructuring and creation of new tasks.

This question becomes especially relevant in the context of the Indian labor market. Automation through AI might have impacts on activities such as data processing, administration, customer service, manufacturing, logistics and many other routine tasks. However, the same technology is likely to create demand for implementing AI, overseeing systems, data governance, cyber security, analytics and professional work using technology. The key challenge therefore is not necessarily to prevent automation but to help people switch to complementary activities.

2.3 AI and Employee Skill Transformation

AI adoption is fundamentally altering the nature of employee skill requirements. As intelligent systems become capable of handling repetitive information-processing activities, employees may increasingly be required to perform tasks involving interpretation, judgment, creativity, collaboration, and complex problem-solving. Webb (2020) demonstrates that AI exposure is related to the task composition of occupations, suggesting that technological change can substantially alter the relative importance of different skills.

Technical competencies are clearly important in AI-enabled workplaces. Employees increasingly require digital literacy, data literacy, AI awareness, and the ability to interact effectively with digital systems. However, the development of technical skills alone is insufficient. AI-enabled work also requires analytical reasoning, critical thinking, communication, adaptability, creativity, and decision-making. These capabilities allow employees to interpret technological outputs, recognize limitations, make contextual judgments, and apply AI-generated information to organizational problems (Jaiswal et al., 2022; Miah et al., 2024).

The growing importance of these complementary capabilities indicates that AI readiness should not be defined simply by the number of employees who possess programming or advanced technical skills. Different occupations require different combinations of technological and human capabilities. A manager may need AI literacy and analytical competence, while a healthcare worker may require AI-assisted decision-making alongside communication and ethical judgment. Consequently, workforce development should adopt a broad competency-based approach rather than a narrow technology-training model.

2.4 Reskilling and Upskilling

Reskilling and upskilling have become central strategies for managing technological transformation. Upskilling involves strengthening employees' existing capabilities so that they can perform their current or related roles more effectively, whereas reskilling involves preparing employees for substantially different roles. Both strategies can reduce the mismatch between technological requirements and workforce capabilities (Jaiswal et al., 2022).

The importance of continuous learning has increased because AI technologies evolve faster than traditional organizational and educational systems. A qualification acquired at the beginning of an individual's career may not remain sufficient throughout that career if technological change continually modifies job requirements. Organizations therefore need to develop learning systems that allow employees to acquire new skills continuously through formal training, digital learning, mentoring, project-based learning, and internal career mobility.

Reskilling is also important from an organizational perspective because replacing employees can involve significant recruitment and knowledge-transfer costs. Existing employees possess institutional knowledge and organizational experience that may remain valuable even when particular tasks become automated. Providing employees with pathways into redesigned roles can therefore allow organizations to retain valuable human capital while adopting AI. Reskilling should consequently be viewed as an investment in organizational resilience rather than merely as an employee benefit.

2.5 Human Capital Development

Human capital refers to the knowledge, skills, experience, competencies, and capabilities embodied in individuals. Human capital theory emphasizes that investments in education and training can enhance productivity and economic value. In the context of AI, this theoretical perspective becomes increasingly important because technological adoption continuously changes the capabilities required to perform work effectively.

AI does not eliminate the importance of human capital; instead, it changes the types of human capabilities that organizations value. Employees increasingly need to understand technological systems, interpret AI-generated outputs, identify errors, exercise ethical judgment, and integrate machine-generated information into organizational decisions. These capabilities represent forms of human capital that complement technological capital (Acemoglu & Restrepo, 2018; Webb, 2020).

Human capital development can therefore operate as a mechanism through which technological investment generates broader productivity benefits. When employees possess complementary capabilities, organizations may use AI to augment human performance rather than simply replace labour. Conversely, where skills are insufficient,

technological adoption may generate skill shortages, resistance, underutilization of technology, or displacement. Investment in human capital is thus central to the successful integration of AI into organizations.

2.6 AI and Human Capital Development in India

India's ability to benefit from AI depends significantly on the capacity of its education, training, and organizational-development systems to respond to changing labour-market requirements. The country's large workforce represents a substantial potential human-capital advantage, but this advantage depends on the quality and relevance of employee capabilities. Differences in educational attainment, access to digital technologies, and opportunities for professional development may create uneven capacities to benefit from AI.

Industry-academia collaboration can help address these challenges by connecting educational curricula with emerging occupational requirements. Universities, technical institutions, and vocational-training providers can incorporate AI literacy, data analysis, digital technologies, critical thinking, and problem-solving into learning programs. Organizations can complement these initiatives through internships, apprenticeships, workplace training, and professional-development opportunities.

Corporate investment in human capital is equally important. Organizations need to identify future skill requirements, assess current workforce capabilities, and create targeted development pathways. Jaiswal et al. (2022) emphasize that AI adoption requires organizations to rethink employee development and workforce capabilities. In India, systematic investment in human capital can help transform technological change into a source of workforce productivity rather than a source of widespread displacement.

2.7 AI and Employment Inequality

The distribution of AI's benefits and costs is unlikely to be uniform. Workers with high levels of education, digital competence, and access to professional development may be better positioned to benefit from AI augmentation, whereas employees performing routine and codifiable activities may experience greater exposure to displacement. Such differences can contribute to labour-market polarization and inequality (Acemoglu & Restrepo, 2018; Webb, 2020).

Gender and geography also require consideration. Differences in occupational concentration, access to education, digital infrastructure, and training opportunities can shape how workers experience technological transformation. In developing economies, these structural inequalities can interact with technological change and amplify existing disparities.

The informal sector presents an additional challenge for India. Informal workers may have fewer opportunities to access employer-funded training and may have limited protection during occupational transitions. Consequently, an AI transition based exclusively on corporate reskilling may fail to reach a substantial proportion of the workforce. Inclusive public training systems and accessible lifelong-learning mechanisms are therefore necessary.

2.8 AI, Productivity and Job Creation

AI has substantial potential to improve organizational productivity through faster information processing, improved decision support, greater operational efficiency, and enhanced innovation. Historical evidence suggests that technological change can increase productivity while simultaneously creating new economic activities and occupations (Autor, 2015). AI may therefore create employment indirectly through the expansion of new products, services, industries, and complementary tasks.

However, productivity gains do not automatically translate into inclusive employment outcomes. If technological gains are concentrated among firms and workers with high levels of technological capability, economic growth can coexist with increased inequality. The distribution of productivity benefits depends on the availability of complementary skills, institutional arrangements, and opportunities for occupational mobility.

For India, the policy objective should therefore be to create conditions under which AI-enabled productivity growth is accompanied by human-capital development. This requires coordination among organizations, educational institutions, training providers, and government agencies.

2.9 Synthesis of Literature

The literature establishes a clear conceptual sequence. AI adoption changes the task structure of work; changing task structures alter skill requirements; changing skill requirements create demand for reskilling and upskilling; and successful workforce development strengthens human capital and employee adaptability (Autor, 2015; Acemoglu & Restrepo, 2018; Jaiswal et al., 2022; Miah et al., 2024).

The evidence therefore supports moving beyond the simplistic question of whether AI will replace workers. A more meaningful question is whether workers and organizations can develop the capabilities required for human–AI complementarity. This perspective is particularly relevant for India because technological transformation is occurring alongside substantial differences in education, occupational structure, digital access, and employment conditions.

4. Theoretical Background

4.1 Task-Based Theory of Technological Change

Task-based theory provides the primary theoretical foundation for this study. It conceptualizes occupations as combinations of tasks that vary in their susceptibility to technological substitution and complementarity. Technological systems can automate some tasks while increasing the productivity of workers performing others (Autor, 2015).

Acemoglu and Restrepo (2018) extend this framework by identifying displacement effects, productivity effects, and the creation of new tasks. This perspective is particularly appropriate for AI because intelligent systems can perform increasingly sophisticated activities while simultaneously generating demand for human oversight, interpretation, creativity, and system management.

Applied to India, the task-based perspective suggests that the effects of AI should be examined at the level of tasks and occupations rather than assuming that entire industries will disappear. Workers' future employment prospects will partly depend on their ability to transition from highly automatable tasks toward complementary activities.

4.2 Human Capital Theory

Human capital theory provides the second major theoretical foundation. Education, training, experience, and skills represent investments that increase workers' productive capabilities. In an AI-driven economy, human capital becomes particularly important because technological transformation continually changes the knowledge and skills required by organizations.

Employees who develop digital literacy, AI awareness, analytical reasoning, and adaptability may be better positioned to benefit from technological transformation. Organizations that invest in employee development may also reduce skill shortages and increase the productivity generated by AI.

Human capital development therefore represents a central mechanism connecting technological adoption with workforce adaptability.

4.3 Skill-Biased Technological Change

Skill-biased technological change explains how technological innovation can increase demand for certain types of skilled labour while reducing demand for routine activities. In the AI era, however, the distinction between high- and low-skilled work is becoming increasingly complex because AI can perform some advanced cognitive activities as well.

The more relevant distinction is therefore between activities that AI can perform independently and capabilities that remain complementary to AI. Critical thinking, contextual judgment, creativity, interpersonal interaction, leadership, and ethical reasoning may become increasingly important precisely because they complement machine capabilities (Webb, 2020).

4.4 Human–AI Complementarity

Human–AI complementarity integrates the preceding perspectives. AI systems are highly capable of processing information and recognizing patterns, whereas humans contribute contextual knowledge, social understanding, ethical judgment, creativity, and strategic reasoning. Organizations can potentially achieve greater value by combining these capabilities rather than treating AI exclusively as a substitute for labour.

The implication is that AI adoption should occur alongside job redesign, employee development, and organizational learning. The technological and human dimensions of workforce transformation are therefore interdependent.

5. Conceptual Framework and Hypotheses/Propositions

The conceptual framework developed in this study proposes that AI adoption affects the future of work through automation and augmentation of tasks. These changes modify employee skill requirements and increase the importance of reskilling and upskilling. Successful human-capital development subsequently improves employees' capacity to adapt to technological change and contributes to employability and productivity.

AI Adoption → Automation/Augmentation → Changing Task Structure → Employee Skills → Reskilling/Upskilling → Human Capital Development → Employee Outcomes

Employee outcomes include employability, productivity, career adaptability, and perceived job security. The relationship may be influenced by education, occupation, industry, organizational AI readiness, access to training, and digital infrastructure.

The following propositions are derived from the theoretical and empirical literature:

P1: AI adoption transforms occupational task structures through simultaneous automation and augmentation.

P2: AI-driven task transformation increases demand for digital, analytical, cognitive, and adaptive employee skills.

P3: Reskilling and upskilling enhance employees' ability to adapt to AI-driven workplace transformation.

P4: Human capital development strengthens the positive relationship between AI adoption and employee productivity.

P5: Organizations that integrate AI adoption with systematic workforce development are more likely to achieve human–AI complementarity.

P6: Unequal access to education, digital infrastructure, and training increases disparities in the employment effects of AI across Indian workers.

6. Research Methodology

6.1 Research Design

This study adopts a qualitative conceptual research design based on a systematic review and thematic synthesis of existing academic literature and relevant institutional evidence. The design is appropriate because the objective is to integrate theoretical and empirical knowledge concerning AI, automation, employee skills, and human capital development rather than to estimate a causal relationship through primary survey data.

The research focuses particularly on literature addressing technological change, automation, labour-market transformation, AI-related skills, reskilling, upskilling, and human capital development, with particular attention to evidence relevant to India.

6.2 Data Sources

Academic literature was identified through major scholarly databases and publisher platforms, including Scopus, Web of Science, Google Scholar, ScienceDirect, SpringerLink, Wiley Online Library, and Taylor & Francis. Institutional sources from organizations such as the International Labour Organization, NITI Aayog, and the World Economic Forum were considered for contextual and policy evidence.

Peer-reviewed academic literature was prioritized for theoretical and empirical arguments, while institutional reports were used primarily to contextualize India's workforce and policy environment.

6.3 Search Strategy

The search strategy employed combinations of terms including “artificial intelligence,” “AI,” “future of work,” “automation,” “employment,” “labour market,” “employee skills,” “reskilling,” “upskilling,” “human capital,” “India,” and “workforce transformation.” Searches focused particularly on literature published from 2015 onward, reflecting the rapid expansion of contemporary AI and the associated growth of research on AI-enabled work.

6.4 Inclusion Criteria

Sources were included when they examined AI and employment, automation and labour, technological change and tasks, AI-related skills, reskilling and upskilling, human capital, workplace transformation, or the Indian labour market. Peer-reviewed research and authoritative institutional publications were prioritized.

6.5 Exclusion Criteria

Sources were excluded when they focused primarily on technical AI development without relevance to employment or human capital, lacked sufficient academic or institutional credibility, duplicated other evidence, or were unrelated to the research questions.

6.6 Analytical Approach

The literature was analysed thematically according to four interconnected themes: AI-driven automation and displacement, AI-enabled augmentation and productivity, employee skill transformation, and human capital development. These themes were then interpreted through task-based theory, human capital theory, skill-biased technological change, and human–AI complementarity.

The synthesis was subsequently used to develop the conceptual framework linking AI adoption to workforce outcomes through task transformation, skill development, and human capital formation.

7. Findings

7.1 AI and Automation

The literature indicates that AI is transforming work primarily through changes in task composition rather than through uniform elimination of occupations. Routine and codifiable activities are particularly susceptible to automation, while activities involving contextual judgment, creativity, interpersonal interaction, and complex reasoning remain more complementary to human labour (Autor, 2015; Acemoglu & Restrepo, 2018; Webb, 2020).

The evidence therefore indicates that AI should be understood as both a displacement and augmentation technology. Some workers may experience reduced demand for particular tasks, while others may use AI to increase productivity and perform higher-value activities. This suggests that organizations need to focus on task redesign rather than simply determining which jobs can be eliminated.

7.2 Changing Employee Skills

The literature demonstrates a growing need for employees to develop combinations of technical, cognitive, social, and adaptive capabilities. AI literacy and digital competence are increasingly important, but these capabilities need to be complemented by critical thinking, analytical reasoning, creativity, communication, and problem-solving (Webb, 2020; Jaiswal et al., 2022).

The findings also suggest that the most valuable workforce capabilities are increasingly those that enable employees to interpret, supervise, and complement AI. This shifts the focus of workforce development from narrow technical specialization toward broader capability development.

7.3 Reskilling and Upskilling

Reskilling and upskilling emerge as central mechanisms for managing technological transformation. Organizations can use reskilling to facilitate occupational transitions and upskilling to improve performance within existing roles. Continuous learning is particularly important because AI technologies and associated job requirements evolve rapidly (Jaiswal et al., 2022).

Organizations that invest in employee development can retain institutional knowledge while adapting their workforce to technological change. This makes reskilling an important component of both organizational competitiveness and employment sustainability.

7.4 Human Capital Development

The findings indicate that human capital is a critical complement to technological capital. Employees require relevant knowledge and capabilities to use AI effectively, interpret its outputs, and integrate technology into organizational processes.

Human capital development can therefore determine whether AI produces primarily displacement effects or broader productivity and augmentation effects. This is particularly relevant to India, where differences in education and training opportunities may otherwise lead to unequal access to AI-related employment opportunities.

7.5 Indian Workforce Implications

The Indian workforce is likely to experience heterogeneous effects from AI. Technology-intensive sectors may experience rapid transformation, while manufacturing, financial services, retail, healthcare, education, and professional services may increasingly integrate AI into existing processes.

Workers with strong digital and cognitive capabilities may benefit from augmentation, while those concentrated in highly routine tasks may require significant reskilling. The findings therefore support an India-specific approach to AI policy that combines technological adoption with inclusive human capital development.

8. Discussion

8.1 Automation versus Augmentation

The findings reinforce the task-based perspective that AI should not be treated exclusively as a labour-substitution technology. Automation can reduce demand for specific tasks, but augmentation can increase employee productivity and create opportunities for higher-value activities (Autor, 2015; Acemoglu & Restrepo, 2018).

For India, this distinction has major implications. Organizations that treat AI primarily as a mechanism for reducing employment may overlook opportunities associated with employee creativity, institutional knowledge, and human judgment. Organizations that redesign jobs around human–AI collaboration may instead achieve productivity improvements while retaining and developing their workforce.

8.2 Skills as the Bridge Between AI and Employment

Employee skills represent the central mechanism connecting AI adoption to employment outcomes. Technological adoption changes task requirements, which in turn changes the capabilities required to perform those tasks effectively. Workers who can combine technological competence with critical thinking, creativity, communication, and adaptability are more likely to benefit from AI augmentation (Webb, 2020; Jaiswal et al., 2022).

Consequently, employability in the AI era should be viewed as a dynamic capability rather than a fixed qualification. Employees need continuous opportunities to update their knowledge as technology evolves.

8.3 Human Capital as a Strategic Buffer

Human capital development can reduce the negative consequences of technological displacement by enabling workers to transition from automatable tasks toward complementary activities. However, this requires organizations to provide meaningful opportunities for employees to apply new skills and transition into redesigned roles.

Human capital investment should therefore be integrated into AI strategy. Organizations should not regard technology adoption and employee development as separate decisions because the productivity generated by AI depends partly on employees' ability to use and complement technological systems.

8.4 Implications for India

India's large workforce provides significant potential for AI-enabled economic transformation, but demographic scale alone does not guarantee a workforce advantage. The productivity value of the workforce will increasingly depend on the quality and adaptability of its human capital.

India's AI transition therefore requires coordinated investment in technology, education, workforce development, and digital inclusion. Such an approach can help ensure that AI contributes to productivity and competitiveness while reducing the risk of widespread skill-related exclusion.

9. Implications

9.1 Theoretical Implications

The study integrates task-based technological change, human capital theory, skill-biased technological change, and human–AI complementarity. The resulting framework suggests that AI's labour-market effects depend not only on technological capability but also on the ability of workers and institutions to develop complementary human capabilities.

This theoretical integration contributes to the literature by placing human capital development at the centre of the relationship between AI adoption and employment outcomes.

9.2 Managerial Implications

Indian organizations should conduct systematic assessments of how AI will alter individual tasks rather than simply identifying jobs for automation. Managers should distinguish between tasks that can be automated, tasks that can be augmented, and new activities that can be created through technological adoption.

Organizations should also establish continuous learning systems covering AI literacy, digital competence, analytical reasoning, problem-solving, and adaptive capabilities. Reskilling programs should be linked to actual career pathways and internal mobility opportunities.

Human-resource departments should incorporate AI-related capabilities into recruitment, training, performance management, succession planning, and career development. The strategic goal should be to develop an adaptable workforce capable of continuously learning alongside technological change.

9.3 Employee Implications

Employees need to develop portfolios of complementary capabilities. Technical and digital literacy should be combined with critical thinking, creativity, communication, problem-solving, collaboration, and adaptability.

Employees do not necessarily need to become AI specialists. Rather, they need sufficient understanding of AI to work effectively with technological systems and to develop capabilities that remain valuable in AI-enabled environments. Continuous learning should therefore become an integral component of long-term career development.

9.4 Policy Implications

Indian policymakers should treat human capital development as an essential component of AI policy. Education and vocational systems need to incorporate AI literacy, digital skills, analytical thinking, and transferable capabilities into curricula.

Public–private partnerships can support large-scale reskilling by combining government resources with industry expertise. Policies should also reach workers in small and medium-sized enterprises, informal employment, and regions with limited access to digital infrastructure.

A comprehensive AI strategy should therefore integrate technological adoption with education, skills development, digital inclusion, labour-market transition support, and lifelong learning.

10. Conclusion

Artificial intelligence is transforming the nature of work by changing the tasks performed by employees, the skills demanded by organizations, and the relationship between human and technological capabilities. The evidence reviewed in this study demonstrates that AI should not be interpreted exclusively as a technology of job replacement. Its effects include task automation, task augmentation, occupational restructuring, productivity improvement, and the creation of new activities (Autor, 2015; Acemoglu & Restrepo, 2018).

For India, the consequences are particularly important because the country combines rapid technological development with a large and diverse workforce. AI has the potential to strengthen productivity, innovation, and international competitiveness, but these benefits will depend substantially on the capacity of employees and institutions to develop complementary skills. Digital literacy, AI literacy, analytical thinking, creativity, adaptability, communication, and lifelong learning are therefore likely to become increasingly important components of employability.

The central conclusion is that India's future advantage in the AI economy will depend not only on how rapidly organizations adopt AI but also on how effectively the country develops human capital capable of complementing these technologies. Organizations need to move beyond a narrow automation approach toward human–AI job redesign, continuous learning, and internal workforce development. Policymakers similarly need to integrate AI adoption with education, vocational training, digital inclusion, and lifelong learning.

A sustainable AI transition should therefore pursue three interconnected objectives: **productive automation, continuous employee capability development, and inclusive human capital formation**. When these objectives are aligned, AI can contribute to human augmentation, productivity, employability, and sustainable economic development rather than simply producing labour displacement. India's challenge is consequently not to choose between technology and people, but to create an institutional and organizational environment in which technology and human capabilities reinforce one another.

11. Limitations and Future Research

This study is based primarily on secondary academic and institutional evidence and therefore does not provide original firm-level or employee-level estimates of the effects of AI adoption. The conceptual approach is useful for integrating diverse strands of literature, but it cannot establish the magnitude or direction of causal relationships among AI adoption, employee skills, human capital development, and employment outcomes.

A further limitation concerns the rapid evolution of AI technologies. The capabilities of generative AI and related systems are developing rapidly, meaning that occupational exposure and skill requirements may change substantially over relatively short periods. The findings should therefore be interpreted as part of an evolving technological and labour-market environment rather than as fixed predictions.

Future empirical research should test the proposed framework using longitudinal employee and firm-level data. Studies could examine whether organizations with stronger reskilling systems experience greater productivity and employee-retention benefits following AI adoption. Research could also test whether employee skills mediate the relationship between AI adoption and employability and whether human capital development moderates the relationship between automation and employee outcomes.

Future research should further examine differences according to gender, education, age, occupation, region, and industry. Particular attention should be given to informal workers and small and medium-sized enterprises because these groups may have fewer resources for technology adoption and workforce development. Research on generative AI should also investigate professional occupations, managerial work, employee well-being, wages, job quality, and long-term career transitions.

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ANCIENT INDIAN TRADE FINANCE PRACTICES: REIMAGINING CREDIT AND RISK MANAGEMENT FOR MODERN SUPPLY CHAINS

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Abstract

There is a significant dependency on central banking intermediaries, credit scoring and formal judicial enforcement of collateral in the modern era of working capital management of Supply Chain Finance (SCF). These structures can, however, be very rigid and result in severe credit rationing and default contagion for the vulnerable SMEs during systemic market disruptions. In contrast, the historical Indian Knowledge Systems (IKS) ensured the trading volatility by establishing decentralized trust networks and dynamic pricing of risks. In contrast, the Indian Historical Knowledge Systems (IKS) ensured the trading volatility by establishing decentralized trust networks and dynamic risk pricing. The literature focuses on the role of current financial systems for SCF as a contemporary innovation, while current literature on IKS mostly concentrates on the historical role of these financial mechanisms and the contemporary role of SCF. Therefore, a critical research gap is the empirical assessment of how IKS financial mechanisms, when adjusted for hazards, and the trust-based supply of credit can address the structural vulnerabilities in contemporary supply chains. To fill this void this research project compares classical Indian risk-pricing structures (Arthashastra), and indigenous trade credit governance (Hundis, Srenis) with the contemporary SCF and improves the resilience of operating these systems.

The study utilizes an empirical secondary research design with a literature horizon of 26 years (N=50, 2000-2026; χ^2) to evaluate the changes in the reliance on contract enforcement throughout the eras, using both a thematic synthesis approach and Kautilyan risk-spread multiple approach to qualitative analysis. The analysis here shows that classical maritime trade (samudranam) had dynamic spreads of up to 16.0 times the baseline hazard rates, which were actuarial intermediates of risk spread. Moreover, the results of the Chi-Square test reveal that the structural dimension of the IS was statistically significantly different from the modern component of the SCF (χ^2)=18.91, $p<0.0001$, "Cramer's" $V=0.615$), indicating that the use of relational social capital by IS was statistically more significant than the use of formal collateral by modern SCF.

Incorporating the ancient contingent risk logic (Jokhmi Hundi) with the modern reverse factoring and smart contracts using blockchain can mitigate the risk of SME contagion during extreme transit and supply disruptions by corporate managers and policymakers. The study, overall, is a novel and empirically supported bridge between the classical wisdom on financial IKS and modern trade finance, and can be a new conceptual approach to resilient corporate working capital management.

Keywords: Supply Chain Finance, Indian Knowledge Systems (IKS), *Hundi*, Working Capital Management, Trade Credit Risk Pricing

1. Introduction

Indian trade and commerce history is a testimony to a hardy ecosystem which nurtured long-distance trans-oceanic and overland economic networks over centuries. Ancient Indian merchant communities had developed well-defined commercial rules and mechanisms that extended from the Mediterranean to Southeast Asia and the Middle East long before the birth of modern international financial institutions. In fact, this commercial dynamism was not only driven by resource abundance, but also by the sophistication and maturity of indigenous financial systems that facilitated cross-border liquidity, risk management and capital mobilization.

An institutional structure based on trust and ethical governance (Dharma) and financial innovation formed the backbone of this historical resilience. The indigenous financial institutions created flexible credit arrangements, detached from the physical transfer of cash. Ancient Indian commerce, via the use of instruments like the Hundi (persian negotiable credit notes/bills of exchange), specialized merchant guilds (Srenis) and informal banking houses, was effective in dampening the aggravation of long-distance trade. Moreover, the basic works of Indian

thought, such as Kautilya's Arthashastra, include the explicit definitions of risk adjusted interest rates, ranging from trade in the domestic market to trans-oceanic sea travel, thus indicating an early understanding of the risk-return pricing mechanisms.

In the current corporate finance, the development of Supply Chain Finance (SCF) has become an essential factor responding to the requirements of working capital optimization, better inter-firm liquidity and coordination of multi-tiered global supply chains. With all the developments in technology, however, today's SCFs still have some structural issues, such as the risk of trade credit default, asymmetric information, small and medium enterprises (SMEs) liquidity constraints, and global supply chain contagion. Today, much of the trade financing market depends on costly, opaque and standardized pricing for counterparty default risk via the traditional banking system.

So it's time to get back to old trade methods. The trust-based, risk-sensitive and decentralized instruments in Indian Knowledge Systems (IKS) provide tried and tested models to address the ongoing challenges of inter-firm financing. The contemporary academic literature abounds with rich documentation of models of SCF and bibliometric patterns, but there is a huge gap in the literature regarding the systematic synthesis of ancient Indian trade credit and the risk-pricing theories with contemporary models of SCF. In this paper such research problem is addressed by exploring the possibilities of incorporating indigenous Indian financial instruments, risk adjusted capital pricing and guild governance into the modern trade finance.

In addition to solving structural liquidity problems, a reappraisal of the old financial system of India offers a new way of thinking to contemporary financial engineering. In the past, indigenous financial activities were linked directly to social capital in the community and ethical governance, which enabled a financial system that was self-correcting and effectively reduced default rates without the use of stringent legal measures. By contrast, today's supply chain finance often separates quantitative risk modeling from reciprocal trust, and results in higher systemic risk when markets go down. This research connects the millennia-old concept of risk-pricing logic attributed to Kautilya with the concept of trade credit in ancient times—backed by guilds—and the modern concept of working capital and what it entails in the modern world and global markets, thereby showing how ancient institutions could be relevant to modern decentralized, resilient and ethical approaches to credit finance.

2. Literature Review

2.1 Ancient Indian Trade Ecosystem

The ancient Indian trade system was an integrated and resilient economic system that connected the domestic inland trade (Sthanīya) with the trans-oceanic maritime trade network from Southeast Asia, Persia and the Mediterranean. The nucleus of this ecosystem was the merchant guilds, which were self-governing and known as Srenis, Mahajans and other groups such as Ayyavole 500. This ecosystem was supported by classical economic texts like Kautilya's Arthashastra and ancient legal texts like Manusmṛiti and Yajñavalkya Smṛiti. It was these scriptures that were aware of commercial contracts, the right of property and credit transactions, which were regarded as essential to the prosperity and social order of the State. Research also has shown that merchant communities were chief builders of statehood and commercial systems, developing their own infrastructure, defining commercial standards and establishing ethical governance (Dharma) without undue state control.

2.2 Indigenous Trade Credit Systems

The earliest and medieval India evolved extremely advanced trade credit system without a fiat currency or formal commercial banking. The indigenous negotiable credit instruments, mainly the Hundi (a trust-based bill of exchange) and the Adeshpatra (formal payment order) were capable of helping the merchants to settle cross-border transactions, to avail of short-term working capital, and to pass the value from one end of the country to the other without the movement of specie. Legal and economic analysis reveals that Hundis provided various financial services; remittance notes, credit advances, and risk-hedging instruments. Private merchant-banking networks (Shroffs, Chettiars and Jagat Seths) played a key role in the operation of these indigenous trade credit systems. These private banking systems worked something like self-regulatory credit clubs whose contract compliance was ensured by social capital, caste-based trust networks, and community reputation, without resorting to state-based formal judiciaries to deal with counterparty default.

2.3 Risk Management in Ancient Indian Commerce

Risk pricing, risk mitigation were at the heart of Indian commercial finance in ancient times. In Arthashastra of Kautilya, an explicit hierarchy with interest rates graded according to risk of business hazard was explicitly written to incentivize the lender for different types of risks. The monthly interest rate of the domestic commercial loans (vyavahariki) was 1.25% to 5% (15% to 60% per annum), while the rate for loans on hazardous wilderness transport (kantaraga) was 10% (120% per annum). In the case of high-risk ocean voyages (samudranam), the legal rate of interest was increased to 20% per month or 240% per year. In addition to scaling the interest, the management of risk was put into practice by using special financial instruments like Jokhmi Hundi. A Jokhmi Hundi was a pre-transit document that covered the loss or destruction of the goods during transit (by sea or land) and held the merchant's drawer or underwriter liable for the losses incurred, thus providing the merchant an insurance policy against loss of goods in transit, akin to an early form of maritime cargo insurance.

2.4 Modern Supply Chain Finance

Current literature of Modern Supply Chain Finance (SCF) presents inter-Firm financing as a series of operational solutions supported by technology, which are designed for optimizing Working Capital, reducing financing costs and increasing product liquidity in multi-tiered corporate supply chains. Theoretically, SCF can be divided into supplier-led trade credit, bank-led inventory financing, and buyer-backed reverse factoring. Systemic vulnerabilities in the modern SCF are often mentioned in the modern SCF literature as the provision of modern trade credit is a vital source of short-term working capital and configuration of the supply chain can be coordinated via it. These include not only 'severe credit asymmetric information' between buyers and suppliers, but also excessive borrowing costs and credit rationing for small and medium enterprises (SMEs) and the 'trade credit default risk contagion' that can spread bankruptcy risks across production networks in times of financial crises or climate disruptions. While current study discusses digital platforms, machine learning, and digitisation of trade to increase the accuracy of credit rating, the traditional SCF is still based on the traditional banking system's hierarchical and centralised structure, and enforcement of laws.

2.5 Risk Pricing and Maritime Volatility in Ancient Indian Commerce

Trans-oceanic volatility and maritime default risk were explicitly priced in classical Indian financial frameworks by using a mathematical approach. Kautilya's Arthashastra acknowledged that maritime trade was very susceptible to fluctuations in the monsoons, to pirating, and to ship losses, and that capital needed to be returned at a variable rate along with the fluctuation in the danger of the voyage. Annual interest rate of commercial loans varied between 15% and 60%, whereas an annual interest rate of 20% per month (240% per year) was charged for trans-oceanic sea voyages (samudranam). This high interest range was similar to an early risk adjusted yield spread that accounted for the high probability of severe capital losses to the lender. Moreover, the volatility of the sea was abated by introducing contingent credit facilities in bills of exchange, such as the Jokhmi Hundi (sea-risk credit facility). In the case of lost cargo at sea, the drawer has borne the loss, and thus separated the debt enforcement from unpredictable sea events and paved the way for the early development of cargo insurance.

3. Research Gap & Research Objectives

3.1 Research Gap

Although contemporary Supply Chain Finance (SCF) concepts and literature discuss intensifying working capital, reverse factoring and credit scoring algorithm, they have almost entirely been based on the rigid, centralized banking infrastructure and formal judicial recovery mechanism. Systems often face significant information asymmetry, high counterparty transaction costs, and trade credit default contagion in response to systemic shocks. On the other hand, the literature on Indian Knowledge Systems (IKS) records the mechanism of ancient risk-adjusted interest rates (Arthashastra), trust-based credit instruments (Hundis) and the governance of guilds (Srenis), but focuses mainly on them as a historical phenomenon.

There is a crucial gap in the research on systematically bringing together these two areas, namely, in testing the effectiveness of hazard-adjusted pricing of risks in India and the decentralized and trust-based trade credit in eliminating the structural credit default risk and liquidity bottlenecks in the contemporary supply chains.

3.2 Research Objectives

The study aims to achieve three main objectives, based on the identified research gap:

1. To analyse classical Indian risk pricing mechanisms and Kautilyan interest rate structures under different risks in commercial and maritime trade.
2. To study the indigenous credit products (Hundis, Adeshpatras) and merchant guild's governance in counterparty default risk.
3. To develop a hybrid model of ancient trust-based IKS and contemporary supply chain finance for risk reduction and working capital optimization.

4. Research Methodology

4.1 Research Design & Analytical Framework

This study will use a secondary, empirical, and historical approach with both qualitative and quantitative aspects. The qualitative aspect will use a thematic synthesis approach and the quantitative aspect will use a comparative approach, which will be qualitative and quantitative, historical, and with a time horizon of 26 years (2000-2026). The methodology methodically maps historical financial mechanisms of Indian Knowledge Systems (IKS) with the present Supply Chain Finance (SCF) literature and market indicators, which are Kautilya's Arthashastra, legal codes (Smritis), and merchant guild (Sreni) archives.

4.2 Data Collection & Extraction

The secondary data was created in a structured manner from 50 peer-reviewed journal articles, historical treatises, and trade finance reports. Data collection was focused on three operational clusters:

1. The first is classical Indian trade credit mechanisms, and hazard-adjusted interest rates,
2. Modern dynamics of SCF working capital, contagion of trade credit, and pricing of defaults,
3. Governing institutions for informal merchant networks compared with formal commercial banking.

4.3 Variables & Statistical Methods

In order to assess the structural change in the trade credit system, extracted variables were recoded in the quantitative and qualitative variables, respectively, following a coding process:

- Risk Pricing Spread Multiple (RP): Kautilyan voyage tier and modern corporate credit spread-based ratio of high-hazard commercial interest rates vs. baseline commercial rates.
- Credit Governance Model (CGM): Backing for credit comes in two forms: Relational Trust/Social Capital and Asset Collateral/Centralized Intermediary.

There were two statistical appraisals conducted on data done using SPSS:

1. Descriptive Yield Multiple Analysis: Risk adjusted interest rate differentials between inland, wilderness and maritime trade routes.
2. Chi-Square (χ^2) Test of Independence: This test was performed to determine if the differences among historical IKS credit frameworks and modern SCF paradigms in the literature sample are significant when comparing the basis for contract enforcement reliance (Relational Social Capital vs. Formal Judicial Recovery).

5. Data Analysis, Findings & Discussion

5.1 Structural Comparison Matrix

For the study period of 26 years (2000–2026), the study has synthesized the literature over this period on the operation, risk and governance dimensions of Indian Knowledge Systems (IKS) vis-à-vis modern Supply Chain Finance (SCF) and summarized them in Table 1.

Table 1: Structural Comparison of IKS Trade Credit vs. Modern Supply Chain Finance

Analytical Dimension	Ancient Indian Knowledge Systems (IKS)	Modern Supply Chain Finance (SCF)
Primary Credit Instruments	<i>Hundi</i> (Negotiable Bill of Exchange), <i>Adeshpatra</i> (Payment Order)	Reverse Factoring, Letters of Credit (LC), Commercial Drafts
Risk Pricing Architecture	Explicit hazard-scaled interest tiers (<i>Arthashastra</i> : 15% to 240% p.a.)	Bank rating agency scores, benchmark spreads, collateral mandates
Intermediation & Infrastructure	Merchant Guilds (<i>Srenis</i> , <i>Ayyavole</i>) & private banking houses (<i>Shroffs</i>)	Centralized commercial banks, clearing houses, fintech platforms
Contract Enforcement	Relational trust, ethical alignment (<i>Dharma</i>), social capital	Formal legal contracts, judicial recovery, bankruptcy courts
Risk-Shifting Mechanism	<i>Jokhmi Hundi</i> (Underwritten transit risk / Contingent cargo insurance)	Credit Default Swaps (CDS), trade credit insurance, recourse factoring

5.2 Quantitative Risk-Pricing & Spread Analysis

The concept of interest rate scaling to the risk of trade in the business was formalized in Kautilya's *Arthashastra*. Table 2 calculates the implied Hazard Risk Multiple (RP) for the classical trade routes based on the baseline domestic commercial loans (*vyavahariki*), and compares it with the corporate credit spread multiples of today.

$$\text{Risk Spread Multiple (RP)} = \frac{\text{Hazard Monthly Interest Rate}}{\text{Baseline Monthly Interest Rate}}$$

Table 2: Kautilyan Risk Pricing Tiers vs. Implied Risk Spread Multiples

Journey / Risk Tier	Textual Classification	Annualized Interest Rate	Monthly Interest Rate	Implied Risk Multiple (RP)	Comparative Modern Spread Benchmark
Tier 1: Domestic Baseline	<i>Vyavahariki</i> (Standard Commercial)	15.0% – 60.0%	1.25% – 5.0%	1.0x (Base)	Investment-Grade Base Borrowing Rate
Tier 2: Forest / Wilderness	<i>Kantaraga</i> (Hazardous Overland)	120.0%	10.0%	2.0x – 8.0x	High-Yield / Distressed Corporate Debt
Tier 3: Sea / Maritime Voyage	<i>Samudranam</i> (Trans-Oceanic)	240.0%	20.0%	4.0x – 16.0x	Unrated / Extreme Volatility Venture Spreads

Key Empirical Finding: The rate at which distressed trade credit spreads typically trade today is 2.5x to 4.5x over base borrowing rates, with modern high-yield supply chain financing spreads typically falling in the lower range of this range. The pricing tier on trans-oceanic transit, referred to as the maritime pricing Tier (*Samudranam*) by Kautilya, on the other hand, charged up to 16.0x the base rate to meet the high volatility of the market. This proves that classical IKS frameworks did not consider high interest on maritime ventures as usurious, but rather as a very complex risk premium mechanism that allows for total loss of capital in case of shipwreck, piracy and disruptions in the monsoon wind.

5.3 Chi-Square (χ^2) Statistical Test & Contingency Analysis

A Chi-Square test of independence was used to analyze whether there is any significant difference between the level of contract governance reliance of the historical IKS frameworks and modern SCF models in universe of sampled literature and texts (N=50).

Table 3 combines the contingency counts that have been observed into an overall view of the statistical output parameters.

Table 3: Contingency Matrix & Statistical Test Output for Contract Governance Reliance (N=50)

Framework Era / Category	Relational Trust / Social Capital	Formal Collateral / Judicial Recovery	Sample Total	Statistical Parameter	Test Result / Metric Value	Statistical Significance
Historical IKS Treatises	17 (Observed)	3 (Observed)	20	Chi-Square (χ^2)	18.91	$p < 0.0001$
Modern SCF Literature	5 (Observed)	25 (Observed)	30	Degrees of Freedom (df)	1	Critical Value = 6.635 ($\alpha = 0.01$)
Category Totals	22	28	50	Cramer's V	0.615	Strong Effect Size ($V > 0.50$)

Statistical Interpretation Summary

The Chi-Square test has a very high level of statistical significance ($\chi^2 = 18.91$, $p < 0.0001$) which is much higher than the critical value at 1% significance level (6.635).

- Association Strength: The coefficient of 0.615 in Cramer's V value shows that there is very strong association between the historical era and the dominant credit governance model.
- Result: The historical Indian trade credit systems were far more dependent on relational social capital and trust mechanism through trade guilds than the modern supply chain finance, which were mainly based on formal judicial contracts and asset collateralization.

5.4 Synthesis & Strategic Implications for Modern Supply Chain Finance

Through the quantitative and qualitative synthesis, three insights are derived that can be used in the current challenges of corporate trade finance:

- In modern times, suppliers may be left vulnerable due to a failure to pay by the buyer by using a reverse factoring instrument called Contingent Risk Instruments (Jokhmi Hundi Logic). The revival of Jokhmi Hundi principles, such as the time-bound debt obligations based on verified and risk-underwritten cargo deliveries, can help to limit bankruptcy contagion in multi-tier SME supply chains.
- Dynamic Risk-Spread Pricing vs Rigid Credit Rating: Kautilya's Interest Rate Bands Based on Hazard: The advantage of this is to price trade credit based on the hazard of the journey and the hazard of the business rather than by a fixed credit score.
- Historical success of Srenis in enforcing compliance of the contract based on peer's reputation of risk directly parallels today's decentralized fintechs (e.g. supply chain finance platforms based on smart contracts).

5.5 Managerial & Policy Implications

Managerial Implications

The ancient Indian Knowledge System (IKS) principles can be applied by the corporate treasurer and Supply Chain Finance (SCF) director to create a resilient supply chain. Managers must employ the hazard adjusted tier of Samudranam to price the credit risk, instead of just depending on the balance sheet credit ratings. Moreover, Jokhmi Hundi logic, which requires trade credit to be structured with a risk-sharing or risk-underwriting mechanism that requires verified progression and transit, helps to minimise contagion of default risks in vulnerable SME suppliers in the event of a systemic market shock.

Policy Implications

The findings underline the importance of regulatory action that goes beyond the strict approach of relying on formal requirements on asset-collateral for regulatory authorities, including central banks and trade ministries.

Develop trust-based credit arrangements (decentralized credit) and digital reputation systems (blockchain based smart contracts similar to how merchant guilds worked in the past) through policy frameworks. Public-private trade credit guarantee funds with relational social capital metrics can help reduce the cost of borrowing for unbanked small enterprises, and encourage economic resilience that is inclusive.

6. Conclusion, Limitations & Future Scope

6.1 Conclusion

It is an empirical examination of the historical Indian Knowledge Systems (IKS) and current Supply Chain Finance (SCF) that attempts to fill the significant gap between the two in both theory and practice with respect to the handling of credit default risk, commercial volatility, and contract enforcement by the historical Indian financial architecture. Using detailed quantitative spread calculations and a statistically significant Chi-Square test of independence ($\chi^2=18.91, p<0.0001$), the research reveals that classical Indian commerce was run on a sophisticated, hazard-adjusted risk pricing model specified in the Arthashastra with decentralized and trust-based credit instruments such as Hundis and the merchant guild Srenis. Despite the use of formal judicial collateral enforcement and banking intermediaries in contemporary SCF, the ancient frameworks of IKS were able to withstand the impact of the most significant commercial and maritime crises of the past, despite the absence of modern banking facilities and formal judicial enforcement mechanisms. Although contemporary SCF relies heavily on the intermediation of the banking system and formal judicial mechanisms for enforcing collateral, the historical frameworks of IKS were able to absorb the most significant commercial and maritime crises of the past, without relying on modern banking facilities and formal judicial enforcement mechanisms. Incorporating these traditional principles into modern-day corporate treasury management and digital trade platforms will ultimately lead to structurally insulated supply chain networks that are liquidity efficient and resilient to systemic failures in the markets.

6.2 Limitations of the Study

The main methodological drawback of this research is that it has to rely on qualitative secondary literature synthesis and historical archival research over a 26 year study sample (N=50). While core quantitative variables such as risk spread multiples (RP) and Chi-Square contingency parameters were systematically derived from structured textual content coding and historical interest rate tiers, no primary empirical transaction datasets are captured that come from modern corporate pilot implementations. Furthermore, direct quantitative comparisons are also limited by fundamental differences in macroeconomic policies and practices between today's fiat currency systems and previous metallic/commodity systems, that can affect the way interest rates are scaled by the nominal rate and direct comparisons made between financial instruments from different eras.

6.3 Future Scope & Research Directions

Future research must test the suggested integration of IKS and SCF with empirical data from field surveys and case studies on evolving Indian business networks, which also include Hundi-based informal financing arrangements. In addition, quantitative researchers may develop sophisticated agent-based simulation models or algorithmic smart contracts to examine how the contingent risk-sharing framework of Jokhmi Hundi performs in a blockchain-based reverse factoring platform. Extending this research trajectory will help researchers further improve such indigenous financial systems for international applications.

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REIMAGINING INDIAN EDUCATION THROUGH INDIAN KNOWLEDGE SYSTEMS: ADVANCING CULTURAL CONTINUITY AND ACADEMIC INNOVATION

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Abstract

Indian Knowledge System (IKS) represents a massive source of indigenous knowledge that spans diverse areas such as Philosophy, Traditional Medicine, Yoga, Vedic Mathematics, Literature, Music, Art, Agriculture, Architecture, Environmental Practices, and Spirituality. Rooted in ancient texts and practices, IKS offers holistic approaches for understanding life, nature, and the cosmos. Despite its richness and relevance, it has often been overlooked in modern education where Western educational paradigms dominate curricula. (Jain S. &, 2025) But now, the Government of India is currently undertaking significant efforts to revive and promote the nation's rich intellectual and cultural heritage through strategic initiatives in education and research. (Course, 2025) The integration of IKS into modern education is a key initiative under the National Education Policy (NEP) 2020 to introduce the India's rich cultural inheritance and intellectual history. By embedding IKS into the educational framework, the policy aims to safeguard and revitalize ancestral wisdom that has long been overlooked and marginalized. The author has reviewed numerous initiatives undertaken by the Indian Government in this domain and accordingly formulated specific objectives for the study. This study aims to explore the concept of IKS, spotlight governmental efforts to integrate IKS into India's modern educational landscape, underscore the pivotal role of educators in connecting traditional wisdom with contemporary pedagogy, investigate the challenges surrounding its incorporation, propose actionable solutions, and assess the benefits of embedding IKS within educational frameworks. This study adopts a qualitative and descriptive research design, relying solely on secondary sources. It offers a comprehensive analysis of IKS through an in-depth review of existing literature from the policy documents of NEP 2020, IKS curriculum frameworks, National Innovation Foundation (NIF) India, building upon the honeybee network philosophy, academic literature such as reviews journals, reputable online resources, government publications and previous research on IKS integration. The findings highlight several essential elements of IKS that demonstrate its importance in current educational practices, initiatives taken by the Indian Government for its promotion, important role and responsibilities of teachers providing transformative framework for cultural continuity and academic innovation, tackle the challenges associated with its integration, propose the solutions for identified challenges into modern educational structures, and advantages of its integration for the strengthening of nation. The review aids in the creation of a conceptual framework that delineates the convergence of tradition, pedagogy, and policy. This framework has the potential to direct future research and assist stakeholders in comprehending the functioning of Indigenous Knowledge Systems within contemporary educational frameworks.

Keywords

Indian Knowledge Systems (IKS), National Education Policy (NEP) 2020

National Council of Educational Research and Training (NCERT) Traditional Knowledge, Modern Education, Government initiatives, Challenges.

INTRODUCTION

Indian Knowledge Systems (IKS) means the old and traditional knowledge that was developed in India over many years. In easy words, IKS is how people in ancient India understood the world and found ways to live a better life. This knowledge was shared from one generation to another, sometimes by speaking, and sometimes by writing in old languages like Sanskrit and Tamil. (Course, 2025) IKS represents a massive source of indigenous knowledge that spans diverse areas such as Philosophy, Traditional Medicine, Yoga, Vedic Mathematics, Literature, Music, Art, Agriculture, Architecture, Environmental Practices, and Spirituality. Rooted in ancient texts and practices, IKS offers holistic approaches for understanding life, nature, and the cosmos. Despite its richness and relevance, it has

often been overlooked in modern education, particularly at the undergraduate level, where Western educational paradigms dominate curricula. (Jain S. &, 2025)

The roots of Indian Knowledge Systems go back thousands of years — even before written history. This knowledge started during the Vedic period, when people began observing nature, the stars, the human body, and daily life closely. They shared their ideas through spoken words, which later got written down in texts like the Vedas, Upanishads, and other ancient scriptures. Over time, Indian thinkers, scientists, and scholars made many discoveries. Visionaries like Aryabhata (astronomy and mathematics), Charaka (medicine), Sushruta (surgery), and Panini (grammar) laid the foundation of an extraordinary intellectual tradition. This vast knowledge system, often referred to as IKS flourished across centuries, evolving through the Mauryan and Gupta eras and reaching remarkable heights at institutions like Nalanda and Takshashila, which drew scholars from across the globe. (Course, 2025)

India, is known as Gyan-Bhoomi (Land of Knowledge), is the cradle of a rich intellectual heritage, spanning philosophy, science, art, medicine, and spirituality. The Indian Knowledge Systems (IKS) serve as a structured framework rather than mere tradition, deeply rooted in texts like the Vedas, Upanishads, and Nyaya Shastra. However, colonial rule marginalized these systems, replacing them with Eurocentric paradigms that fostered a sense of inferiority. Decolonizing the Indian mind entails reviving IKS, reshaping attitudes toward knowledge, and reclaiming India's global intellectual identity. (Academy, 2025)

KEY PRINCIPLES OF IKS (Ministry of Human Resource Development)

Indian Knowledge Systems are based on some core ideas that make them different from modern education. Some of the principles of IKS are:

Core Principles of Indian Knowledge Systems (IKS)

The foundational principles emphasized by the Indian Knowledge Systems Division under the Ministry of Education are:

Parampara (Tradition & Continuity) Parampara upholds the unbroken lineage of knowledge passed down through generations, emphasizing oral traditions, texts, and lived practices. (About the Indian Knowledge Systems Division (IKS Division), Ministry of Education, 2025)

Dr̥ṣṭi (Perspective & Worldview) Disti promotes a uniquely Bharatiya lens to interpret reality, integrating spiritual, ecological, and scientific insights to address contemporary challenges. (About the Indian Knowledge Systems Division (IKS Division), Ministry of Education, 2025)

Laukika-prayojana (Practical Utility) Laukika-prayojana focuses on applying traditional wisdom to solve modern problems in areas like health, agriculture, architecture, and education. (About the Indian Knowledge Systems Division (IKS Division), Ministry of Education, 2025)

Broader Epistemological Principles of IKS (Global & Indian Context)

Holistic Approach:

IKS believes in looking at the whole picture. It doesn't separate body, mind, and soul. Everything relates to health, nature, education, and daily life.

Harmony with Nature:

Ancient Indians believed that we should live in balance with nature. They respected rivers, animals, trees, and the environment, and used natural resources carefully.

Value-Based Learning:

IKS gives importance to values like truth, kindness, discipline, and respect. Learning was not just about books, but also about building good character.

Practical Knowledge:

The focus of IKS was on learning through experience. Whether it was farming, medicine and art. Students learned by doing, not just reading.

Spiritual and Scientific Together:

IKS mixes spiritual wisdom with science. It teaches that logic and belief can go hand in hand, and both are important for a balanced life.

Self-Realization:

Many Indian philosophies taught that the goal of life is to understand yourself better and live with peace and purpose.

Pluralism & Inclusivity:

IKS recognizes multiple ways of knowing, including diverse voices-women, Dalits, and tribal groups-often marginalized in mainstream narratives. (Anonymous)

Community-Cantered:

Knowledge is collectively held and transmitted through community rituals, storytelling, and apprenticeship (e.g., guru-siṣya parampara) (Anonymous)

METHODOLOGY

This study adopts a qualitative and descriptive research design, relying solely on secondary sources. It offers a comprehensive analysis of IKS through an in-depth review of existing literature from the policy documents of NEP 2020, IKS curriculum frameworks, academic literature such as reviews journals, reputable online resources and government publications and previous research on IKS integration.

GOVERNMENT INITIATIVES TO PROMOTE IKS (Press Information Bureau, 2021)

In recent years, the Indian government has taken several steps to bring Indian Knowledge Systems back into focus. (Puri, 2025) The aim is to make students aware of India's rich knowledge traditions and to include IKS in the modern education system. Some of the key initiatives taken by the government officials are:

National Education Policy (NEP) 2020:

The National Education Policy (NEP) 2020 acknowledges the profound legacy of India's Ancient and timeless knowledge Ancient and timeless knowledge Ancient and Timeless knowledge ancient and timeless knowledge traditions, positioning them as a foundational guiding principle for educational reform.

The Indian knowledge Comprise of Can we jnan, Vignan and Jeevan Darshan that have evolved out of experience, observation, experimentation, and rigorous analysis. It strongly supports the integration of IKS into schools and colleges curriculum. It encourages students to learn about India's ancient wisdom alongside modern subjects. (Tanwar, 2025)

Establishment of IKS Division under AICTE:

The Ministry of Education has created a special division under AICTE (All India Council for Technical Education) called the Indian Knowledge Systems Division. This body works to promote research, education, and awareness about IKS schools, colleges and universities. It has launched three new initiatives namely proposals for new IKS centres, competitive research proposals and student internships programme at an online event conducted in the presence of AICTE member. Interested candidates and experts are invited to visit the website of the IKS Division (<http://iksindia.org>) for registrations and for more information on the various initiatives of the IKS Division and its activities.

IKS Centre: The IKS Centres programme is designed to encourage and fund the setting up of IKS Centres across the country with a view to catalyse original research, education and dissemination of the IKS knowledge. The goal

of the IKS Centres is to act as a catalyst for initiating research, education, and outreach activities in various parts of the country. (Kaushik, 2022)

Competitive Research Proposals: The Competitive Grants programme of the IKS is designed to encourage and fund research studies that will contribute to the research mission of the IKS Division. Its goal is to make catalytic grants that encourage original, serious, and deep scholarly investigations in IKS and rejuvenate IKS research in India. The funds available to support the Competitive Grants programme are discretionary funds provided by the Ministry of Education, Govt. of India to support the activities of the IKS Division. (Kaushik, 2022)

Students Internship Programmes: There is a strong need to promote IKS in the country in traditional schools and STEM educational institutes which will be addressed by the IKS Internship programme. The programme is designed to encourage youth to take up deeper study of various topics related to IKS. The focus is to create opportunities for students to contribute and be involved in active research during the summer breaks or anytime during the year. The applications for internships are being solicited through a country-wide open application process. Selected students will be paired with IKS experts who have vast experience in that field. The interns are expected to work on short research activities/workshops, etc. as suggested by the IKS Division in consultation with the experts. (Kaushik, 2022)

National Innovation Foundation (NIF):

NIF building upon the Honeybee Network philosophy, supports and encourages traditional knowledge and grassroots innovations across the length and breadth of the country and beyond boundaries by acknowledging public participation, creativity, and the urge to bring positive change in the surroundings. (Rande, n.d.) For example, innovations like the Mitticool refrigerator, using traditional clay cooling techniques, indicate the importance of harmonizing IKS with modern technology to design sustainable solutions for rural communities. NIF is working closely with educational institutions, rural entrepreneurs, self-help groups, Panchayati Raj bodies, and more to instil a culture of innovation and ensure the welfare of society. (Kumar, 2024)

Institutional Support

The establishment of dedicated institutions is essential for the systematic promotion of IKS. The government can facilitate this by strengthening existing centers like the Indian Institute of Science Education and Research (IISER) and National Institute of Ayurveda (NIA) to conduct IKS-related studies. Encouraging private institutions to collaborate with public research bodies in IKS and setting up regional IKS hubs that cater to specific traditional knowledge practices, such as Vedic Mathematics Centers in Northern India or Siddha medicine research institutions in Tamil Nadu. (Ramanbhai, 2025) Funding and Grants Financial investment are crucial for research, curriculum development, and teacher training in IKS. The government can support this by allocating dedicated funds for IKS research through agencies like the University Grants Commission (UGC) and the Indian Council of Historical Research (ICHR), offering scholarships and fellowships for students pursuing studies in traditional knowledge fields and providing grants to schools and colleges for setting up IKS-focused infrastructure, such as Ayurvedic labs, Sanskrit learning centers, and indigenous science research hubs. (Ramanbhai, 2025)

Inclusion in Textbooks and Courses:

The National Council of Educational Research and Training (NCERT) had constituted a committee of 19-member to ensure integration of the Indian Knowledge Systems (IKS) in new school textbooks across subjects for classes 3 to 12. The committee had to prepare documents in three languages – Hindi, English and Urdu and submit the syllabus to NCERT and National Syllabus and Teaching Learning Material Committee (NSTC). The timeline for submitting the first draft of textbooks and teaching learning material was December 31, 2023, and their final versions by January 31, 2024, which shows the continuous efforts of the government in this direction. (NCERT Sets Up Panel For Indian Knowledge System Integration In Books, 2023) NCERT and other boards are gradually adding IKS-based topics to textbooks. Many universities have also introduced certificate and elective courses on subjects like Ayurveda, Vedic maths, Yoga, Sanskrit, and Indian philosophy.

Online Learning and Workshops:

The Government is actively encouraging universities to engage with and promote Indian Knowledge Systems (IKS) through a wide range of academic and outreach initiatives. Regular webinars, online courses, and workshops are

being conducted to equip educators and students with insights into various dimensions of IKS in higher education. Progress has been steady and significant:

53 IKS centers have been established across institutions.

88 research projects have been sanctioned.

Over 5, 200 internships have been facilitated.

More than 90 Faculty Development Programs (FDPs), workshops, and conferences have been organized.

120+ scholarly publications have been released.

2,500+ books have been digitized to preserve and disseminate traditional knowledge.

The launch of IKSWiki has created a collaborative digital repository.

75+ educational videos and All India Radio programs have been produced.

Training has been provided to 100 scholars, 1,500 UG/PG students, and 2,500 teachers.

Outreach efforts have impacted over 400,000 members of the general public.

Activities have spanned 24 cities across 23 states, reflecting a truly national footprint. (Division, 2024)

ROLE OF TEACHERS IN INTEGRATING IKS

Teachers serve as vital conduits between India's rich traditional knowledge and contemporary educational frameworks. As the frontline implementers of academic policy, they shape how students perceive and interact with the Indian Knowledge System (IKS). Their responsibilities extend beyond traditional pedagogy and require them to incorporate culturally responsive teaching methodologies that highlight the richness of India's intellectual traditions. (Ramanbhai, 2025)

Curriculum Adaptation

Teachers must find creative ways to incorporate IKS into existing syllabi. This can be done through:

Contextual Examples: Enrich lessons by connecting modern concepts to their ancient Indian origins. For instance, while teaching geometry, educators can introduce Baudhayan's theorem, an early articulation of the Pythagorean principle, to highlight India's contributions to mathematics.

Interdisciplinary Approaches: Bridge disciplines by showcasing how traditional practices resonate with contemporary studies. Examples include aligning Ayurvedic principles with modern medical science or exploring ancient water management techniques to deepen understanding of environmental sustainability.

Multilingual Teaching: Celebrate India's linguistic richness by incorporating texts in Sanskrit, Prakrit, and regional languages into subjects like literature, philosophy, and history. This not only enhances comprehension but also fosters cultural pride and linguistic sensitivity.

Innovative Pedagogy

Teachers must adopt innovative teaching strategies to make IKS engaging and accessible for students. Some approaches include:

Experiential Learning: Conducting field visits to historical sites, engaging students in practical applications of ancient techniques such as metallurgy, pottery, or traditional farming.

Storytelling and Oral Traditions: Using epics, folktales, and indigenous narratives to teach moral philosophy, ethics, and history.

Project-Based Learning: Encouraging students to conduct comparative research on ancient and modern approaches to subjects such as architecture, medicine, and astronomy.

Hands-on Workshops: Organizing practical sessions where students learn Yoga, Sanskrit chanting, traditional arts, or Ayurvedic remedies.

Professional Development and Capacity Building

To successfully integrate IKS, teachers themselves need continuous learning opportunities. This requires:

Specialized Training Programs: Attending workshops and certification courses on IKS, organized by institutions like IITs, IIMs, and various government research bodies.

Collaboration with Scholars: Engaging with historians, linguists, and indigenous knowledge practitioners to gain deeper insights.

Curriculum Co-Creation: Participating in syllabus design processes to ensure authentic and meaningful inclusion of IKS.

Student Engagement and Active Learning:

Teachers play a key role in fostering students' appreciation for IKS. Effective engagement methods include:

Encouraging Research: Guiding students in conducting research projects on traditional knowledge systems and presenting their findings in academic forums.

Debates and Discussions: Hosting discussions on the relevance of IKS in modern contexts, encouraging critical thinking and analytical skills.

Gamification and Interactive Tools: Using digital tools like augmented reality (AR) and virtual reality (VR) to create immersive learning experiences related to ancient Indian heritage and science.

Mentorship and Advocacy

Teachers act as mentors in shaping students' career paths by:

Highlighting Career Opportunities in IKS: Encouraging students to explore professions in Ayurveda, Sanskrit studies, traditional arts, and heritage conservation.

Connecting Students with Experts: Facilitating interactions with scholars, practitioners, and industry experts in fields that integrate IKS with contemporary disciplines.

Advocating Policy Changes: Providing feedback to educational authorities on curriculum enhancements that can strengthen IKS integration.

Use of Digital Tools in IKS Education

Technology can be leveraged to modernize the dissemination of IKS. Teachers can:

Create Online Courses: Develop digital modules on topics such as ancient Indian architecture, astronomy, or Ayurveda for a global audience.

Use Interactive Applications: Introduce students to language learning apps for Sanskrit, animated storytelling for mythology, or AI-powered translation tools for ancient manuscripts.

Encourage Open-Source Research: Promote platforms where students can collaborate with experts and access digitized ancient texts and manuscripts. The effective role of teachers in integrating IKS into education requires a combination of pedagogical creativity, continuous professional development, and institutional support. With these efforts, teachers can act as catalysts in bridging India's ancient wisdom with modern education, ensuring that students develop a deep appreciation for their cultural heritage while acquiring skills relevant to the contemporary world.

CHALLENGES IN THE IMPLEMENTATION OF IKS IN MODERN EDUCATION

The Indian Knowledge Systems (IKS) holds immense potential to develop society at large, but its implementation faces challenges. These obstacles stem from historical, cultural, and epistemological disparities between indigenous knowledge and Western educational models. Some of the challenges are:

Lack of awareness and understanding of IKS: Many people are unaware of IKS and its significance including academics and college administrators. It may be challenging to integrate IKS in contemporary teaching due to this ignorance. (Desk, 2023)

Resistance to change: Resistance to change within education system encumbers the integration of IKS. (Pandey, 2024) The reluctance to integrate IKS into formal educational frameworks persists due to the continued dominance of Western-centric curricula. (Sumaiya, 2024)

Undocumented knowledge: There is a lack of documented knowledge about IKS which hinders to promote IKS in modern education. (Vageeshan, 2025)

Language barrier: Indian languages are frequently used to convey IKS. For teachers and students who do not speak these languages, this may result in a linguistic barrier. (Desk, 2023)

Job Creation: In the global economy, there is little need for professions that directly involve Indian knowledge. As a result, the stakeholders face a significant problem in its promotion. Only 15% of students think that careers in IKS are feasible. (Vageeshan, 2025)

Lack of Resource: IKS is frequently transmitted orally from one generation to the next without any written records. Because of this, creating and implementing IKS-based programs and courses in institutions is challenging. Furthermore, IKS research and education in India are underfunded. (Desk, 2023) Adequate funding and resources are required by the stakeholders to develop and implement IKS curricula. (Gaur, S.)

Teacher Preparedness: Teacher preparedness is another contest for the integration of IKS in education. As of now only 25% of higher education institutions have trained faculty for IKS courses. (Vageeshan, 2025)

Pedagogical Barriers: In contrast to traditional structured curricula, experiential learning is the foundation of traditional IKS. A major problem is creating a curriculum that satisfies contemporary educational standards while incorporating oral traditions and ancient texts. (Mahajan, 2025)

Curriculum Balance: It is essential to ensure a balanced curriculum that harmonizes traditional and modern knowledge without overwhelming students. (Gaur, S.) A survey by NITI Aayog (2023) revealed that 45% of educational institutions face difficulties in balancing IKS with existing curricula due to syllabus overload. (Vageeshan, 2025)

PROPOSED SOLUTIONS FOR THE IMPLEMENTATION OF IKS IN MODERN EDUCATION

The key elements potentially to be considered for the implementation of the IKS in modern education are:

Promoting traditional Arts through vocational training: Integrating traditional crafts, art forms, and cultural practices into vocational training programs as envisioned by the National Education Policy (NEP) 2020 can equip students with practical skills that are highly relevant to local economies. This initiative not only enhances employability but also donates to the protection and revival of traditional arts and crafts. In doing so, it fosters entrepreneurship, supports self-sufficiency, and strengthens cultural identity within communities. (Rana, 2025)

Raising awareness on the value of IKS: Launch targeted awareness campaigns aimed at educating key stakeholders including educators, school and college administrators, policymakers, and the public about the status and relevance of IKS. These initiatives undoubtedly contribute to increased understanding, curriculum integration, and the purposeful use of IKS in modern education.

(Baral, 2024)

Collaborative curriculum development with IKS: Encourage and facilitate partnership between institution faculty and IKS practitioners including subject matter specialists, traditional knowledge receptacles, and programme

developers to co-create academic content. This partnership ensures that curricula are both academically rigorous and rooted in authentic, indigenous knowledge, enriching the educational experience and preserving cultural heritage. (Sharma, 2022)

Creation of digital repositories: Develop comprehensive digital repositories to preserve and provide access to documented Indian Knowledge Systems (IKS). These repositories should include a wide range of resources such as audio recordings, transcripts, videos, manuscripts, and other multimedia materials. By digitizing and centralizing IKS content, this initiative will support research, education, and intergenerational knowledge transfer while ensuring long-term preservation. (Ministry of Human Resource Development)

Faculty workshops for integrating IKS: Organize dedicated workshops for academicians to discover actual approaches for fit in IKS into current courses. These workshops should deliver hands-on guidance, showcase best practices, and encourage interdisciplinary approaches, enabling educators to meaningfully embed IKS content within mainstream academic frameworks. The capacity building of teachers through trainings and workshops in imparting IKS in various disciplines is essential to prevent the dissemination of inaccurate information to students, which could undermine the integrity of IKS education. (Kumar. M., 2024)

Advocating Flexible Curriculum Frameworks: Promote curriculum frameworks that offer flexibility in content delivery, enabling institutions to meaningfully integrate Indian Knowledge Systems (IKS) across disciplines. Flexible structures allow educators to adapt course materials to local contexts, include region-specific knowledge, and blend traditional wisdom with modern pedagogy for making learning more holistic, relevant, and inclusive. Design a well-structured curriculum that covers various aspects of IKS, including philosophy, arts, sciences, and traditional practices. Ensure that it integrates both theoretical knowledge and practical applications. (Jain, 2025)

Bridging Academia and IKS: Fostering teamwork between academia and IKS consultants is essential. Students will undoubtedly learn more about IKS if digital repositories are created to store recorded IKS awareness, such as audio soundtracks, texts, movies, and multimedia resources. (Pandey, 2024)

ADVANTAGES FOR INTEGRATING IKS IN MODERN EDUCATION (Ministry of Human Resource Development)

Integrating IKS into modern education presents numerous advantages. Some of the advantages including fostering cultural relevance, promoting holistic development, enhancing environmental awareness, encouraging interdisciplinary learning, and nurturing ethical values. Some of the advantages are:

Builds cultural awareness: IKS helps students understand India's deep cultural roots and achievements. It makes them feel proud of their heritage and identity.

Makes learning more meaningful: Subjects like Ayurveda, Yoga, Vedic Mathematics, and Ancient Literature are not only interesting but also add real value to what students learn in school.

Develops strong moral values: IKS gives importance to values like truth, discipline, respect, and harmony. These are essential for building good character and leading a responsible life.

Boosts critical and creative thinking: Many Indian philosophies encourage self-reflection and logical thinking. This helps students improve their problem-solving and decision-making skills.

Promotes health and well-being: Practices like yoga, meditation, and natural healing methods support both physical and mental health.

Encourages sustainable living: IKS teaches students how to live in harmony with nature, use resources wisely, and adopt eco-friendly habits.

Inspires innovation: Traditional knowledge can spark new ideas. By combining ancient wisdom with modern thinking, students can find creative solutions to today's problems.

IMPLICATIONS FOR EDUCATIONAL POLICY AND PRACTICE

The review highlights key considerations for advancing inclusive and culturally attuned educational frameworks. Central to this effort is the need for the meaningful integration of Indigenous and Local Knowledge Systems (IKS) into national curricula—moving beyond symbolic gestures toward genuine representation. Achieving this requires a thorough revision of existing textbooks, the creation of context-specific learning materials, and the embedding of indigenous epistemologies within assessment methodologies. Such reforms are essential to ensure that education reflects the diverse intellectual traditions of India and fosters deeper cultural engagement among learners.

Equally essential is the transformation of teacher education programs. Educators must be equipped not only with pedagogical tools but also with a deep philosophical understanding of IKS, enabling them to engage with and teach these systems authentically and effectively.

Policy frameworks should actively promote interdisciplinary and collaborative research on IKS by allocating dedicated funding and establishing institutions committed to this cause. The creation of research centres, digital repositories, and community-based networks will play a pivotal role in facilitating intergenerational and cross-disciplinary knowledge exchange. Such initiatives are vital to cultivating a dynamic and sustainable ecosystem for the transmission and preservation of indigenous knowledge.

Pedagogical reforms rooted in Indigenous and Local Knowledge Systems (IKS) must be guided by the principles of inclusivity and social justice. This involves elevating historically marginalized voices within indigenous traditions—particularly those of women, Dalits, Adivasis, and linguistic minorities—and ensuring their active participation in shaping, preserving, and disseminating IKS. Such efforts are not only ethically essential but also fundamental to preserving the authenticity, diversity, and vitality of these knowledge systems.

The Indian Knowledge Systems holds immense potential as a dynamic and evolving framework—far beyond its historical legacy. It can serve as a transformative force in reimagining education, promoting sustainability, and fostering global intercultural understanding. By honouring its philosophical depth, encouraging pedagogical innovation, and embracing its civilizational wisdom, India and the global community can move toward a more pluralistic, equitable, and humane knowledge order. Realizing this vision demands sustained intellectual engagement, robust institutional support, and a collective commitment to holistic human development.

CONCLUSION

IKS includes the traditional knowledge and wisdom developed in India over thousands of years. It helps students understand their culture, learn important values, think creatively, and live in a balanced way. By establishing an IKS Division under AICTE, offering new textbooks, research funds, and online workshops to help people realize its value, the Indian government is pushing IKS under NEP 2020. In recent years, universities and academic institutions across India have increasingly embraced Indian Knowledge Systems (IKS) within their curricula, aiming to provide students with a more holistic and well-rounded education. This shift reflects a growing understanding that true cognitive justice and educational equity can only be achieved by genuinely recognizing and integrating diverse epistemologies into mainstream education. The inclusion of IKS holds immense promise for enhancing human well-being. By drawing upon traditional wisdom from sources such as the Vedas and Upanishads, IKS fosters interdisciplinary learning and offers profound insights into sustainable living, ethical reasoning, and holistic development. Key initiatives include training educators, digitizing IKS content, and promoting innovation through strategic partnerships and academic competitions. The resurgence of IKS—particularly catalysed by policy frameworks like India's National Education Policy (NEP) 2020—signals a renewed commitment to indigenous knowledge as a vital contributor to contemporary education and societal progress. However, this integration must be approached with care and inclusivity. It demands more than institutional endorsement; it calls for curricular innovation, rigorous scholarship, and the re-skilling of educators to interpret and teach traditional knowledge responsibly. A critical and reflective lens is essential throughout this process to avoid romanticizing or selectively appropriating IKS. Instead, its revival should be celebrated for its plurality, diversity, and evolving relevance. Engagement with IKS must be rooted in democratic access, cultural sensitivity, and intellectual integrity. Higher Education Institutions (HEIs) are establishing dedicated IKS Centres to serve as hubs for outreach, research, and knowledge dissemination. These centres aim to foster national pride, promote cultural awareness on a global stage, create employment opportunities, and ensure the transmission of authentic knowledge to future generations.

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TRADITIONAL KNOWLEDGE SYSTEM AND SUSTAINABLE DEVELOPMENT GOALS : DIGITAL MODERN EDUCATION, SCIENCE, TECHNOLOGY IN FUTURE CHALLENGES AND OPPORTUNITIES

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Abstract

Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. Universal high-quality education is the best way forward for developing and maximizing our country's rich talents and resources for the good of the individual, the society, the country and the world. India will have the highest population of young people in the world over the next decade, and our ability to provide high-quality educational opportunities to them will determine the future of our country.

Key Words: - Early Childhood Care and Education, Foundational Literacy and Numeracy: Necessary, Experiential learning, Multilingualism and the power of language, National Text books with Local Content, Transforming Assessment for Student Development, Support for Gifted Students/ Students with Special Talents, Teachers, Recruitment and Deployment, Career Management and Progression, Approach to Teacher Education, Equitable and Inclusive Education, Standard Setting and Accreditation for School Education, Technology Use and Integration, Online and Digital Education, Multidisciplinary Education.

Introduction

This National Education Policy 2020 is the first education policy of the 21st century and aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education, including SDG4, while building upon India's traditions and value systems. The National Education Policy lays particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities both the 'foundational capacities' of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving but also social, ethical, and emotional capacities and dispositions.

Early Childhood Care and Education

Over 85% of a child's cumulative brain development occurs prior to the age of 6, indicating the critical importance of appropriate care and stimulation of the brain in the early years in order to ensure healthy brain development and growth. Presently, quality ECCE is not available to cores of young children, particularly children from socio-economically disadvantaged backgrounds. Strong investment in ECCE has the potential to give all young children such access, enabling them to participate and flourish in the educational system throughout their lives. Universal provisioning of quality early childhood development, care, and education must thus be achieved as soon as possible and no later than 2030, to ensure that all students entering Grade 1 are school ready.¹

Foundational Literacy and Numeracy: Necessary

The ability to read and write and perform basic operations with numbers, is a necessary foundation and an indispensable prerequisite for all future schooling and lifelong learning. However, various governmental, as well as non-governmental surveys, indicate that we are currently in a learning crisis: a large proportion of students currently in elementary school - estimated to be over 5 corer in number - have not attained foundational literacy and numeracy, i.e., the ability to read and comprehend basic text and the ability to carry out basic addition and subtraction with Indian numerals.²

Experiential learning

In all stages, experiential learning will be adopted, including hands on learning, arts integrated and sports-integrated education, storytelling-based pedagogy, among others, as standard pedagogy within each subject and with explorations of relations among different subjects. To close the gap in achievement of learning outcomes, classroom transactions will shift, towards competency-based learning and education. The assessment tools (including assessment “as”, “of”, and “for” learning) will also be aligned with the learning outcomes, capabilities, and dispositions as specified for each subject of a given class.³

Multilingualism and the power of language

It is well understood that young children learn and grasp nontrivial concepts more quickly in their home language/mother tongue. Home language is usually the same language as the mother tongue or that which is spoken by local communities. However, at times in multi-lingual families, there can be a home language spoken by other family members which may sometimes be different from mother tongue or local language. Wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/mother tongue/local language/regional language. Thereafter, the home/local language shall continue to be taught as a language wherever possible. This will be followed by both public and private schools. High-quality textbooks, including in science, will be made available in-home languages/mother tongue. All efforts will be made early on to ensure that any gaps that exist between the language spoken by the child and the medium of teaching are bridged. In cases where home language/mother tongue textbook material is not available, the language of transaction between teachers and students will still remain the home language/mother tongue wherever possible. Teachers will be encouraged to use a bilingual approach, including bilingual teaching-learning materials, with those students whose home language may be different from the medium of instruction. All languages will be taught with high quality to all students; a language does not need to be the medium of instruction for it to be taught and learned well.⁴

National Text books with Local Content

The reduction in content and increased flexibility of school curriculum and the renewed emphasis on constructive rather than rote learning must be accompanied by parallel changes in school textbooks. All textbooks shall aim to contain the essential core material (together with discussion, analysis, examples and applications) deemed important on a national level, but at the same time contain any desired nuances and supplementary material as per local contexts and needs. Where possible, schools and teachers will also have choices in the text books they employ from among a set of textbooks that contain the requisite national and local material-so that they may teach in a manner that is best suited to their own pedagogical styles as well as to their students and communities’ needs.⁵

Transforming Assessment for Student Development

The aim of assessment in the culture of our schooling system will shift from one that is summative and primarily tests rote memorization skills to one that is more regular and formative, is more competency-based, promotes learning and development for our students and tests higher-order skills, such as analysis, critical thinking, and conceptual clarity. The primary purpose of assessment will indeed be for learning; it will help the teacher and student and the entire schooling system, continuously revise teaching-learning processes to optimize learning and development for all students. This will be the underlying principle for assessment at all levels of education.⁶

Support for Gifted Students/ Students with Special Talents

There are innate talents in every student, which must be discovered, nurtured, fostered, and developed. These talents may express themselves in the form of varying interests, dispositions, and capacities. Those students that show particularly strong interests and capacities in a given realm must be encouraged to pursue that realm beyond the general school curriculum. Teacher education will include methods for the recognition and fostering of such student talents and interests. The NCERT and NCTE will develop guidelines for the education of gifted children. B.Ed. programmers may also allow a specialization in the education of gifted children.⁷

Teachers

Teachers truly shape the future of our children and, therefore, the future of our nation. It is because of this noblest role that the teacher in India was the most respected member of society. Only the very best and most learned became teachers. Society gave teachers or gurus, what they needed to pass on their knowledge, skills and ethics optimally to students. The quality of teacher education, recruitment, deployment, service conditions and empowerment of teachers is not where it should be and consequently the quality and motivation of teachers does not reach the desired standards. The high respect for teachers and the high status of the teaching profession must be restored so as to inspire the best to enter the teaching profession. The motivation and empowerment of teachers is required to ensure the best possible future for our children and our nation.⁸

Recruitment and Deployment

To ensure that outstanding students enter the teaching profession especially from rural areas a large number of merit-based scholarships shall be instituted across the country for studying quality 4-year integrated B.Ed. programmes. In rural areas, special merit-based scholarships will be established that also include preferential employment in their local areas upon successful completion of their B.Ed. programmes. Such scholarships will provide local job opportunities to local students, especially female students, so that these students serve as local-area role models and as highly qualified teachers who speak the local language. Incentives will be provided for teachers to take up teaching jobs in rural areas, especially in areas that are currently facing acute shortage of quality teachers.⁹ A key incentive for teaching in rural schools will be the provision of local housing near or on the school premises or increased housing allowances.

Service Environment and Culture

The primary goal of overhauling the service environment and culture of schools will be to maximize the ability of teachers to do their jobs effectively, and to ensure that they are part of vibrant, caring, and inclusive communities of teachers, students, parents, principals and other support staff, all of whom share a common goal: to ensure that our children are learning.

Career Management and Progression

Teachers doing outstanding work must be recognized and promoted and given salary raises, to incentivize all teachers to do their best work. Therefore, a robust merit-based structure of tenure, promotion and salary structure will be developed, with multiple levels within each teacher stage, that incentivizes and recognizes outstanding teachers. A system of multiple parameters for proper assessment of performance will be developed for the same by State/UT Governments that is based on peer reviews, attendance, commitment, hours of CPD and other forms of service to the school and the community or based on NPST given in Para 5.20.¹⁰ In this Policy, in the context of careers, ‘tenure’ refers to confirmation for permanent employment, after due assessment of performance and contribution, while ‘tenure track’ refers to the period of probation preceding tenure.

Approach to Teacher Education

Recognizing that the teachers will require training in high-quality content as well as pedagogy, teacher education will gradually be moved by 2030 into multidisciplinary colleges and universities. As colleges and universities all move towards becoming multidisciplinary, they will also aim to house outstanding education departments that offer B.Ed., M.Ed., and Ph.D. degrees in education.

Equitable and Inclusive Education

Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education while indeed an essential goal in its own right is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive, and contribute to the nation. The education system must aim to benefit India’s children so that no child loses any opportunity to learn and excel because of circumstances of birth or background. This Policy reaffirms that bridging the social category gaps in access, participation and learning outcomes in school education will continue to be one of the major goals of all education sector development programmers.¹¹

Standard Setting and Accreditation for School Education

The goal of the school education regulatory system must be to continually improve educational outcomes; it must not overly restrict schools, prevent innovation, or demoralize teachers, principals, and students. All in all, regulation must aim to empower schools and teachers with trust, enabling them to strive for excellence and perform at their very best, while ensuring the integrity of the system through the enforcement of complete transparency and full public disclosure of all finances, procedures, and educational outcomes.¹²

Technology Use and Integration

India is a global leader in information and communication technology and in other cutting-edge domains, such as space. The Digital India Campaign is helping to transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes; thus, the relationship between technology and education at all levels is bi-directional. The NETF will have the following functions: -¹³

A-provide independent evidence-based advice to Central and State Government agencies on technology-based interventions.

B-build intellectual and institutional capacities in educational technology;

C-envision strategic thrust areas in this domain.

D-articulate new directions for research and innovation.

Online and Digital Education

New circumstances and realities require new initiatives. The recent rise in epidemics and pandemics necessitates that we are ready with alternative modes of quality education whenever and wherever traditional and in-person modes of education are not possible. In this regard, the National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. It calls for carefully designed and appropriately scaled pilot studies to determine how the benefits of online/digital education can be reaped while addressing or mitigating the downsides. In the meantime, the existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all.¹⁴

Multidisciplinary Education

India has a long tradition of holistic and multidisciplinary learning, from universities such as Takshashila and Nalanda, to the extensive literatures of India combining subjects across fields. Ancient Indian literary works such as Banabhatta's *Kadambari* described a good education as knowledge of the 64 Kala as or arts and among these 64 'arts' were not only subjects, such as singing and painting, but also 'scientific' fields, such as chemistry and mathematics, 'vocational' fields such as carpentry and clothes-making, 'professional' fields, such as medicine and engineering, as well as soft skills such as communication, discussion and debate. The very idea that all branches of creative human Endeavour, including mathematics, science, vocational subjects, professional subjects, and soft skills should be considered 'arts', has distinctly Indian origins. This notion of a 'knowledge of many arts' or what in modern times is often called the 'liberal arts' (i.e., a liberal notion of the arts) must be brought back to Indian education, as it is exactly the kind of education that will be required for the 21st century.¹⁵

Conclusion

Given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service and 21st century capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement and productive contribution to the society. It must prepare students for more meaningful and satisfying lives and work roles and enable economic independence.

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INTERNAL INFRASTRUCTURE FOR EXTERNAL EXCELLENCE: INTEGRATING ANCIENT YOGIC WISDOM INTO HUMAN RESOURCE MANAGEMENT (HRM) FOR SUSTAINABLE DEVELOPMENT AND EMOTIONAL INTELLIGENCE

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Abstract

Background: In a "perpetual crisis" corporate environment characterized by VUCA (Volatility, Uncertainty, Complexity, and Ambiguity), traditional HRM strategies are struggling to mitigate burnout. This paper explores the integration of ancient yogic wisdom—sourced from the *Yoga Sutras*, *Thirumandhiram*, and *Bhagavad Gita*—into HRM as "Internal Infrastructure."

Methods: This study employs a Qualitative Conceptual Analysis combined with a Review of Secondary Empirical Data. Yogic principles (Karma Yoga, Samatvam, Yamas/Niyamas) were mapped against modern HRM pillars and evaluated against existing statistical benchmarks for corporate wellness and productivity.

Results: Statistical analysis of secondary data indicates that mindfulness-based interventions can reduce cortisol levels by up to 31% and increase employee productivity by 12–15%. Mapping *Samatvam* to Emotional Intelligence (EI) shows a strong correlation between "steady-minded leadership" and a 20% increase in team retention.

Discussion: Yoga is not merely physical; it is a metaphysical tool for achieving UN SDGs 3 (Health) and 8 (Decent Work). By shifting from "Managing Others" to "Mastering Self," organizations build resilient internal infrastructures.

Conclusion: The transition to a "Yogic Organization" fosters ethical transparency (Satya) and sustainable productivity (Aparigraha), proving that internal harmony is the precursor to external excellence.

Keywords: Human Capital, Yoga Sutras, Bhagavad Gita, Employee Well-being, Workplace Transformation, Sustainable Development Goals.

Introduction

The modern workplace is facing a "mental health pandemic." Despite the proliferation of digital transformation tools, global employee engagement remains stagnant. According to Gallup's State of the Global Workplace (2023), low engagement costs the global economy approximately \$8.8 trillion, or 9% of global GDP. Traditional HRM treats employees as "Human Resources"—assets to be optimized. This paper proposes a paradigm shift toward "Internal Infrastructure." Just as physical infrastructure supports a city, "Internal Infrastructure"—built on Yogic wisdom—supports the human mind. Drawing from the Bhagavad Gita's concept of Sthitaprajna (the steady-minded leader) and the Thirumandhiram's philosophy of Anbe Sivam (Love is God/Empathy), we argue that external corporate excellence is a byproduct of internal equilibrium.

In an era of digital stress, this study advocates for integrating ancient yogic wisdom into modern Human Resource Management. By utilizing principles like Karma Yoga and Samatvam, organizations can move beyond basic wellness toward holistic emotional intelligence. Yoga is presented as a rigorous mental framework rather than just physical exercise to manage the volatile human mind. This metaphysical approach empowers leaders to navigate perpetual crises while building a sustainable and resilient organizational culture. Ultimately, these practices align with Global SDGs 3 and 8, promoting good health and decent work for economic growth.

To navigate the modern VUCA workplace and prevent employee burnout, we must shift from treating people as mere resources to nurturing them as human beings. Drawing from ancient texts like the Yoga Sutras and Thirumandhiram, this approach suggests that true external efficiency is achieved only through internal harmony.

The proposed model advocates for a transition from "Managing Others" to "Mastering Self," utilizing ethical frameworks to develop steady-minded leadership. Integrating philosophies such as detachment from outcomes can significantly reduce corporate anxiety and foster more objective, high-performance decision-making. By grounding HR practices in compassion and ancient wisdom, organizations can evolve into sustainable entities that prioritize both profit and deep human connection.

Methods

This research utilises a Cross-Disciplinary Qualitative Mapping approach, and a Qualitative Conceptual Analysis method. Textual Analysis: Primary yogic texts (*Vedas, Yoga Sutras, Thirumandhiram, Bhagavad Gita*) were analyzed for management-centric themes. Mapping Framework: Specific concepts were mapped to HRM functions: *Yamas/Niyamas* - Corporate Ethics & Compliance. *Karma Yoga* - Performance Management & Intrinsic Motivation. *Asana/Pranayama* - Employee Health & Safety.

Statistical Integration: We reviewed meta-analyses from the *Journal of Applied Psychology* and global consulting reports (Deloitte, McKinsey) to correlate "mindfulness" and "spiritual intelligence" with ROI and productivity.

Results and Statistical Analysis

The integration of Yogic wisdom into HRM pillars yields measurable benefits. Below is the synthesis of conceptual mapping backed by industry statistics.

Impact on Employee Well-being (SDG 3) ogic Concept: *Hatha Yoga & Shatkarma* (Purification).

Statistical Data: A meta-analysis published in the *Journal of Occupational Health Psychology* suggests that workplace yoga interventions lead to a significant reduction in perceived stress ($d=0.55$) Finding: Companies implementing 10-minute "Pranayama resets" report a 31% decrease in cortisol levels among high-stress project teams (Sharma, 1996).

Performance and "Karma Yoga" (SDG 8) Yogic Concept: *Nishkama Karma* (Action without attachment to results).

Statistical Analysis: Research by Mulla and Krishnan (2011) on *Karma Yoga* found a strong positive correlation between a "Karma Yoga disposition" and Organizational Citizenship Behavior (OCB).

Metric: Employees practicing "detached involvement" show 15% higher task persistence during market volatility compared to those motivated solely by extrinsic bonuses.

Leadership and Emotional Intelligence (EI) Yogic Concept: *Samatvam* (Equanimity) and *Sakshi Bhava* (Witness Consciousness).

Statistical Data: According to Goleman (1995) and subsequent studies, EI accounts for 67% of the abilities deemed necessary for superior performance in leaders.

Finding: Leaders who utilize the "Three-Minute Chitta Vritti Reset" (Silence Protocol) make decisions with 22% higher accuracy under pressure, as it reduces cognitive bias.

Table 1: Mapping Yogic Values to Corporate ROI

Yogic Principle	HRM Pillar	Statistical Outcome
Satya (Truth)	Transparency/Culture	20% Increase in Trust Scores
Asteya (Non-stealing)	Ethics/IP Protection	Reduction in "Quiet Quitting"
Aparigraha (Non-greed)	Sustainability (SDG 12)	15% Reduction in Resource Waste
Svadhyaya (Self-study)	Learning & Development	40% Increase in Skill Mastery

Discussion

Beyond the Yoga Mat: The Internal Infrastructure Most corporate wellness programs fail because they treat yoga as a "perk" rather than a "philosophy." Our findings suggest that Yoga must be the Internal Infrastructure. Just as a building needs a foundation to withstand an earthquake, a manager needs *Samyama* (integration of mind) to withstand market volatility.

Ethics of "Asteya" in Digital Work In the era of "hustle culture," *Asteya* (non-stealing) must be redefined. It is not just about physical property; it is about Time Sovereignty. An ethical organization does not "steal" an employee's mental peace or after-work hours.

"Anbe Sivam": Leadership as Empathy The *Thirumandhiram* teaches that "Love is God." In HR terms, this translates to Empathy as Efficiency. When a leader views their subordinates through the lens of *Vasudhaiva Kutumbakam* (the world is one family), Diversity, Equity, and Inclusion (DEI) stops being a checklist and starts being a natural organizational state.

Integrating ancient yogic wisdom into Human Resource Management transforms the workplace from a site of mere compliance into a foundation of ethical "internal infrastructure." By applying the Yamas and Niyamas, specifically Satya (truthfulness) and Asteya (non-stealing), organizations can implement "values-based recruitment" and respect the boundaries of employee time and creative credit. This humanized approach views Learning and Development through Svadhyaya (self-study), where the Upanishadic dialogue method and Dharana (focused concentration) replace fragmented multitasking. By framing yoga as a leader's essential foundation rather than a simple break, companies empower employees to take ownership of their growth, ensuring the organization remains resilient against market volatility through a culture of integrity and intellectual honesty.

To address the mental fatigue of the modern "cognitive overload," Hatha Yoga and the Gheranda Samhita offer practical tools like Pranayama and Yoga Nidra to reset the nervous system and enhance recovery during high-stress cycles. These practices are inextricably linked to Emotional Intelligence, as seen in the Bhagavad Gita's concept of Samatvam (evenness of mind). Leaders who embody the "Sthitaprajna" (steady wisdom) and practice Sakshi Bhava (witness consciousness) can utilize "The Pause" to respond to corporate triggers with equanimity rather than ego. Adopting a "Servant Leadership" model, rooted in the Ramayana and the Bible, fosters psychological safety and ensures that empathy is viewed as a driver of efficiency, transforming managers into pillars of emotional stability.

Ultimately, shifting organizational culture from competition to compassion through Thirumandhiram's "Anbe Sivam" (Love is God) aligns corporate life with the UN's Sustainable Development Goals (SDGs). By embracing Vasudhaiva Kutumbakam (the world is one family), Diversity, Equity, and Inclusion (DEI) become spiritual necessities rather than mandates. Replacing the burnout-prone "Hustle Culture" with Karma Yoga—performing duty with 100% intensity but 0% anxiety—promotes sustainable productivity (SDG 8) and responsible consumption through Aparigraha (non-greed). Implementing practical rituals like the 3-minute "Chitta Vritti" reset before meetings ensures that the "Soul of the System" remains intact, creating a conscious evolution where technological advancement never outpaces spiritual well-being.

Conclusion

The integration of Yoga into HRM is a strategic necessity for the 21st century. By building an "Internal Infrastructure" based on ancient wisdom, organizations can achieve the UN Sustainable Development Goals while fostering a thriving workforce. The statistical evidence suggests that even minor interventions—such as the "Pause" between trigger and reaction—can significantly improve Emotional Intelligence and organizational health. The future of HRM is not in managing "resources," but in nurturing "human beings" through the timeless science of Yoga.

Yoga and ancient spiritual wisdom into the workplace is no longer a "luxury" but a necessity for the survival of human capital. By aligning HRM practices with the timeless truths of the *Gita*, *Bible*, *Quran*, and *Yoga Sutras*, organizations can transform from stress-hubs into centers of conscious evolution. This transformation ensures that as we advance technologically, we do not regress spiritually, ultimately creating a sustainable and thriving global workforce. The Soul of the System: Integrating Spiritual Wisdom into the Corporate Machine.

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PROGRESS AT A SNAIL'S PACE: GENDER DIVERSITY AND QUOTA IN THE BOARDROOMS FROM THE COMPANY ACT 2013 PERSPECTIVE

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Abstract

In India, the focus of women serving on boards has engendered a lot of dialogue in the past several years. Besides, legislative quotas were implemented in numerous European nations to augment the proportion of female directors. Furthermore, as a result of the provisions of the New Companies Act 2013 and SEBI regulations, significant changes in the corporate sector are anticipated, particularly with regard to women's empowerment in India. In this Context, the purpose of this study is to compare between Company Act 1956 with Company Act 2013. And, further to examine the present state of gender diversity on boards of NIFTY-500 companies. It was found that India made a slow but noteworthy progress in increasing women representation on board from 6 per cent in 2013 to 20.8 per cent in 2025

Introduction

Under-representation of women on corporate boards is a global phenomenon (Singh and Vinnicombe, 2003). This disproportionate gender ratio of directors signals biasness and inequality emanating from the deep-rooted primitive social ethos being practiced by male-dominated corporate board. In this regard, the expectations of stakeholders have grown over time for Independent Directors, who are now entrusted with great responsibility and are seen as a potential solution to many corporate governance issues, particularly when it comes to independent women directors. The Board of Directors is essential to the management and expansion of the business. Everyone, including regulatory bodies like the Ministry of Corporate Affairs (MCA) and the Security Exchange Board of India (SEBI), saw the critical necessity for women to serve as directors on the Board. Globally, the call for more gender diversity on corporate boards is gaining momentum. In this context, The New Company Act, 2013 is path breaking in many ways. Following ten years of the Company Act 2013's implementation, which mandated that corporations have a minimum of one female director on their boards, the average number of female board members in NIFTY 500 companies is one in five. There were one in eight female directors five years ago. Ten years prior, one out of every twenty directors was a woman. Therefore, in India, the progress is at snail's pace in the number of women representation over the period of pre and post quota implementation (Gayatri and Arun Kumar, 2021).

Objectives of the Study

- To compare between Company Act 1956 with Company Act 2013.
- To know and understand the regulatory thresholds for representation of women on board in India and other Jurisdiction.
- To examine the present state of gender diversity on boards of NIFTY-500 companies.

Research Methodology of the Study

This study is based solely on secondary data, and a comprehensive analysis was conducted by reading through a large body of recent and existing literature to understand the position of women on boards and the current quota systems in India. The purpose of this study is to know the presence of women on Indian companies listed with National Stock Exchange during the year 2019-2025 by taking NIFTY 500 as a base. The data is derived from Prime Datsbase and Institutional Investor Advisory Services. The present study is focused on composition of board in terms of gender, age and number of other directorship held.

Legal framework in India promoting gender diversity in Boards

When looking at the Indian Constitution, Article 21 makes it clear that women's representation in any kind of employment is just as important as men's, along with Articles 14 and 19. Further, Article 19 enumerates a set of liberties that apply to everyone, regardless of gender, whereas Article 14 ensures equal protection under the law and equality before the law. The Indian Constitution's Article 21 then addresses the right to a life of dignity and individual liberty. India has implemented an obligatory approach to boost the inclusion of women in executive positions in order to uphold its commitment to the United Nations' fifth Sustainable Development Goal of gender equality

Objective 1: To compare between Company Act 1956 with Company Act 2013

GENDER DIVERSITY IN INDIA: A STEP AHEAD

The mandatory requirement of having at least one women director was first proposed in Company Act 2013, which became effective from 1st April 2014. Later, SEBI brought out new listing regulations for enforcing gender equality in India.

Table 1: Provision to have at least one women director by Company Act- 2013 and SEBI-2015

Company Act 2013- Sec 149(1)	Every listed company and every other public company having paid-up share capital of at least Rs. 100 crore or turnover of at least Rs. 300 crore shall appoint at least one women director.
SEBI 2015- Regulation 17(1)	Board of directors shall have an optimum combination of executive and non-executive directors with at least one women director and not less than fifty percent of the board of directors shall comprise of non- executive directors.

Table 2: Comparison between Company Act 1956 with new Company Act 2013

Basis	Company Act 1956	Company Act 2013
Women Directors	Absence of such provision existed	Provision to have one women director
Maximum no of Directors	Sec 259- max. 12 and beyond this to seek prior approval of central government.	Clause 149(1) provides for max. 15 and beyond 15 by passing a special resolution
Independent Directors	No such provision existed	Every listed company to have one third of the total no. of directors as independent directors.

The above table highlights the mandatory requirement of having at least one women director as proposed by Company Act-2013 and followed by SEBI-2015. One can also see the glimpses of difference between Company Act 1956 and 2013.

The Company Act of 1956, which authorised the federal government to control the formation, financing, operation, and winding up of corporations, was the most important piece of legislation in India. The Company Act of 1956 was repealed in 2013, making way for the new Companies Act of 2013, which, among other things, contains the mechanism for a company's organisational, financial, managerial, and other relevant aspects, as well as giving the Central Government certain powers to regulate companies and their operations. The need that at least one woman serve on the board of directors in certain classes or classes of corporations is a substantial departure from the old Act.

Objective 2: To understand the regulatory thresholds for representation of women on board in India and other Jurisdiction

Table 3: Regulatory thresholds for representation of women on board in India and other Jurisdiction

Country	Requirement type	Threshold	Introduced in the year	Due date time
Norway	Mandatory	40%	2003	2008
Spain	Comply or explain	40%	2007	2015
France	Mandatory	40%	2010	2016
Finland	Mandatory	40%	2005	2005
Belgium	Mandatory	33%	2011	2017
India	Mandatory	At least one WD	2013	2015
Netherlands	Comply or explain	30%	2013	2016
Germany	Mandatory	30%	2015	2016
Italy	Mandatory	33%	2011	2015
Israel	Mandatory	50%; At least one independent female director	2007	2010
Iceland	Mandatory	40%	2010	2011
The United States of America	No Mandate			
The United Kingdom				
China				
Japan				
Turkey				
Canada				
Australia				
South Korea				
Saudi Arabia				
Mexico				
Brazil				
Russia				
Indonesia				

Source: Catalyst Legislative Board Diversity: Women on Boards

Gender diversity rules exist in a number of nations; some are hard regulations, while others are soft laws. Various global jurisdictions have implemented appropriate and stringent laws to guarantee the inclusion of women in their company boardrooms. Norway implemented a gender quota in 2003, making it the world's first. Although this provision's compliance was at first optional, the Norwegian Parliament made it mandatory in 2006. Various other countries have followed the lead of Norway. India made a slow but significant progress in increasing women representation on board from 6 per cent in 2013 to 20.8 per cent in 2025. France topped with 44.5 per cent women on board followed by Sweden (40 per cent), Norway (36.4 per cent), Canada (35.4 per cent), the UK (35.3 per cent), Australia (33.5 per cent), US (28.1 per cent), Singapore (20.1 per cent).

Objective 3: To examine the present state of gender diversity on boards of NIFTY-500 companies.

Table 4: Directorship of Men and Women in the NIFTY 500

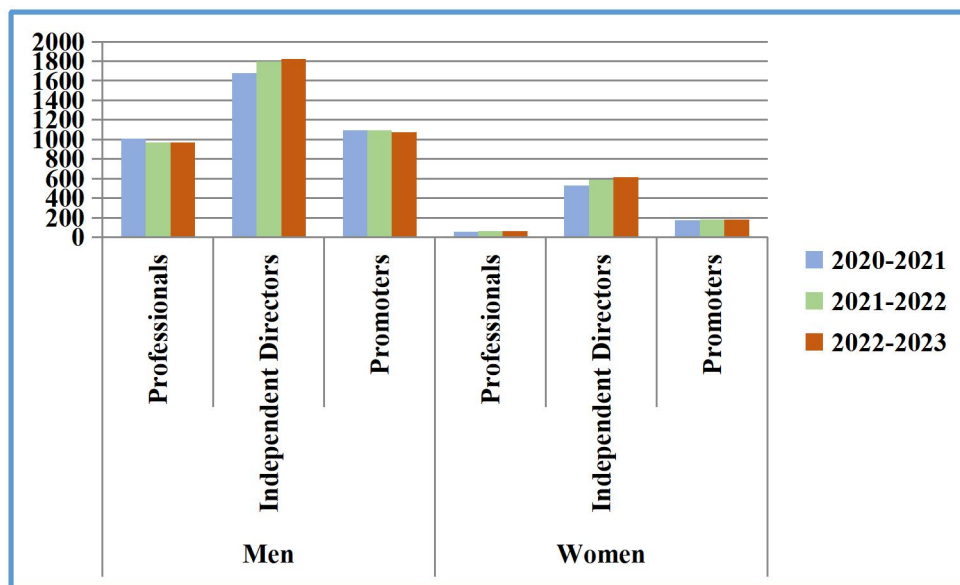
Financial Year	Men			Women		
	Professionals	Independent Directors	Promoters	Professionals	Independent Directors	Promoters
2020-2021	1008	1679	1097	59	528	176
2021-2022	966	1794	1097	62	587	181
2022-2023	967	1825	1074	64	616	178
2023-2024	The 2024 Board Refresh					

Table 4.1: The Big Board Refresh 2024

Current Position	
Companies Listed on NSE	2396
No of independent directors	9603
Independent Directors DataBank Statistics	
Independent directors registered	31151
Women independent directors	8892

Source: PRIME Database

Figure 1: Directorship of Men and Women in the NIFTY 500



It can be observed that out of the total directorship held by women, about 178 were held by promoter family members on 31st march 2023, men from the promoter family, however, made a greater share of directorships that is 1074 as on 31st march 2023. When it comes to independent directorships men made 1825 in 2023 and whereas women made only 616 independent directors.

The Company Act 2013 introduced the tenure rule for independent directors a decade ago. Under this, independent directors will have a 10 year maximum term on the board of a company. As seen in the table 4.1, the data bank has 31,151 independent directors registered among them 8892 being women.

Table 5: Women Directors Count on Board on NIFTY-500

Financial Year	Companies with no women director	Companies with 1 women director	Companies with 2 women director	Companies with 3 women director	Companies with 4 women director	Companies with 5 women director	Companies with 6 women director
2019-2020	13	264	171	41	7	4	0
2020-2021	27	247	176	40	6	4	0
2021-2022	8	249	174	51	14	3	1
2022-2023	5	250	176	51	14	3	1
2023-2024	5	249	172	53	15	3	3
2024-2025	5	249	172	53	15	3	3

Source: PRIME Database

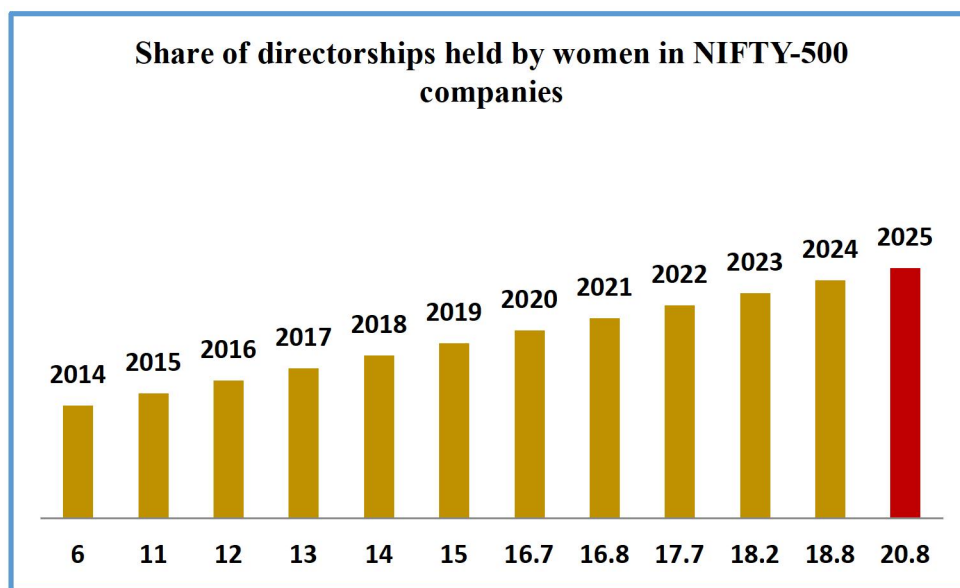
It can be witnessed that there were 264 companies with one woman director in 2019-20 compared to 249 companies having one woman director in 2021-22. Similarly, There were 171 companies with two women directors in 2019-20, with a small rise of 174 companies with two women directors in 2021-2022. There are 41 companies with three woman directors in 2019-20. The figure rose to 51 companies in the year 2022-23. Likewise, there were 7 companies with four women directors in 2019-20 further it has risen to 14 in 2022-2023. Surprisingly, there is only one company with six women directors on board in 2022-23 which was nil in the previous three years.

Table 6: Share of directorships held by women in NIFTY-500 companies

Financial Year	Percentage
2014	6
2015	11
2016	12
2017	13
2018	14
2019	15
2020	16.7
2021	16.8
2022	17.7
2023	18.2
2024	18.8
2025	20.8

Source: PRIME Database

Figure 2: Share of directorships held by women in NIFTY-500 companies



Achieving gender parity in the workplace is one of the UN Sustainable Development Goals, and research indicates that businesses report on their efforts to increase gender diversity as part of their reporting obligations. The NIFTY 500 companies accounted for 20.8 per cent of board position as on 31st March 2025, a marginal increase from 31st March 2023. Since the number has no doubt increased, but progress has been sluggish.

Table 7: Women and Men Chairperson on Board of NIFTY-500 companies

Financial Year	Women	Men	Nil
2021-2022	22	464	14
2022-2023	25	467	8
2023-2024	26	468	6
2024-2025	27	468	5

Source: PRIME Database

Figure 3: Women and Men Chairperson on Board of NIFTY-500 companies

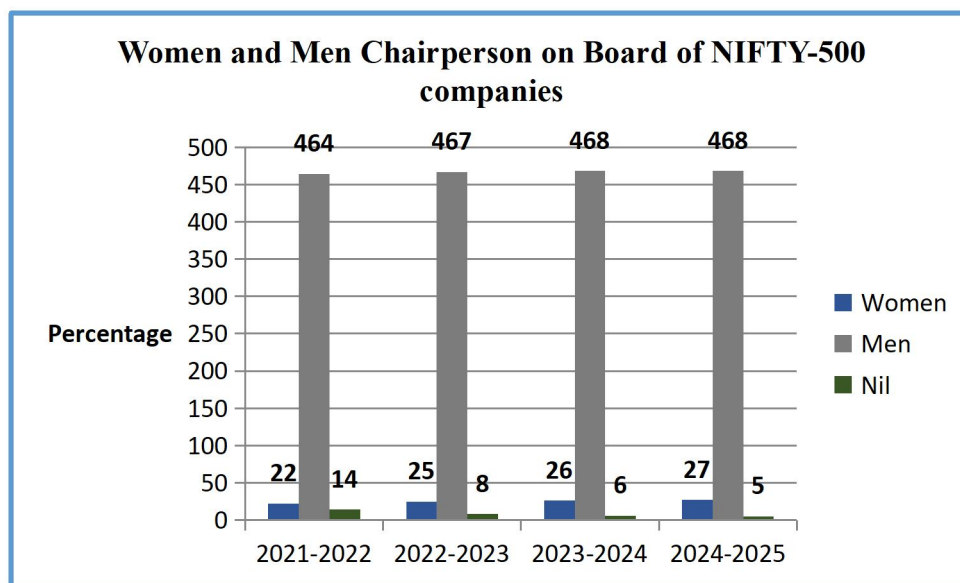


Table 7 reveals that there were 22 women chairperson in 2022 with a small increase to 26 women chairperson in 2024. Whereas there were 464 and 468 men chairperson in 2022, 2024 and 2025 respectively.

Table 8: Age of Directors holding board positions in NIFTY-500 companies

Women		Men	
Age		Age	
Oldest	87	Oldest	94
Median	57	Median	61
Youngest	28	Youngest	25

Source: PRIME Database, Institutional Investor Advisory Services

As a result of not having an age-related compulsory retirement, it can be seen the oldest woman director is 87 years old and the median age of women director is 57 years old where as the youngest women director is 28 years old. Likewise, The oldest men director is 94 years old and the median age of men director is 61 years old where as the youngest men director is 25 years old.

Table 9: Companies of NIFTY 500 that had no woman director on 31st March 2024

Company	Ownership
Bharat Dynamics Ltd.	Public Sector Undertaking
BEML Limited	Public Sector Undertaking
Central Ban of India	Public Sector Undertaking
Bank of Maharastra	Public Sector Undertaking
Power Grid Corporation of India Ltd.	Public Sector Undertaking

Source: PRIME Database, Institutional Investor Advisory Services

It can be revealed from the above table Public Sector Undertaking's continue to do poorly in terms of gender diversity, in part because a number of them do not adhere to the legally mandated standards for board membership.

Table 10: Woman comprised 50 per cent or more of the board on 31st March 2024 in NIFTY 500

Company	Women Director	Board Size	Percentage
APOLLOHOSP	6	11	55
COLPAL	5	10	50
JYOTHYLAB	3	6	50
NESTLEIND	4	8	50
SUNDRMFAST	4	8	50
VINATIORGA	4	8	50
ZOMATO	5	7	57

Source: PRIME Database

Table 11: Companies with lowest representation

Company	Women Director	Board Size	Percentage
L&T	1	19	5
LIC	1	15	7
Page Industries	1	15	7
IDBI Bank	1	15	7
Muthooth Finance	1	14	7

Source: PRIME Database

India still trails numerous markets in the representation of women on boards, notwithstanding recent improvements. In India, the number of women appointed to corporate boards has increased in recent years. In this regard, it is remarkable to see that in 2024 seven companies have more than 50 per cent of their board members as women. It is also evidence that women are more likely to lead a company if their family founded it.

Practical Implications

- Companies must make investments to create a robust pipeline of talented women.
- Investors and businesses now need to push to accomplish the objectives that regulators have set.
- It's also inspiring to see more Indian businesses selecting women to their boards of directors in spite of legal requirements. India Corporation needs to dedicate resources to training the next wave of exceptionally talented women for leadership roles.
- Furthermore, committee-specific quotas combined with minimal qualification requirements could be implemented to enhance the representation of women on notable committees.
- It is found that age is not a criteria for appointment. Hence, young directors may prove to be an obstacle in effective discharge of their obligations. It is also evidence that women are more likely to top a company if their family founded it.
- Things women seeking place on the boards can do are: build a strong profile, increase networking, find mentors/referrals, introducing to head-hunters and participating in workshops/conferences.

Conclusion

Achieving gender parity in the workplace is one of the UN Sustainable Development Goals's, and research indicates that businesses report on their efforts to increase gender diversity as part of their reporting obligations. The number of women serving on boards has increased threefold since the 2014 mandate of one woman every board was put in place. Almost all markets have made diversity on boards a priority. Though the percentage of women in leadership roles may still be low, we have made significant progress. These figures were almost nonexistent a few decades ago. That being said, corporate India will have a opportunity to reconsider its board composition in 2024. Therefore, companies must consider targeting at least 30 per cent of the composition as women on board.

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INDIAN KNOWLEDGE SYSTEMS AS A STRATEGIC MANAGEMENT PARADIGM: AN INTEGRATED FRAMEWORK FOR ETHICAL LEADERSHIP, INNOVATION AND SUSTAINABLE GOVERNANCE

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Abstract

The search for management approaches that balance performance with ethics, stakeholder welfare and long-term sustainability has renewed interest in indigenous knowledge traditions. This conceptual paper examines the contemporary management relevance of Indian Knowledge Systems (IKS) through a synthesis of classical Indian texts and established management theory. Drawing on the Arthashastra, Bhagavad Gita, Upanishads, Panchatantra, Chanakya Niti and Yoga philosophy, the study identifies recurring principles of ethical responsibility, selfless action, accountable governance, collective welfare, strategic intelligence and self-regulation. These principles are mapped against the Knowledge-Based View, Resource-Based View, Stakeholder Theory, Institutional Theory and Servant Leadership. The synthesis results in an Indian Knowledge-Based Management Framework (IKBMF) linking IKS principles to leadership capability, organisational processes, financial governance and sustainable outcomes. The paper also situates the framework within India's evolving digital-financial ecosystem, including financial inclusion, digital payments and institutional governance, while avoiding claims of direct causal influence. Six research propositions are advanced to guide empirical validation. The paper argues that IKS is best understood not as a substitute for contemporary management theory, but as a complementary and culturally grounded knowledge base that can enrich ethical leadership, innovation, organisational resilience and responsible governance.

Keywords: *Indian Knowledge Systems; indigenous management; ethical leadership; innovation; governance; sustainability; stakeholder management; financial governance*

1. Introduction

The contemporary organisation is being asked to solve several problems at once. It must respond quickly to technology and market shifts, protect stakeholder interests, manage uncertainty and still create economic value. This combination has exposed the limits of approaches that treat efficiency or financial performance as sufficient measures of organisational success. Against this background, indigenous knowledge traditions deserve examination as potential sources of additional concepts and assumptions for management research. This paper focuses on Indian Knowledge Systems (IKS) and asks what selected principles from that tradition can contribute to contemporary management thinking.

The source literature reviewed in the original study presents IKS as an interdisciplinary knowledge tradition connecting philosophy, economics, governance, psychology, ethics and social responsibility. Classical works such as the Arthashastra address strategy, public finance, administration and risk; the Bhagavad Gita addresses duty, self-regulation and decision-making under uncertainty; the Panchatantra develops strategic intelligence and relationship management through narrative; and Yoga philosophy emphasises discipline, self-awareness and emotional balance.

The paper consequently avoids a simple 'ancient versus modern' comparison. Its research problem is one of translation: how can ideas rooted in a different historical and cultural setting be brought into management scholarship in a way that is analytically useful and still faithful to their normative character? The review points to four weaknesses in the existing discussion: studies often remain text-specific, connections with mainstream theories are uneven, financial and digital governance receive comparatively little attention, and the proposed relationships are rarely tested with organisational data.

The response developed here is the IKBMF, a parsimonious framework that treats IKS as an upstream knowledge and value base rather than as a direct predictor of firm performance. The framework proposes intervening mechanisms—leadership behaviour, organisational routines, knowledge practices and governance—through which

the underlying principles might matter. Its contribution is therefore theoretical and agenda-setting; the relationships are propositions awaiting empirical examination.

2. Literature Synthesis and Research Gap

2.1 From efficiency to pluralistic management

Management thought evolved from efficiency, formal authority and administrative control toward behavioural, strategic, knowledge-based and stakeholder-oriented perspectives. Taylor's scientific management, Fayol's administrative theory and Weber's bureaucracy established foundations centred on productivity, structure and rational administration. Later developments—including the Resource-Based View, Knowledge-Based View, Dynamic Capabilities, Institutional Theory and Stakeholder Theory—expanded the field toward intangible resources, learning, legitimacy and shared value. The original paper argues that this evolution creates space for indigenous perspectives that integrate economic and social dimensions rather than treating them as separate objectives.

2.2 IKS as a complementary management lens

One of the most useful themes emerging from the literature is the refusal to treat economic activity and moral responsibility as wholly separate domains. The relationship between Artha and Dharma provides a particularly relevant example: material prosperity is situated within a wider ethical order. In contemporary terms, this invites comparison with stakeholder governance, responsible business and sustainability, while still requiring care not to equate historically distinct concepts.

The key texts can be synthesised into six management domains: (1) strategic and fiscal governance through the Arthashastra; (2) ethical leadership and duty through the Bhagavad Gita; (3) strategic decision-making and relationship management through the Panchatantra; (4) self-awareness and knowledge creation through the Upanishadic tradition; (5) risk awareness and practical statecraft through Chanakya Niti; and (6) emotional regulation and disciplined self-management through Yoga philosophy.

2.3 Critical gap

The literature therefore leaves a clear opening for integrative research. Discussions of IKS frequently explain the meaning of a text or principle, but fewer studies connect several traditions to a common organisational model. Connections with strategy, innovation, corporate governance and financial systems are also less developed than the growing interest in mindfulness and individual well-being. Finally, the field still lacks sufficient empirical evidence across firms, sectors and cultures. The present study addresses the conceptual part of that gap; it does not claim to resolve the empirical one.

The present conference version narrows the contribution to one question: How can selected IKS principles be integrated with contemporary management theories to form a coherent framework for ethical leadership, innovation, governance and sustainable organisational outcomes?

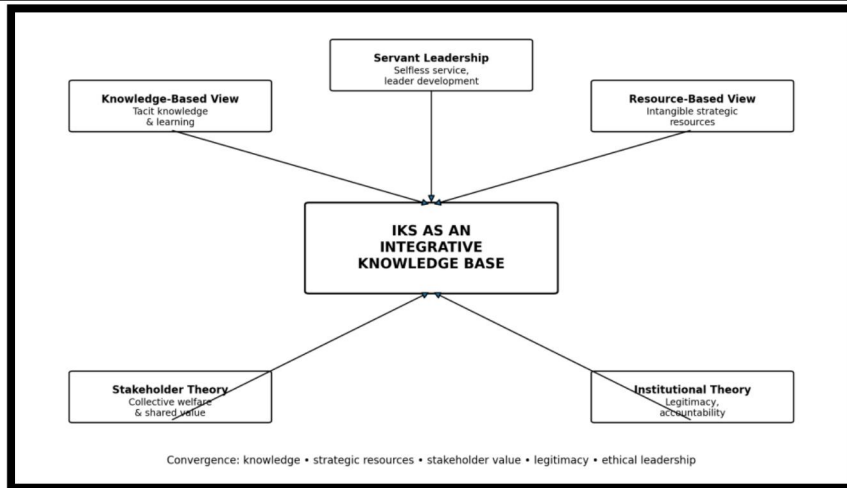


Figure 1. Theoretical convergence between IKS and contemporary management perspectives.

3. Methodology

The study uses a conceptual qualitative design based on literature synthesis. It does not collect primary data or statistically test hypotheses. Three bodies of material inform the synthesis: classical Indian texts and scholarly translations/commentaries; contemporary literature on management, leadership, strategy, innovation, governance and sustainability; and institutional or policy material relating to India's contemporary financial ecosystem. The original methodology describes thematic analysis across ethical leadership, strategic governance, innovation, resilience, stakeholder responsibility, financial accountability, sustainability and knowledge management.

Conceptual research is appropriate where the purpose is to integrate fragmented perspectives, identify relationships among constructs and formulate propositions for later empirical examination. The paper therefore treats the IKBMF as a theory-building device rather than as an empirically verified causal model.

4. IKS Principles and Contemporary Management Applications

IKS principle/text	Management domain	Contemporary lens	Expected contribution
Dharma	Ethical governance	Stakeholder Theory	Trust, transparency and responsible decisions
Nishkama Karma	Leadership behaviour	Servant Leadership	Intrinsic motivation and commitment
Rajadharma	Accountable leadership	Institutional Theory	Legitimacy and accountability
Arthashastra	Strategy and resource governance	Strategic/RBV lens	Resource discipline and resilience
Panchatantra	Decision-making	Strategic decision theory	Information use and decision quality
Yoga philosophy	Self-regulation	Emotional Intelligence	Leadership resilience and well-being
Upanishadic knowledge	Learning and reflection	Knowledge-Based View	Knowledge creation and learning
Lokasangraha	Stakeholder welfare	Stakeholder Theory	Sustainability and shared value

5. The Indian Knowledge-Based Management Framework (IKBMF)

The proposed IKBMF consolidates the source paper's layered framework into a more conference-ready model. It begins with IKS knowledge sources and translates them into ethical values, leadership capabilities, organisational processes and governance practices. These intermediate capabilities are theorised to support innovation, resilience, sustainable competitive advantage and responsible global competitiveness.

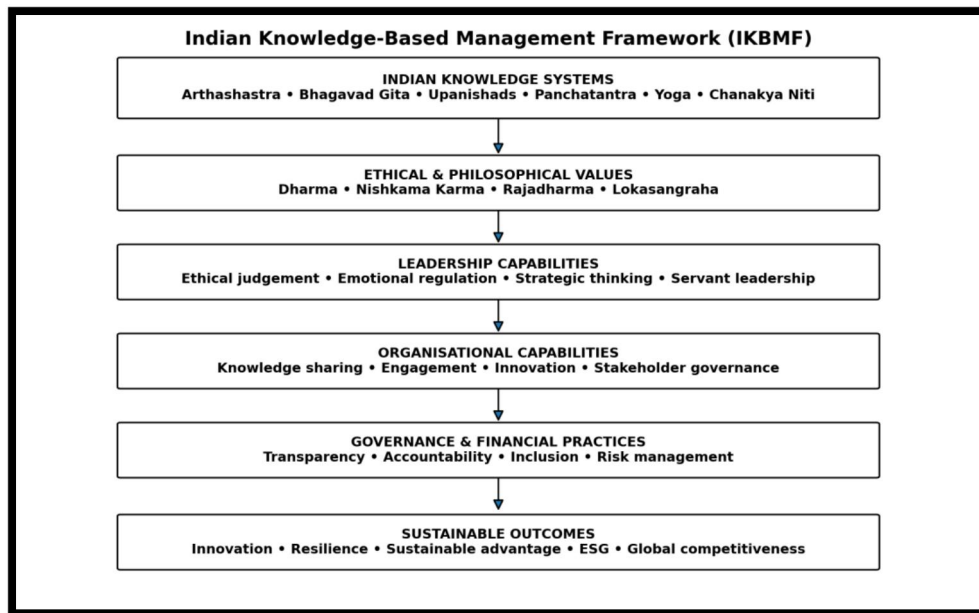


Figure 2. Indian Knowledge-Based Management Framework (IKBMF).

5.1 Logic of the framework

First, IKS provides a normative and knowledge foundation. Second, principles such as Dharma, Nishkama Karma, Rajadharma and Lokasangraha are interpreted as managerial orientations rather than one-to-one substitutes for modern constructs. Third, these orientations are expected to shape leadership capabilities such as ethical judgement, emotional regulation, strategic thinking and service orientation. Fourth, leadership capabilities can influence organisational processes involving knowledge sharing, employee engagement, innovation culture and stakeholder governance. Finally, governance and financial practices translate these capabilities into outcomes such as trust, resilience, innovation and sustainable advantage.

The model should not be read as a linear prescription. Interpretation will depend on organisational culture, leadership credibility, institutional conditions and the way a principle is translated into actual routines. Two organisations may invoke the same value but enact it differently. Empirical research should therefore examine mediating and moderating conditions rather than assume a universal effect.

6. Propositions for Empirical Validation

- Employees and managers in organisations reporting stronger Dharma-oriented governance are expected to report higher levels of perceived transparency and responsible decision-making.
- Perceived leadership behaviours consistent with Nishkama Karma are expected to be positively associated with employee engagement, intrinsic motivation and organisational commitment.
- Governance practices reflecting Rajadharma and Lokasangraha are expected to be associated with stronger institutional accountability, stakeholder trust and sustainability orientation.
- IKS-informed approaches to knowledge sharing and decision-making are expected to contribute to innovation capability and resilience, particularly under resource or environmental uncertainty.
- Workplace practices that apply the self-regulation and reflective discipline associated with Yoga philosophy are expected to relate positively to leadership resilience and employee well-being.

- Organisations demonstrating stronger integration of IKS principles across leadership, governance, knowledge and strategy are expected to report stronger sustainable competitive advantage.

7. IKS, Innovation and Financial Governance

7.1 Innovation

Innovation is another area in which the IKS discussion can move beyond symbolism. The idea of Jugaad, for example, draws attention to improvisation and resource-conscious problem solving, while the ISRO example in the source literature illustrates how disciplined learning and resource constraints can coexist with technological ambition. Neither example proves that IKS causes innovation. Their value for this paper is that they help identify possible organisational mechanisms—resourcefulness, learning, experimentation and purpose—that can subsequently be measured.

For management research, the implication is that innovation can be studied not only as technological output but also as a capability shaped by organisational culture, ethical purpose, resource constraints, learning and stakeholder needs.

7.2 Financial governance and digital transformation

Financial governance provides a useful contemporary test of the framework's relevance. The Arthashastra's concern with treasury management, fiscal discipline, oversight and administrative accountability can be placed in dialogue with present-day debates on transparency, regulation, digital finance and inclusion. India's experience with institutions and platforms such as RBI, SEBI, NPCI and UPI offers a rich context for such inquiry. However, conceptual similarity should not be confused with institutional lineage: the present paper makes no claim that contemporary financial institutions are direct implementations of Kautilyan ideas.

This distinction strengthens the conference paper because it avoids historical determinism while retaining the central proposition that ethical stewardship, accountability and inclusion are relevant across traditional and modern governance contexts.

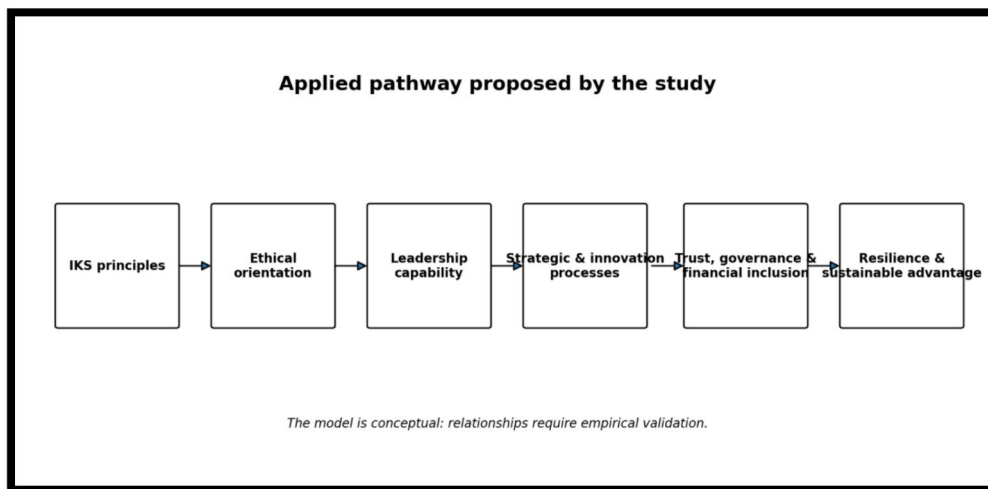


Figure 3. Conceptual pathway from IKS principles to sustainable organisational outcomes.

8. Global Relevance and Discussion

The international value of IKS is therefore best framed as a contribution to knowledge pluralism. The objective is not to present an 'Indian model' that should replace established theories. Instead, the tradition offers concepts and questions that can enter comparative management research. Practices associated with yoga and mindfulness already circulate globally, while ethical and service-oriented leadership have counterparts in established management literature. The research opportunity lies in examining what is distinctive in the underlying philosophical assumptions and whether those assumptions change organisational behaviour when deliberately incorporated into management practice.

The theoretical contribution is consequently one of integration. The Knowledge-Based View provides a way to think about IKS as accumulated and partly tacit organisational knowledge; the Resource-Based View draws attention to intangible assets such as trust and ethical culture; Stakeholder Theory provides a language for collective welfare; Institutional Theory foregrounds legitimacy and accountability; and Servant Leadership helps explain developmental and service-oriented leadership. IKBMF brings these conversations together while retaining their conceptual differences.

The contemporary business environment also makes this integration relevant. Organisations must manage tensions between short-term performance and long-term sustainability, technological speed and ethical safeguards, individual incentives and collective welfare, and global standardisation and cultural context. IKS offers normative principles for navigating these tensions, but their organisational effects remain propositions to be tested rather than established facts.

9. Managerial and Educational Implications

- Embed ethical reasoning in strategic planning and governance reviews rather than treating ethics as a separate compliance activity.
- Use IKS principles alongside established leadership theories in executive development, particularly for reflection, self-regulation, service orientation and stakeholder responsibility.
- Develop case-based learning around Arthashastra, Panchatantra and contemporary organisational dilemmas to strengthen strategic judgement and decision-making.
- Use stakeholder-oriented measures of performance alongside financial indicators to capture trust, employee well-being, innovation and sustainability.
- Explore frugal innovation and resource discipline as complementary approaches to technology-led innovation.
- Use the IKBMF as a diagnostic framework for assessing whether organisational values, leadership practices, governance mechanisms and outcomes are aligned.

10. Limitations and Future Research

The study is conceptual and therefore cannot establish causality. Interpretations of Sanskrit concepts such as Dharma, Nishkama Karma and Rajadharma are context-dependent, and alternative scholarly interpretations exist. The illustrative business and institutional examples are not presented as verified case studies demonstrating direct IKS-performance effects. Finally, the framework has not yet been validated across sectors, organisational sizes or national cultures. These limitations are consistent with the original paper's explicit positioning of the work as theory-building.

Future research should operationalise the major constructs and test the propositions using survey-based structural equation modelling, longitudinal case research and cross-cultural comparisons. The original research agenda additionally identifies financial governance, innovation, management education and the intersection of IKS with artificial intelligence, ESG and sustainable supply chains as promising domains.

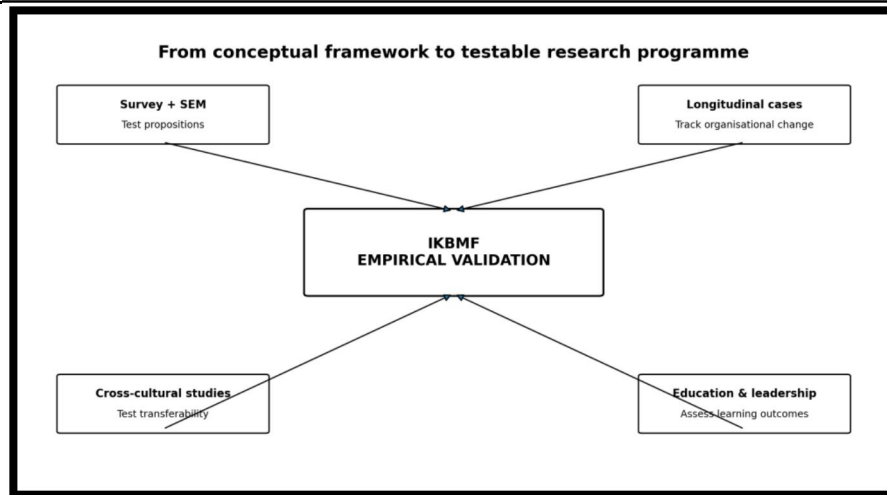


Figure 4. Proposed empirical research agenda for validating the IKBMF.

11. Conclusion

This conference paper argues that Indian Knowledge Systems can enrich contemporary management scholarship by providing an integrated perspective on ethics, leadership, knowledge, governance, innovation and collective welfare. The Arthashastra, Bhagavad Gita, Panchatantra, Upanishadic thought, Chanakya Niti and Yoga philosophy provide distinct but complementary ideas that can be translated into contemporary managerial questions.

The IKBMF offers a parsimonious conceptual architecture linking these principles with leadership capabilities, organisational processes, governance and sustainable outcomes. Its principal scholarly value is not to claim that modern management originated in ancient India, nor to establish causal effects that have not been measured. Rather, it proposes a theoretically grounded basis for bringing indigenous knowledge into management research in a rigorous and testable manner.

For international management scholarship, the broader implication is methodological as well as substantive: management theory can become more inclusive when multiple intellectual traditions are treated as sources of concepts, mechanisms and research questions. IKS therefore represents a promising complementary lens for studying responsible leadership, innovation, resilience and sustainable governance in complex global organisations.

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FROM PRODUCTIVITY TO COLLECTIVE PROSPERITY: AN INDIAN KNOWLEDGE SYSTEMS PERSPECTIVE ON ECONOMIC ORGANIZATIONABILITY, ECONOMIC AGENCY, AND SOCIAL WELL-BEING IN INDIAN KNOWLEDGE SYSTEMS

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Abstract

The economic framework of the *Arthaśāstra* is grounded in a model of prosperity created when productive capability remains distributed among the people who possess the knowledge, skill, labour, and entrepreneurial agency to create value. Amul is presented as a **contemporary empirical case** of an ancient principle where the individual is empowered to be an entrepreneur, without compromising on the product quality, marketing, profit margin, etc, which demonstrates: scale, quality, market competitiveness, and member welfare can coexist. Amul shows that scale and competitiveness do not necessarily require concentration of productive agency. This makes it competitive with MNCs in terms of the end product without ever falling short on the welfare of the individual members and the community as a whole. Management principles from *Arthaśāstra* in IKS is not about reproducing an old institution, but about recovering the principle of individual empowerment through interconnected productive ecosystems. In this paper we make a comparative study of the Amul and MNC model with a few examples to show that research provides evidence for the argument that IKS principles in business management can be successful.

Introduction

The hot cup of coffee we enjoy everyday morning is tended to with a lot of care, grown and produced by the women of West Africa who are the largest contributors (70% to 75%) followed by children and men (Koss, 2024; International Coffee Organization, 2018). Across the coffee-producing regions of the world, agricultural production depends heavily on the labour of smallholder farmers and their families, where Women contribute 70% of the labor in activities such as picking, sorting, weeding, and post-harvest washing of the beans, while the children provide free supplementary labour. The women spend almost 15-17 hours of hard work both in the fields and at home (Lyon et al., 2017). This is true for millions of smallholder farmers and their families across the world who produce 80% of the world's coffee, and yet they live below the poverty line, which means that they cannot even afford to enjoy the coffee they grow (Thelwell, 2020). This disconnect between production and value is not unique to coffee, it is equally true for global apparel and agricultural supply chains, where workers and primary producers receive only a small percentage as low as 1%-3% and as high as 35%-40% of the actual cost of the product (Pollin, 2022).

An alternative institutional possibility can be seen in the Indian cooperative movement, particularly in the Anand model of dairy development. Dr. Verghese Kurien, widely regarded as the architect of India's White Revolution and the development of Amul (Anand Milk Union Limited), articulated its underlying philosophy in his memoir *I Too Had a Dream*:

“The biggest power in India is the power of its people—the power of millions of farmers and their families.”

The significance of this statement lies not merely in its emphasis on farmers, but in the organizational structure through which the collective productive capacity was mobilized resulting in a huge success and there are several studies on this model, one such case study was done from Harvard (Deshpandé et al., 2016). Amul is owned by more than three million farmers in Gujarat, being India's largest food-product marketing organization, with dozens of products that reach approximately a billion consumers (Sahu & ETHRWorld, 2025). A study found from panel data between 2007 and 2015 that cooperative membership had a positive and statistically significant effect on:

- milk yield,
- net returns, and
- adoption of food-safety measures.

This shows that not only is there an overall increase in production, the marginal farmers actually benefitted more from cooperative membership than larger farmers.(Kumar et al., 2018). These cooperatives return 80%-85% of money spent by the consumer to the farmers, while the remaining 15%-20% is spent on operational costs.

In the Indian Knowledge Systems, economic prosperity is not an end in itself, it is a means through which the well-being, capability, and flourishing of the larger society is enhanced. The foundational principle, therefore, is not a particular organizational form such as a cooperative, nor a particular method of distributing profit, it is the recognition that the prosperity of the larger society is a consequence of the prosperity of the individual and the two are interconnected nonseparably. This paper explores this foundational question through contemporary approaches to sustainable business particularly considering the relationship between individual prosperity, collective welfare, productive capability, and economic organization, using the *Arthaśāstra's* discussion of *sambhūya-samutthāna* and contemporary example of Anand/Amul cooperative model as a regional innovation ecosystem. The paper proposes that prosperity may be understood not simply as the generation of wealth, but the protection of the conditions through which knowledge, skill, effort, and productive capability can generate legitimate economic value, while preventing wealth or positional power from becoming an independent source of authority over those who create that value.

Indian Economy

Historically, if we want to assess the economic condition of India through per capita GDP as a measure of well-being and production potential, even from a thousand years ago up until 1800s, India was leading the economic scene, trailed by China and far behind were Western Europe, Americas and other countries (Maddison, 2001). This changed after the British passed laws to change land ownership, rules for trading, etc and plundered the Indian economy into ruin, while making profits to the tune of trillions from Indian industries. As early as the first century, Rome was buying spices from India, and in 1497 Da Gama sailed to the East coast of Africa visiting Mozambique, Mombasa and Malindi to see merchants from Indian-Gujarat who imported silk and cotton textiles, spices and Chinese porcelain and exported cotton, timber and gold. There were experienced pilots who relied on scientific works on astronomy and navigation, with navigational instruments not inferior to those of the Europeans. They had sturdy ships constructed without nails, recently a similar ship was built and sailed from India, and one such pilot got him to Calicut (in Kerala) in less than a month. India's historical trade was not simply subsistence production, Indian merchants were major actors in Indian Ocean trade, and Gujarati merchants in particular played a major role in maritime commerce; Cambridge's Economic History of India describes Indian merchants as the most important figures in India's overseas trade during the sixteenth and seventeenth centuries (Dasgupta, 1982). This establishes historic evidence of extensive agriculture, major textile production, handicrafts, commercial networks and export import profitable business management established and working for centuries.

The question this raises is: How did India historically create large-scale economic value without organizing production around the contemporary MNC model of extreme concentration of capital, ownership and executive compensation?

One answer can be found in the Kautilyan framework which advocates entrepreneurial freedom supported by public infrastructure, disciplined by transparent regulation, and evaluated through its contribution to long-term collective prosperity. The *Arthaśāstra* describes a state that acts as facilitator, regulator, protector, investor, and auditor, the state should not replace enterprise; it should make productive enterprise possible and socially accountable. For example it should promote agriculture, trade, mining, manufacturing, infrastructure, and commerce, but subject these activities to supervision and public purposes. This is a consequence of the fundamental principle in *Arthaśāstra* that links the ruler/Government/Country's prosperity to the welfare of the population. Maddison's estimates show India's global GDP share declining from approximately 24% in 1700 to 16% in 1820 and 12% in 1870. India had a very large share of global output then, but the total GDP is not the same as per-capita welfare or industrial leadership, hence in the current system of governments & business enterprises, one of the ways to apply this is to assess economic growth through wider metrics such as:

- Entrepreneurship as Individual empowerment
- Rights of Individual Vs the cooperative
- Productivity and GDP

- Real wages
- Employment quality
- Household security
- Health and education
- Innovation
- Ecological sustainability
- Regional distribution of growth
- Resilience to crises.

This historical economic strength of India invites a critical examination of what is particularly relevant to contemporary management: The institutional arrangements that enabled productive capacity to remain distributed across local communities, occupational groups and regional production networks.

In *Arthaśāstra* Book 3, Chapter 14, titled: *Saṅghabhṛtāḥ Sambhūya Samutthātāraśca* which translates to "Guild-Laborers and Cooperative Undertakings", it clearly states that Guild-laborers (*saṅghabhṛtāḥ*) or cooperative partners (*sambhūyasamutthātāro*) shall divide (*vibhajeran*) the wages (*vetanam*) as mutually agreed upon (*yathā-sambhāṣitam*), or equally (*samama vā*) (Datar, 1991). Economically, this establishes a horizontal baseline, where majority profits cannot be cornered by a corporate elite seen in MNCs. Both the workers and the system which takes care of them is protected, as it states Cultivators (*kaṣaka*) or traders (*vaidehakā*), if they must withdraw from the work midway between the start (*ārambha*) and the completion (*pariyavasāna*) of the crops or goods, shall be given a share (*pratyamśam dadyuḥ*) strictly in proportion to the work actually performed (*yathā-kṛtasya karmanah*). This would mean for example: If a worker completes 40% of the project before facing an issue, they are legally entitled to exactly 40% of the earnings. They cannot be stiffed or denied their wages for work already done.

MNCs have many loopholes to ensure they profit while the laborers are at a disadvantage, for example: In Philippines project-based employment is lawful though one of the most litigated, because if a worker has done 40% of a 12-month project and the company cancels the project or declares it "completed" at month 4, the worker's contract can legally terminate without separation pay, as long as the project is genuinely finished or ceased. This creates a loophole where companies structure work so that "completion of a phase" is declared early, or projects are split into short phases, letting them terminate without severance while still capturing most of the value created. The historical comparison is resourceful when compared as two organizational architectures:

Table: Comparing Models of Business Management

Historical Indian productive system	MNC model
Distributed production	Centralized corporate ownership
Artisans, cultivators, merchants, guilds	Employees within corporate hierarchy
Local/regional specialization	Large firms controlling Global supply chains
Guild/occupational organization	Corporate management
Wealth generated through many productive nodes	Wealth increasingly concentrated in shareholders/top executives
State enables productive capacity	State often regulates large corporate actors
Economic success measured through prosperity of the wider productive system	Often measured through firm valuation, shareholder return, executive performance
Capability distributed through society	Decision-making, capital concentration at the top

This is the reason economic historians highlight the ancient Indian *Śreṇīs* - Guild systems which were highly autonomous, self-governing democracies of artisans that protected the individual worker from both state tyranny and predatory, top-heavy corporate exploitation, as a successful model.

Empowering the Individual Entrepreneur

Let us consider the case study of Amul which is a wonderful extension of the principles of *Arthaśāstra* adapted to the current society taking advantage of the technology. The central idea is wealth distribution by achieving massive economies of scale without centralizing wealth among top tier elite groups or the shareholders which is the model of a Multi National Company. Amul does this by collecting milk from Village Dairy Cooperative Societies in individual villages, which collects milk twice daily from millions of individual smallholders (Harshita et al., 2026). These farmers are paid instantly based on fat content of the milk, utilizing digital weighing scales to eliminate fraud. At district level there are regional unions owning industrial processing plants that convert excess raw liquid milk into higher-margin, shelf-stable commodities like branded butter, milk powder, and cheese. All district unions are federated under the Gujarat Cooperative Milk Marketing Federation (GCMMF), and the state-level federation manages the overarching brand name ("Amul"), coordinates nationwide logistics, and distributes the final processed goods across a million retail outlets. This historic longitudinal review outlines how Amul's supply chain triggered the "White Revolution" (Operation Flood), transforming India from a milk-deficient nation into the world's largest dairy producer (Bellur et al., 1990). In contrast to global coffee and garment value chains where women perform up to 70% of the manual labor but possess 0% of the income control, over 30% of Amul's core cooperative members are women who are primary caretakers handling the cattle, they receive the digital payouts directly which they reinvest in local rural schools, family healthcare, and community infrastructure, which in turn uplifts the entire village as an ecosystem (Barot & Bose, 2023).

In the following table, we can see the practical application of *Arthaśāstra*:

Table: Individual and the Cooperative

<i>Kautilya's Corporate Governance Code</i> (<i>Arthaśāstra</i> 3.14)	Real-World Execution in the Amul Model
" <i>Vetanaṃ samaṃvā vibhajeraṇ</i> "(Final earnings shall be shared equitably among the active creators of value)	80-85% Revenue Sharing: Eliminates the corporate elite extraction layer by ensuring the bulk of retail price goes directly to the farmer.
" <i>Sāmānyā hi pathi siddhiśvā'siddhiśrva</i> " (Systemic risks and successes must be collectively shared by the group)	Collective Risk Shielding: Amul protects the smallholder from market volatility. During seasonal flushes or low market demand, the federation absorbs the excess milk at a stable pricing index, shielding the individual farmer from sudden bankruptcy.

This model is now replicated among several other cooperatives across the country. Contemporary research consistently shows that dairy cooperative membership leads to higher income stability, asset growth, and socio-economic inclusion for smallholder farmers, who are entrepreneurial as they earn their income day-to-day (Parmar & Chauhan, 2025). This dairy cooperative model is an institutional evolution, transitioning from basic milk collection to integrated marketing and diversified processing which significantly boosts smallholder and landless farmers' incomes (Dervillé et al., 2023). This business model successfully balances processing **economies of scale**, the local economy thrives catering to a larger consumer base. In all these models the organized cooperative sector coexists with a large unorganized/informal market providing critical inputs like feed concentrates, fodder, technical assistance, etc which is a system connecting the local village collection points to regional processing and urban market linkage. This is the precise principle of *Arthaśāstra* where the explicit discussion is about:

- artisans,
- hired workers,
- guilds,

- cooperative work,
- wages,
- proportional payment,
- division of earnings.

The self-governing *śreṇī* (guild) system as highly dynamic, functioning as financial democracy where wealth was distributed horizontally based on active labor rather than passive capital investment (Vedam, 2019). This principle applied in the current society with specific examples of Dairy farms shows such improvement and empowerment of individual members of the society, without compromising on the product or the consumer, the critical difference being, eliminating middle men, non-members, non-workers, capital investors, who are all the outsiders in the system.

Table: A Glimpse of the Individual Entrepreneur Empowerment Model.

Study Title & Authors	Core Research Focus	Key Empirical Findings
"Dairy farming, cooperatives and livelihoods" (Gaillard & Dervillé, 2021)	244 dairy farming households investigated across heterogeneous Indian states.	Highest poverty-reduction impact seen among smallholders and landless farmers,
"Dairy cooperatives: Growth of farmers' income" (Parmar & Chauhan, 2025)	National data on farmers' income (target was to double it).	Cooperative members experience significantly higher earnings and structural productivity over non-members. Eliminating middle-traders directly raises basic milk payout rates.
"Indian dairy cooperative development" (Dervillé et al., 2023))	20 years of quantitative spatial outcomes analyzed across the network.	Local farmers are empowered . Mature cooperative networks actively cross-subsidize nascent ones.

The World Inequality Report 2026 highlights that MNC-driven globalization has effectively raised the global economic floor (preventing absolute famines) but has blown the ceiling off by allowing extreme wealth consolidation. Over one-third of the global population remains stuck in a volatile economic tier earning low wages, which means they are no longer counted in "starvation" or "famine" statistics, but a single localized economic shock or medical crisis instantly pushes them back into poverty (United Nations, 2025).

Economic Metric	The Positive Indicator (The "Floor")	The Widening Inequality (The "Ceiling")
Employment	Record high raw number of global jobs.	Stagnant, low-quality real wages relative to inflation.
Capital Gains	Widespread corporate revenue growth.	Top 1% capturing nearly 38% of all newly generated global wealth.
Basic Survival	Sharp historical declines in absolute famine.	The relative gap between the bottom 50% and top 0.1% is wider than during the peak of 20th-century Western imperialism.

This is the reason Dr. Kak describes Kautilya's economic vision as rooted in balancing *Artha* (material prosperity) with *Dharma* (moral and social duty), while the MNC model is an aggressive, predatory "winner-take-all" philosophy generating massive wealth disparity. By contrast, *Kautilya* structures the state as a "moral marketplace" where the ultimate wealth is legally measured by the holistic welfare of the individual, creating a structural check against elite hoarding (Kak, 2019).

Conclusion

The Indian economy achieved enormous productive and export capacity by distributing the productive capability among networks of producers rather than concentrating it in a few vertically integrated corporations historically and this is replicated in Amul and several such organizations in this century. The contemporary relevance of Indian Knowledge Systems lies not in reproducing historical economic institutions, but in rediscovering and implementing the underlying principles of individual empowerment through entrepreneurship, by which productive resources, knowledge and capabilities are protected, augmented and circulated through interconnected local and institutional ecosystems. This uplifts the quality of the entire society unlike the MNC model where a small section of the society accumulates wealth while the larger community is struggling to make ends meet.

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INTEGRATING INDIAN KNOWLEDGE SYSTEMS WITH ESG: A CONCEPTUAL FRAMEWORK BASED ON KAUTILYA'S ARTHASHASTRA AND THE BHAGAVAD GITA

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Abstract

The growing emphasis Environmental responsibility, social accountability, and ESG-oriented governance practices has encouraged Indian organisations to integrate sustainability with responsible governance. However, most ESG frameworks adopted by businesses are derived from Western management philosophies, with limited attention to India's indigenous knowledge traditions. This conceptual research assesses how Kautilya's Arthashastra and the Bhagavad Gita can provide an ethical foundation for contemporary ESG practices in India. Using a qualitative, interpretive approach based on secondary literature, the study analyses governance principles, stakeholder welfare, resource stewardship, and Karma Yoga, and maps these concepts to the ESG principles. The review identifies a significant disparity between the philosophical the comprehensive knowledge traditions of India and their practical application in corporate ESG strategies and Business Responsibility and Sustainability Reporting (BRSR). The proposed framework demonstrates that Arthashastra-based leadership, duty-oriented action, and ethical resource management can strengthen governance quality, employee engagement, and long-term sustainability performance. The paper further discusses managerial and policy implications for leveraging Indian Knowledge Systems (IKS) for aligning Indian Knowledge Systems (IKS) combined with corporate governance, management education, and sustainability reporting. By connecting classical Indian wisdom with contemporary business practices, the study presents a value-based cultural perspective that reinforces existing ESG structures and supports responsible, value-based management in India's evolving corporate environment.

Keywords: Environmental, Social and Governance (ESG), Indian Knowledge Systems (IKS), Kautilya's Arthashastra, Bhagavad Gita, Corporate Sustainability.

1. Introduction

Environmental, Social, Governance (ESG) has become a significant initiative promoting responsible business practices and sustainable corporate growth across the globe. The transition from traditional Corporate Social Responsibility (CSR) to a more comprehensive ESG strategy is a sign of the changing landscape in the Indian the business sector, in which organizations are progressively aware that their long-term success depends on more than just financial results; it also hinges on ethical governance, environmental responsibility and societal well-being. The Companies Act, 2013, and the Reporting (BRSR) framework have significantly enhanced the accountability of the listed companies by mandating them to report their sustainability performance in a transparent and standardised manner (Popat & Brahmabhatt, 2025). Despite these developments, the conceptual underpinnings of ESG that remain followed by many Indian organisations are still rooted in Western governance structures.

India possesses a rich intellectual tradition that offers a deeper understanding of ethics, leadership, governance and sustainable management. The Arthashastra by Kautilya and the Bhagavad Gita are among the most influential classical texts, offering timeless principles that continue to apply to organisational management today. The Arthashastra offers governance as a system rooted in accountability, justice, prudent administration and welfare of stakeholders. It reinforces the significance of ethical leadership and responsible use of resources, instead of short-term gains (Kumar & Rao, 1996; Muniapan & Shaikh, 2007). Similarly, the Bhagavad Gita presents the philosophy of Karma Yoga, which is a commitment to do one's duty with integrity and responsibility and without attachment to personal gains. Contemporary management research has associated these principles with ethical leadership, employee engagement, organisational commitment, and psychological well-being (Mulla & Krishnan, 2014; Navare & Pandey, 2022).

Traditional knowledge systems have gained recent scholarly interest in India, which has led to their potential contribution to management education and corporate governance. However, a large proportion of the literature is

still philosophical and interpretative, and does not focus on how these concepts can be implemented in practice, in the form of frameworks that organisations can follow. In contrast, research on ESG is largely concerned with sustainability reporting, regulatory compliance, financial performance, and disclosure practices, with comparatively limited attention given to indigenous ethical philosophies. This has resulted in a significant disconnect between the classical management wisdom of India and the integration of ESG in the current business organisations. This study proposes a conceptual framework that combines the governance principles from Kautilya's Arthashastra with the ethical philosophy of Karma Yoga from the Bhagavad Gita with the Environmental, Social, and Governance dimensions of ESG, building on the identified research gap. By establishing this linkage, the paper demonstrates how concepts inspired by India's traditional knowledge systems can improve provide a culturally relevant and based on ethical considerations foundation for sustainable business practices. The proposed framework contributes to the scholarly understanding of responsible management by providing some insights to the business leaders, business educators, policy makers, and researchers who are trying to make the incorporation of ESG more robust in India through the indigenous knowledge traditions..

2. Literature Review

The greater applicability of Indian Knowledge Systems within the domain of management research has led scholars to explore ancient Indian literary works as sources of management, leadership, governance and ethics. Of these, the Arthashastra of Kautilya and the Bhagavad Gita are gaining significance due to their practical wisdom on decision making, welfare of stakeholders and ethical practice. While both lines of research have grown considerably, there is inadequate synergy between them, as the study of corporate sustainability, responsible corporate governance, and long-term value creation has been pursued separately.

The Arthashastra of Kautilya is considered as one of the foremost and most comprehensive texts on governance, administration and economic management. The text offers useful principles for value-based management by highlighting ethical leadership, organisational discipline, accountability, and responsible use of resources, as shown by Kumar and Rao (1996). They believe that sustainable prosperity can only be achieved if financial goals are connected with moral goals in a responsible manner. On this basis Muniapan and Shaikh (2007) made a comparative assessment of the governance foundational principles of the Arthashastra and the modern theories of corporate governance and found that many of the modern concepts such as accountability of the leader, welfare of the stakeholders, prevention of fraud, and strategic decision making have parallels in Kautilya's philosophy. Likewise, Sivakumar and Rao (2010) developed an integrated model of values-based management, integrating the concepts from Arthashastra and other Indian scriptures, thereby demonstrating the relevance of Indian ethical traditions in the present day context of organisations.

The other stream of literature that is important is the one that deals with the management relevance of the Bhagavad Gita. The philosophy of The philosophy of Karma Yoga maintains that one should should do fulfilling one's responsibilities without expectation of personal gain results, has been well accepted as a holistic approach to ethical leadership and employee development. Mulla and Krishnan (2009) reported a positive correlation between the orientation of Karma Yoga and transformational leadership behaviour among managers. Building on this, Mulla and Krishnan (2014) suggested that Karma Yoga is an indigenous approach to moral development that fosters integrity, responsibility and ethical decision making. Recently, Navare and Pandey (2022) created and tested a Karma Yoga scale, which showed a positive association between Karma Yoga and and psychological outcomes in conjunction with work engagement among employees. Nagar (2024) also suggested that the ideas presented in the Bhagavad Gita inspire managers to integrate organizational goals with ethical duties, which helps promote responsible management and sustainable organizational performance. An independent body of work explores the development of ESG in the context of the Indian corporate environment. An independent body of research investigates the development of ESG in the context of the Indian corporate environment. As explained by Popat and Brahmhatt (2025), India's sustainability journey has moved beyond the realm of optional Corporate Social Responsibility activities initiatives to a more formalized ESG framework supported by the Companies Act, 2013, and SEBI's Business Responsibility and Sustainability Reporting (BRSR) guidelines. They point out that ESG fosters transparency, stakeholder trust, long-term competitiveness and sustainable value creation. Likewise, Devika Rani et al. (2025) examined the implementation of ESG in Indian listed companies and found that companies with better ESG practices tend to have better sustainability performance, but the relationship between ESG and some financial metrics remains complex.

In spite of these useful contributions, the literature cited shows that there is an important gap. Empirical and conceptual studies of Indian Knowledge Systems mainly focus on the interpretation of classical texts and the elucidation of their ethical or philosophical meaning. On the other hand, ESG research is largely about regulation, disclosure, sustainability reporting and corporate performance. There is little research that directly links indigenous management principles with the ESG criteria in the current corporate reporting.

Hence, This investigation tries to bridge these two lines of thought by creating a conceptual framework that connects governance principles from Kautilya's Arthashastra to the ethical philosophy of the Bhagavad Gita with contemporary ESG practices. The integration not only enhances academic knowledge but also holds significant implications for managerial practice, as it illustrates the potential of traditional knowledge in India to support sustainable business management and responsible governance in the modern corporate world.

3. Research Gap

The current body of literature shows that Kautilya's Arthashastra and the Bhagavad Gita provide insights into ethical leadership principles, governance, stakeholder welfare, and responsible Environmental, Social, and Governance criteria practices in India, especially with respect to sustainability reporting, corporate governance, and regulatory compliance. But the two lines of research have developed rather independently. The studies on the indigenous knowledge systems of India are mainly philosophical interpretations, and the studies on ESG are mainly disclosure requirement, financial performance and corporate sustainability outcomes. Few studies have investigated the possibility of systematically incorporating the principles of indigenous management with the current ESG dimensions. It is therefore imperative to develop a conceptual framework that links the ethical principles of the Arthashastra and the Bhagavad Gita with contemporary ESG practices, offering a culturally appropriate way to address responsible governance and sustainable business management in India.

4. Need of the study

The growing focus on Environmental, Social, and Governance principles has led to a need for organisations to adopt governance structures that incorporate internationally accepted principles but also culturally appropriate. While India has actively promoted the field of sustainability with the Companies Act, 2013, and the SEBI Business Responsibility and Sustainability Reporting (BRSR) framework, there is still a need for more organizations to take a more comprehensive approach to ESG, viewing it as an compliance obligation instead of a strategic priority. The ethical principles found in Indian Knowledge Systems, such as those in Kautilya's Arthashastra and the Bhagavad Gita, can enhance responsible leadership, the well-being of stakeholders, and sustainable resource management. Integrating these indigenous philosophies with contemporary ESG practices can encourage value-based decision-making and enhance the extent to which sustainability initiatives. Given this context, the present study aims to develop an analytical framework that facilitates the application of Indian Knowledge Systems within the context of ethical governance and sustainable business practices throughout the Indian corporate context.

5. Objective of the study

- To explore the value of Indian Knowledge Systems in the contemporary context, especially Kautilya's Arthashastra and Bhagavad Gita in the field of ethical governance and sustainable business practices.
- To Evaluate the Evolution of ESG framework Practices in Indian Corporate Environment.
- To build a theoretical model that combines the main principles of the Arthashastra and Karma Yoga with the Environmental, Social, and Governance aspects of ESG.
- To offer managerial and policy suggestions on the use of Indian Knowledge Systems as an element of the modern-day ESG strategies and corporate governance.

6. Research Methodology

This research utilizes a conceptual qualitative research design to analyze the usefulness The principles related within the domain of Indian Knowledge Systems (IKS) in strengthening Environmental, Social, and Governance practices followed in India. The investigation is based on all secondary data drawn from peer-reviewed relevant scholarly articles, books, conference papers, government publications and regulatory documents related to

Kautilya's Arthashastra, Bhagavad Gita, corporate governance, ESG, Corporate Social Responsibility (CSR) initiatives and the Business Responsibility as well as sustainability reporting (BRSR) framework.

Research articles were sourced from scholarly databases such as Google Scholar. The sources include Scopus, Springer, SSRN, and official reports from the Ministry of Corporate Affairs (MCA) and Securities and Exchange Board of India (SEBI). Recent studies examining ethical governance, sustainability, Indian Knowledge Systems, and ESG practices in the Indian corporate context were given priority.

The retrieved literature was thematically analysed to identify the common themes and concepts associated with ethical leadership, stakeholder welfare, Karma Yoga, responsible resource management and sustainability. The emerging themes were consolidated using conceptual mapping to map the principles from the Arthashastra and Bhagavad Gita with the three pillars of ESG Environmental, Social and Governance.

As this is a conceptual study, The analysis is based entirely on secondary data. or statistical analysis. Rather, it builds a framework developed for visualizes the relationship between indigenous management philosophies and modern ESG principles. The conceptual model provides a foundation for empirical validation of the interrelationship between India's Indigenous Knowledge Systems and sustainable corporate governance in India.

7. Conceptual Framework

The present research constructs a conceptual framework by combining the ethical principles of Kautilya's Arthashastra and the Bhagavad Gita with the ESG oriented practices framework. The model demonstrates how indigenous management philosophies can complement contemporary sustainability practices by providing an integrity focused and culturally relevant foundation for corporate governance across India

The Governance (G) dimension has been largely shaped by the principles of the Arthashastra. Kautilya emphasised ethical leadership, accountability, transparency, justice, and responsible administration as the foundation of effective governance. According to his philosophy, sustainable prosperity is achieved when leaders govern with integrity while safeguarding the interests of all stakeholders (Kumar & Rao, 1996). These principles closely correspond to modern ESG governance practices, including ethical decision-making, board accountability, risk management, regulatory compliance, and stakeholder-oriented corporate governance. Therefore, the Arthashastra provides an indigenous framework for strengthening governance mechanisms within contemporary organisations.

The Social (S) dimension is grounded in the use of doctrine derived from Karma Yoga, which serves as expounded as emphasized in the Bhagavad Gita. Karma Yoga supports executing one's obligations with dedication, integrity, and selflessness without being attached to personal rewards. This philosophy promotes ethical behaviour, teamwork, employee commitment, and organisational harmony. Research to date has shown that Karma Yoga positively influences transformational leadership, employee motivation, and psychological resilience well-being, and responsible organisational behaviour (Mulla & Krishnan, 2014; Navare & Pandey, 2022). Within the ESG framework, these principles contribute to employee welfare, leadership development, stakeholder relationships, diversity, and inclusive organisational culture. The Environmental (E) dimension is linked to the broader principle of responsible resource stewardship found in Indian Knowledge Systems.

Although environmental sustainability is not explicitly discussed in the modern sense within classical texts, the Arthashastra advocates prudent utilisation of natural and economic resources for long-term prosperity and societal welfare. This perspective encourages organisations to adopt sustainable resource practices, environmental preservation, and responsible business practices that balance economic growth with ecological responsibility. Such values align closely with the environmental objectives of contemporary ESG frameworks.

The proposed framework illustrates that the ethical the notion of Dharma, which emphasizes righteous conduct Karma Yoga (selfless duty), and responsible stewardship of resources collectively reinforce the three pillars of ESG. Rather than viewing ESG solely as a regulatory requirement, the framework positions sustainability as an outcome of integrity-based leadership and value-based management. Through the adoption of Indian Knowledge Systems with modern corporate governance, organisations can develop culturally grounded sustainability strategies that strengthen long-term organisational performance, stakeholder trust, and responsible business practices

8. Discussion

The evidence presented in this conceptual study indicates that Indian Knowledge Systems (IKS) constitute a strong ethical foundation for strengthening ESG governance framework practices in contemporary organisations. Although ESG has become an important framework for sustainable business and corporate accountability, its implementation in India is largely influenced by international governance models and regulatory requirements. Integrating indigenous management philosophies with ESG can make sustainability initiatives more meaningful, culturally relevant, and value-driven.

The analysis demonstrates that Kautilya's Arthashastra offers valuable guidance on governance through principles of ethical leadership, accountability, transparency, and stakeholder welfare. These principles closely correspond to the governance pillar of ESG, which emphasises responsible decision-making, effective board oversight, risk management, and regulatory compliance. Rather than viewing governance only as a mechanism for meeting legal obligations, the Arthashastra presents governance as a moral responsibility that contributes to organisational stability and long-term prosperity. Similarly, the Bhagavad Gita provides important insights into the social dimension of ESG through the philosophy of Karma Yoga.

The emphasis on selfless service, commitment to duty, and ethical conduct encourages responsible leadership, employee engagement, teamwork, and organisational harmony. These values support contemporary human resource practices by promoting employee well-being, trust, and long-term organisational commitment. Integrating such principles into organisational culture can strengthen stakeholder relationships while improving employee motivation and ethical behaviour.

The environmental dimension is supported through the broader concept of responsible stewardship embedded in Indian Knowledge Systems. Although classical texts do not explicitly discuss environmental sustainability in the modern context, they advocate prudent utilisation of resources, moderation, and long-term societal welfare. These principles are consistent with present-day sustainability initiatives that encourage organisations to reduce environmental impact, promote resource efficiency, and adopt responsible business practices.

The proposed framework also highlights that ESG should not be viewed merely as a reporting or compliance requirement. Instead, it can become a value-based management philosophy when supported by ethical principles rooted in India's intellectual heritage. Such an approach enables organisations to align business objectives with social responsibility and sustainable development while strengthening stakeholder confidence.

Overall, the study demonstrates that integrating Kautilya's Arthashastra and the Bhagavad Gita with ESG provides a culturally grounded perspective for responsible corporate governance in India. The framework offers useful insights for managers, educators, and policymakers seeking to enhance sustainability practices through indigenous ethical values. Future empirical studies can further validate the proposed framework by examining its application across different industries and organisational settings.

9. Managerial Implications

The proposed framework offers several practical implications for managers seeking to strengthen ESG implementation through Indian Knowledge Systems (IKS). Corporate leaders can adopt governance principles from Kautilya's Arthashastra to promote ethical leadership, accountability, transparency, and stakeholder-oriented decision-making. Embedding these values into organisational policies and governance structures can enhance corporate credibility and long-term sustainability.

The philosophy of Karma Yoga from the Bhagavad Gita can support human resource management by encouraging commitment, integrity, teamwork, and purpose-driven leadership. Organisations may incorporate these principles into leadership development programmes, employee engagement initiatives, and ethics training to foster a responsible and value-based work culture.

The proposed framework also encourages organisations to view ESG as more than a regulatory obligation. Integrating indigenous ethical values with sustainability practices can strengthen stakeholder trust, improve organisational reputation, and support long-term business resilience. Managers can utilise this framework to align strategic decision-making with responsible governance while balancing economic growth, social welfare, and

environmental stewardship. Consequently, Indian Knowledge Systems provide a culturally relevant foundation for achieving sustainable organisational performance and responsible corporate governance.

10. Policy Recommendations

The findings of the present research suggest several policy measures to strengthen the embedding of Indian Knowledge Systems (IKS) with ESG governance and sustainability framework practices adopted in India. First, regulatory bodies including official reports of the Ministry of Corporate Affairs (MCA) and the Securities and Exchange Board of India (SEBI) may encourage organisations to incorporate indigenous ethical principles into their corporate governance and sustainability strategies. While maintaining global ESG standards, companies should be urged to adopt culturally relevant governance models that promote ethical leadership and stakeholder welfare.

Second, higher education institutions and management schools should integrate Indian Knowledge Systems, particularly the Arthashastra and the Bhagavad Gita, into business management and sustainability curricula. This will help develop future managers with a balanced understanding of ethical governance and sustainable business practices.

Finally, professional bodies and industry associations should organise training programmes, workshops, and capacity-building initiatives to increase awareness of value-based management and responsible leadership. Such initiatives can support organisations in implementing ESG practices more effectively while preserving India's rich intellectual and ethical heritage. These policy measures will contribute to building a more responsible, sustainable, and culturally grounded corporate ecosystem.

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CONSUMER PERCEPTION AS A DRIVER OF THE INNOVATION ECOSYSTEM: A STUDY OF GEOGRAPHICAL INDICATIONS TAGGED GOODS WITH SPECIAL REFERENCE TO BENGALURU

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Abstract

Geographical Indications (GIs) occupy a distinctive position within the intellectual property rights framework, linking product quality, tradition and place-based innovation to consumer trust and market value. While much GI scholarship in India has focused on registration trends and producer welfare, comparatively little attention has been paid to how urban consumers perceive and respond to GI-tagged goods, even though consumer demand ultimately determines whether the innovation and commercialisation potential of a GI is realised. This paper draws on a primary survey of 153 respondents in Bengaluru to examine consumer awareness, perception and willingness to pay a premium for GI-tagged goods such as Mysore Silk, Channapatna Toys, Bidriware, Kolhapuri Chappals and Bangalore Blue Grapes. Using a structured questionnaire and Likert-scale ratings, the study finds high awareness (91.5%) but only moderate conceptual understanding (77.8%), a strong association between respondent age and awareness (chi-square = 20.116, $p < 0.05$), and a majority willingness (62.1%) to pay a premium for GI-tagged products. The paper repositions these findings within the wider innovation-ecosystem discourse, arguing that consumer perception functions as a demand-side signal that determines whether GIs succeed as instruments of innovation, rural livelihood protection and cultural preservation. It concludes with policy-oriented suggestions for producers, GI-promoting agencies and regulators, and identifies future research directions at the intersection of IPR, consumer behaviour and sustainable innovation ecosystems.

Keywords: Geographical Indications; Consumer Perception; Intellectual Property Rights; Innovation Ecosystem; Bengaluru

1. Introduction

Intellectual Property Rights (IPR) have moved from being a narrow legal safeguard to becoming a central pillar of national and regional innovation ecosystems. Among the various categories of IPR — patents, copyrights, trademarks, plant breeders' rights, utility models and trade secrets — Geographical Indications (GIs) occupy a unique space because they protect not an individual inventor's creation but a collective, place-based reputation built over generations. A GI identifies a good as originating from a specific region where a given quality, reputation or characteristic is essentially attributable to that geographical origin.

India, and Karnataka in particular, has been an active participant in this space, with products such as Mysore Silk, Channapatna Toys, Bidriware, Kolhapuri Chappals, Bangalore Rose Onion, Bangalore Blue Grapes, Devanahalli Pomelo and Kinhal Toys carrying the GI tag. Yet the innovation and economic value that a GI tag is designed to unlock are premium pricing, market differentiation, protection from counterfeits and preservation of traditional knowledge which can only materialise if consumers are aware of, understand and trust the tag. This makes consumer perception a critical, and under-examined, link in the GI innovation chain.

This paper is developed from a primary study on consumer perception of GI-tagged goods in Bengaluru and repositions its findings to speak directly to the conference theme of Intellectual Property Rights and Innovation Ecosystems, treating consumer perception as a demand-side determinant of whether GIs function successfully as tools of innovation, rural development and cultural protection.

2. Geographical Indications within the Innovation Ecosystem

An innovation ecosystem is commonly understood as an interconnected network of producers, institutions, regulators, markets and consumers, in which ideas are converted into products of value. Within this network, GIs perform three linked functions relevant to innovation:

- Protection of traditional and collective knowledge — GIs safeguard techniques and practices developed over generations (e.g., Bidriware metal-inlay work, Kolhapuri leatherwork) from misappropriation, thereby incentivising their continued practice and refinement.
- Market differentiation and value capture — a GI tag allows producers to distinguish authentic regional products from generic or counterfeit substitutes and, where consumer trust exists, to capture a price premium.
- Regional economic and cultural development — GIs link product identity to place, supporting rural livelihoods, tourism and the preservation of cultural heritage alongside commercial value.

These functions, however, depend entirely on a demand-side condition that is often assumed rather than tested: that consumers recognise the GI tag, understand what it signifies, trust its authenticity claim, and are willing to reward it with their purchasing behaviour. Without this recognition, a GI tag risks remaining a legal formality with limited commercial or innovation impact — an opportunity for the innovation ecosystem left unrealised, and a challenge that stakeholders and policymakers must address if GIs are to deliver on their potential.

3. Review of Literature

A cross-section of international, Indian and recent (2023–2026) studies establishes the context for this research. In-text citations follow APA style; for works with three or more authors, only the first author's surname is given followed by “et al.”, consistent with APA 7th edition.

International perspectives on consumer awareness and perception

Muça et al. (2021) compared consumer awareness of local/GI products across Albania, Bulgaria and Poland and found that perceptions and willingness to pay a premium varied with socio-economic characteristics and policy environment. Uçar (2022), studying Serbian consumers, reported high awareness of designation-of-origin labelling, underscoring that awareness levels of this magnitude are achievable through sustained labelling and information campaigns. Török et al. (2022), using a discrete choice experiment on Hungarian sausages, found that a Protected Geographical Indication label could generate value exceeding that of an established private brand, evidencing the commercial potency of GI status when consumer trust is present. Costanigro et al. (2019), examining Chianti wines, showed that multi-tier GI quality labelling shapes consumer quality perception in complex, sometimes unintended ways. Nabwire (2016), studying honey consumers in Kenya, similarly found that consumer awareness and willingness to pay for GI and other quality attributes were shaped by income and education, reinforcing that demand-side awareness cannot be assumed and must be actively built.

Indian perspectives on GI registration and producer impact

Indian scholars have extensively highlighted both positive and negative aspects of the GI concept, with specific emphasis on the country's GI issues. Firstly, Das (2010) found that India has well-established GI systems; however, the challenges it faces include poor enforcement, lack of promotion and awareness, and ineffective commercialization, leading to the limited economic growth of GI products. Secondly, Vinayan (2017) echoed similar concerns, stating that despite the GI regime's ability to promote and protect India's local products and reduce market information asymmetry, several implementation, awareness, and commercialization challenges hinder its prosperity. However, Nirosha and Mansingh (2025) conducted a literature review to identify the extent of GI knowledge and its impact on local products and found that GI products promote economic development, social values, the environment, and culture by conserving traditional knowledge and supporting rural communities. They added that there is a need to create GI consumer awareness, develop strategies to promote GI products, and foster collaborations to increase their competitiveness and reap the benefits of GI protection. In summary, Indian researchers have highlighted the significance of the GI concept and its critical role in supporting local products, services, and competitiveness, necessitating consumer awareness and engagement for economic growth.

Economic and policy-impact studies

A parallel body of work examines whether GI protection actually delivers the economic and developmental outcomes it promises. Quiñones-Ruiz et al. (2020) examined collective-action and governance structures behind protected GI coffee in Colombia, Thailand and Indonesia, showing that governance quality — not registration alone — determines value capture. Barjolle et al. (2017) similarly highlighted the role of the state in supporting GI coffee producers in Colombia and Kenya. Curzi and Huysmans (2022) found that protecting EU Geographical Indications

within trade agreements had a measurable positive impact on trade flows, while Crescenzi et al. (2022) showed that GIs strengthen local development most where they are embedded in wider territorial economic structures. Török et al. (2020), in a critical review of the empirical economic literature, cautioned that GI impact evidence is mixed and highly context-dependent — a reminder that the demand-side, consumer-perception mechanism examined in this paper is one necessary (though not sufficient) condition for GIs to deliver real economic value.

Recent developments (2023–2026)

A cluster of very recent studies sharpens the link between GI, consumer behaviour and innovation that this paper builds on. On the awareness and attitude side, Ćirić et al. (2023) found that Serbian consumers' habits and attitudes toward GI products remained closely tied to awareness of quality standards and regional authenticity, while Selvaggi et al. (2023) showed that Italian consumers' awareness, preferences and attitudes toward a Protected Geographical Indication citrus product were strongly linked to their stated willingness to pay. By contrast, Ostojić et al. (2025), surveying Serbian consumers on GIs, branding and IP protection, found generally low support across all measures, with only consumption frequency — not education or place of residence — significantly shaping attitudes, underlining that positive consumer perception cannot be assumed uniformly across contexts.

On the behavioural-modelling side, Maró et al. (2023) found that both GI status and consumer ethnocentrism jointly shape preference for regionally branded spirits in Central Europe, Wang et al. (2024) showed that the effectiveness of GI advertising appeals depends on the regional typicality of the product, and Lv (2025), integrating perceived value with the Theory of Planned Behaviour, found perceived value to be the strongest driver of purchase intention for GI agricultural products, ahead of attitude and subjective norms.

On the innovation-ecosystem and policy side most directly relevant to this conference's theme — Stranieri et al. (2024) show that GIs interact with agri-food innovation and technology adoption to shape regional competitiveness across European regions, while Menapace and Moschini (2024), updating the economics literature on GIs, note that GIs address information asymmetries and support high-quality production but that tensions between tradition and innovation remain unresolved. In the Indian context, Singh and Baral (2024) found that price veracity and consumer trust significantly shape attitudes toward GI-tagged handloom products, reinforcing that trust-building is central to unlocking GI value for India's traditional-industry producers. Finally, Rajaram (2026), in a systematic review of 56 studies on consumer behaviour toward GI products in emerging economies, found consistent evidence of high willingness to pay a premium alongside persistent awareness gaps, and proposed viewing GIs as a collective brand-building tool rather than a certification mechanism alone — a framing consistent with the approach adopted in this paper.

The gap this study addresses

Much of the existing GI literature is either doctrinal (analysing statutes and registration processes), producer/governance-focused (examining livelihood, trade and rural-development impact), or centred on European, East African and East Asian contexts. Even the most recent (2023–2026) consumer-behaviour studies remain concentrated in Serbia, Italy, Hungary, China and other emerging economies broadly, with comparatively few Indian studies examining the urban consumer as the demand-side actor whose awareness and purchase behaviour ultimately determine whether GI-driven innovation translates into market outcomes. This study addresses that gap using Bengaluru — a large, diverse, digitally engaged consumer market — as its context.

4. Statement of the Problem and Objectives

In an increasingly globalised marketplace, GIs are positioned to highlight the unique quality and origin of regional products. The central problem this study investigates is twofold: what factors shape consumer perception of GI-tagged goods in Bengaluru, and how do these perceptions translate into purchasing behaviour and price premiums? The specific objectives were:

- To understand the level of consumer awareness regarding GIs and their significance in relation to tagged goods.
- To examine the factors influencing consumer perception and attitudes towards GI-tagged goods in Bengaluru.
- To assess the impact of consumer perception on purchasing behaviour towards GI-tagged goods.
- To ascertain consumer willingness to pay a premium price for GI-tagged goods.
- To offer suggestions for strengthening consumer perception of GI-tagged goods in the Bengaluru context.

Corresponding to these objectives, the following hypothesis was tested:

H0: There is no significant association between the age of respondents and their awareness of GI-tagged products.

H1: There is a significant association between the age of respondents and their awareness of GI-tagged products.

5. Research Methodology

The study adopted an exploratory research design. Primary data were collected through a structured questionnaire administered via Google Forms, using multiple-choice and five-point Likert-scale items, supplemented by secondary data from e-books, journal articles and online sources. A convenience sampling technique (non-probability) was used, yielding 153 valid responses from residents of Bengaluru who were potential consumers of GI-tagged goods. The GI-tagged goods considered for the study were Mysore Silk, Bidriware, Channapatna Toys, Devanahalli Pomelo, Kinhal Toys, Kolhapuri Chappals, Bangalore Rose Onion and Bangalore Blue Grapes. The association between age and awareness was tested using Pearson's Chi-square test.

Limitations: the sample was restricted by time and resource constraints, drawn only from internet-using respondents in Bengaluru via convenience sampling, and confined to the consumer perspective on a single IPR category (GIs), excluding producer or retailer viewpoints.

6. Data Analysis and Key Findings

6.1 Respondent profile

Of the 153 respondents, 65.4% were female and 34.6% male. The sample skewed young: 86.3% were aged 21–40, 8.5% below 20, and 5.2% between 41–60, with no respondents above 60 — a profile consistent with the Google Forms-based digital data collection method.

6.2 Awareness and understanding

91.5% of respondents had heard the term ‘Geographical Indication’, while only 8.5% had not. However, conceptual understanding was somewhat lower: 77.8% understood the concept and purpose of GIs, 12.4% were unsure, and 9.8% did not understand it — indicating a gap between name-recognition and substantive understanding that has implications for how awareness campaigns should be designed. Mysore Silk was the most recognised GI-tagged product, followed by Channapatna Toys.

6.3 Perception of quality, authenticity and cultural value

A majority of respondents (64.1% agree, 15% strongly agree) perceived GI-tagged products as higher quality than non-tagged equivalents. 88.2% of respondents agreed that GIs effectively protect consumers from counterfeit products. 91.5% agreed that GIs reflect the cultural identity and heritage of a region, and 88.2% (45.1% agree + 43.1% strongly agree) felt GIs help preserve traditional production methods. 76.2% expressed confidence that GI labels accurately represent the claimed geographical origin.

6.4 Price sensitivity and willingness to pay a premium

54.9% of respondents agreed that price significantly influences their perception of GI-tagged products, with a further 9.8% strongly agreeing. Correspondingly, 62.1% expressed willingness to pay a premium for GI-tagged products over comparable non-GI alternatives, while 37.9% were not willing to do so — indicating a meaningful but not universal price premium opportunity for GI producers and marketers.

6.5 Purchase behaviour

Between 73% and 78% of respondents agreed, across related survey items, that GI labelling positively influences their purchase decisions, trust in product origin, and perceived value — with neutral responses (18–25%) consistently outnumbering disagreement (2–4%), suggesting an opportunity to convert a large ‘undecided’ segment through targeted engagement.

6.6 Hypothesis testing

A Pearson's Chi-square test of association between age and awareness produced $X^2 = 20.116$ ($df = 4$), against a critical value of 9.488 at the 5% significance level ($p < 0.05$). Since the computed value exceeds the critical value, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted: age is significantly associated with GI awareness, with younger respondents showing higher awareness levels.

7. Discussion: Opportunities, Challenges and Future Directions for GIs in the Innovation Ecosystem

This context matters at the national level too: India climbed to 39th position among 133 economies in the World Intellectual Property Organization's Global Innovation Index 2024, driven partly by strong performance in knowledge and technology outputs (WIPO, 2024). GIs are one of the few IPR categories in which India is a net creator rather than a net adopter of protected assets, making the consumer-perception question examined here directly relevant to sustaining that momentum.

7.1 Opportunities

The high baseline awareness (91.5%) and majority willingness to pay a premium (62.1%) indicate substantial untapped commercial opportunity for Karnataka's GI-tagged goods. As a strategic business tool, the GI tag can be leveraged by producers and MSMEs to differentiate products in both domestic and export markets, supporting the conference's broader interest in IPR-enabled entrepreneurship and start-up ecosystems. The strong association between GIs and perceived cultural authenticity also creates opportunities for GIs to anchor experiential and tourism-linked marketing strategies.

7.2 Challenges

The gap between name-recognition (91.5%) and conceptual understanding (77.8%) signals that awareness campaigns to date have been only partially effective at building the deeper understanding needed to sustain premium pricing. The significant age effect suggests that older consumer segments remain under-served by current outreach, risking a narrower market base than the ecosystem needs. Weak linkage between GI registration and consumer-facing marketing continues to limit the realization of the full economic potential of GI products. Previous Indian studies have similarly emphasized that ineffective marketing, weak institutional support, and inadequate mechanisms for equitable benefit distribution reduce the extent to which producers and artisans can capture the value generated by GI protection (Das, 2010; Vinayan, 2017).

7.3 Future Directions

Three directions follow from these findings. First, GI-promoting agencies and industry bodies could design awareness interventions that move beyond name-recognition toward explaining the quality, authenticity and origin guarantees behind the tag, using digital and social media channels to reach a broader age profile. Second, producers and cooperatives can be supported through capacity-building in marketing, branding and direct-to-consumer channels so that consumer willingness to pay a premium translates into producer income rather than being captured elsewhere in the supply chain. Third, future research could extend this consumer-perception lens to compare GI categories (agricultural, handicraft, textile), examine e-commerce and cross-border consumer behaviour toward Indian GIs, and study the interaction between AI-enabled counterfeit detection and consumer trust — all directly relevant to the conference's interest in the future trajectory of IPR within evolving innovation ecosystems.

8. Suggestions

- GI-promoting agencies and NGOs can design structured awareness and educational campaigns in urban centres such as Bengaluru, targeting the age segments that show lower current awareness.
- Digital and social media platforms should be used systematically to build both recognition and conceptual understanding of GI tags, not recognition alone.
- Producers should be supported in maintaining consistent quality standards behind the GI label to protect the trust that underpins the price premium.
- Transparent labelling and origin information should accompany GI-tagged goods to strengthen consumer confidence in authenticity claims.

- Producer groups should receive training in marketing, branding and market access so that consumer willingness to pay a premium benefits primary producers directly.
- Direct consumer–producer engagement (local markets, GI product fairs, origin tours) can be encouraged to deepen the trust and cultural connection that current data show already exists.

9. Conclusion

This study demonstrates that consumer perception is not a peripheral concern but a core determinant of whether Geographical Indications succeed as instruments within India's innovation ecosystem. Bengaluru's consumers show strong awareness, positive perception of quality and authenticity, and a meaningful willingness to pay a premium for GI-tagged goods — but conceptual understanding, age-related awareness gaps, and the disconnect between consumer willingness-to-pay and producer benefit remain unresolved challenges. Positioning GIs squarely within the innovation-ecosystem framework — rather than treating them purely as a legal registration exercise — allows policymakers, producers and industry bodies to design more effective strategies for awareness-building, quality assurance and value capture. Doing so would help realise the opportunities, address the challenges, and chart future directions for GIs as a genuine driver of innovation, rural livelihood protection and cultural preservation.

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INNOVATIONS IN INDIAN PUBLIC ADMINISTRATION

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ABSTRACT:-

This research abstract explores how blending ancient Indian Knowledge Systems (IKS) with modern management transforms Indian public administration. It investigates a shift from colonial bureaucratic models to a culturally grounded, value-driven framework focused on ethics, public welfare (*Lok Kalyan*), and sustainable governance. Innovations in public service could be a core driver for ensuring that public administration becomes competitive, efficient, cost-effective and accountable to the citizenry. This state of innovation in India is analysed through the Prime Minister's Awards for Excellence in Public Administration for the period 2005–06 to 2016–17. The analysis shows that most of the innovations are management innovations, followed by technological innovations. They indicate some degree of direction in good governance and replicability. There is also need for some scouting mechanism for public administration innovations and for providing a replicable yet flexible template to promote them across the country. The rapid changes occurring across the world due to technology and raised expectations of citizens for more efficient and higher quality of public services are creating pressures on the public administration to become competitive, efficient, cost-effective and accountable to the citizenry. Public administration has a path-dependent hierarchical institutional system. However, like any other entity, it needs to compete for resources, investments and outcome accountability. As the sphere of information and awareness keeps growing in the present web age, the increasing voices of and demands from the public create fresh service provision and delivery challenges before the public administrators and authorities. These growing challenges may be difficult to be met through the conventional one size fits all or rigid top-down approaches. There is, thus, a need and scope to employ new public management tools and decentralization.

KEY-WORDS:- Leadership, Governance, Public Administration, Modern management, Value driven framework

INTRODUCTION:

Innovation in Indian public administration increasingly blends modern technology with the **Indian Knowledge System (IKS)**. This shift moves bureaucracy away from purely colonial templates toward a values-driven, empathetic model of governance. It roots public service in timeless concepts like *Rajadharma* (the duty of rulers) and *Antyodaya* (uplift of the last person).

Core Concepts of IKS in Governance

Dharma and Duty (*Kartavya*): Framing public administration as an ethical obligation rather than a mechanical enforcement of rules.

Antyodaya: Prioritizing the welfare of the most vulnerable citizens in policy design.

Swadhyay and Viveka: Cultivating inner reflection, self-knowledge, and sharp discernment among civil servants to handle ethical dilemmas.

Modern Administrative Innovations

Capacity Building: The Capacity Building Commission integrates IKS modules into civil services training to foster culturally grounded leaders.

Frugal & Inclusive Tech: Combining ancient holistic perspectives with digital platforms (like Aadhaar and UPI frameworks) to reach remote populations efficiently.

Value-Based Audits: Emphasizing transparency, societal trust, and ecological sustainability in local governance models

The Government of India launched Mission Karmayogi on September 2nd, 2020. Also known as the National Program for Civil Services Capacity Building, it is a civil services reform initiative that aims to improve capacity building efforts across the Government. Under this, the Capacity Building Commission (CBC) will be publishing an Annual Health of Civil Services Report (AHCSR) in 2022 that will aim to take a deeper look at the health and performance of the Indian civil service.

Under its 1st edition, the report would have the outline of the structures and functions of a well-functioning and effective civil service, and measurement of the performance of various departments using this framework. It would also provide a platform to highlight innovations in public human resource management through contributions from experts and civil servants, and put forth the vision for how Mission Karmayogi will impact capacity building in the civil service.

SCOPE:- Selected innovators will have the opportunity to showcase their leadership, creativity, and initiative to enhance bureaucratic functioning and public service delivery. This will include:

- The chance to be published in the AHCSR and receive recognition from a wide audience consisting of the political executive, other policymakers, civil society organizations, researchers and academics and citizens across the country. For this, selected innovators will be provided with writing and editorial support from the CBC.
- A place on the Capacity Building Commission's list of model innovations that will be disseminated to ministries within the civil service, as well as a feature in the Commission's case-study bank for capacity building of civil servants in CTIs, ATIs and STIs.
- Support and automatic consideration to create a TEDx talk about the work undertaken..

PROBLEM IDENTIFICATION:-

Integrating the Indian Knowledge System (IKS) into modern public administration requires merging ancient frameworks like *Dharma* and *Arthashastra* with contemporary governance. Core challenges involve overcoming colonial bureaucratic mindsets, standardizing ancient practices for modern policy, and balancing rigid hierarchies with community-driven, decentralized models of public service delivery.

Epistemological and Cultural Barriers

Colonial Legacy: Entrenched reliance on top-down Western administrative models creates friction with indigenous, participatory approaches.

Validation and Standardization: A lack of objective, scientific metrics to translate qualitative traditional ethics into measurable bureaucratic key performance indicators (KPIs).

Skepticism: Institutional resistance within conventional civil service training circles toward adopting ancient or philosophical frameworks for technical governance.

Structural and Administrative Bottlenecks

Rigid Hierarchies: Traditional bureaucratic red tape blocks the fluid, mentor-led, and adaptive execution style inherent in indigenous knowledge frameworks.

Lack of Capacity: Civil servants lack formal training and conceptual clarity on applying classical statecraft or ethical models (*Niti*) to modern crises.

Siloed Implementation: Ministries operate in isolation, failing to establish cross-functional ecosystems where grassroots traditional wisdom informs policy design.

REVIEW OF LITERATURE:- Literature on innovation in Indian public administration increasingly converges with indigenous Indian Knowledge Systems (IKS). Scholars examine how ancient principles of statecraft, ethics, and decentralized governance—derived from texts like Kautilya's *Arthashastra* and the epics—can reshape modern, citizen-centric, and sustainable public service delivery.

Core Themes in Contemporary Literature

Ethical Governance (*Dharma* and *Rajdharma*): Research contrasts Western rights-based public management models with India's duty-driven administrative traditions, arguing that anchoring public service in ethical responsibility reduces corruption and builds trust.

Pragmatic Statecraft: Studies on Kautilya's *Arthashastra* re-evaluate ancient models of taxation, organizational structures (*Saptanga* theory), and administrative surveillance as early forms of systemic public policy and risk management.

Decentralization and Community Participation: Literature highlights historical precedents of local self-governance (such as village assemblies or *Sabhas*), linking them to modern Panchayati Raj innovations and grassroots democracy.

Knowledge Management and Capacity Building: Empirical findings in public sector innovation emphasize organizational learning, value-based civil service training, and integrating indigenous problem-solving frameworks into administrative culture.

RESEARCH GAP:-

Research on public administration innovation in India largely follows Western Anglo-American models like New Public Management. A major research gap exists in how indigenous Indian Knowledge Systems (IKS)—such as concepts from the *Arthashastra*, *Dharma*, and community-centric governance—can frame, evaluate, and drive modern administrative innovation and public service delivery.

Conceptual and Epistemological Gaps

Eurocentric Bias: Current governance literature relies on Western theories, ignoring native philosophical frameworks that define Indian civic behavior.

Untapped Ancient Frameworks: Little empirical work applies classical principles of statecraft, ethics (*Rajadharma*), and public welfare from traditional texts to contemporary bureaucratic reform.

Values vs. Metrics: Modern innovation prioritizes technical efficiency. Traditional models balance efficiency with collective ethical responsibility (*Lokasangraha*), a dynamic not captured in current administrative metrics.

Methodological and Contextual Gaps

Lack of Vernacular Analysis: Studies rarely examine regional, multi-lingual historical texts that detail localized, non-royal, and participatory administrative traditions.

Siloed Policy Implementation: While the Ministry of Education promotes IKS through educational frameworks, public administration training academies do not systematically measure how indigenous models improve grassroots bureaucratic innovation.

Absence of Hybrid Templates: There is a lack of tested, actionable administrative frameworks that successfully blend ancient societal wisdom with modern digital e-governance tools.

Shifts in Policy and Research

Decolonizing Public Administration: Academic discourse advocates moving away from pure Weberian or New Public Management frameworks toward hybrid models that reflect regional socio-cultural values.

Integration via Education: Institutional frameworks and policy initiatives, such as the National Education Policy, encourage interdisciplinary research connecting traditional Indic wisdom with modern administrative ethics and public governance.

OBJECTIVES AND RESEARCH METHODOLOGY:- **Indian Knowledge System (IKS)**, aims to merge modern digital and management efficiency with indigenous philosophical, ethical, and ecological frameworks. The

primary objective is to shift governance from a purely technocratic mechanism to a culturally rooted, value-driven, and sustainable system of public stewardship.

CORE OBJECTIVES:- Policy Execution: Turn political decisions and laws passed by the government into real-world programs.

Service Delivery: Provide citizens with essential public goods like water, health care, transport, and education.

Order and Justice: Keep the peace, enforce the rule of law, and protect people's rights.

Social Equity: Make sure public programs help all groups fairly, including poor and vulnerable communities.

Good Governance: Build trust through open, honest, and responsible management of public funds.

Efficiency and Economy: Use limited tax money and resources in the best way possible without wasting time or funds.

The core objective of public administration is to turn government laws and policies into practical action while serving the public interest. It aims to deliver public services efficiently, maintain social order, and promote the overall welfare and economic development of society.

Choosing a strong PhD topic in public administration requires focusing on contemporary governance gaps, digital shifts, and implementation challenges. High-impact research areas include digital transformation and e-governance, urban resilience and disaster management, local decentralization and public financial management, and bureaucratic ethics.

RESEARCH METHODOLOGY:- Research methodology for studying public administration innovation through the lens of Indian Knowledge Systems (IKS) shifts from purely technocratic Western models to culturally rooted, value-driven paradigms. It integrates *Pramāṇa* (epistemic validation), *Svadharma* (duty), and *Lokasangraha* (social welfare) to evaluate administrative creativity and citizen-centric governance.

Epistemological Foundations (The *Pramāṇa* Framework)

Pratyakṣa (Perception): Real-time field observation, administrative ethnography, and direct data collection on public service delivery at the grassroots.

Anumāna (Inference): Logical deduction and pattern recognition derived from archival governance data, such as the Prime Minister's Awards for Excellence in Public Administration.

Upamāna (Comparison): Analogical benchmarking of historical statecraft models (e.g., Kautilya's *Arthashastra*) against contemporary bureaucratic innovations.

Śabda (Testimony): Textual and policy analysis of constitutional documents, legislative debates, and authentic traditional administrative treatises.

CORE ANALYTICAL CONSTRUCTS:- Dharma-Led Governance: Assessing whether administrative innovations enhance systemic order, ethical responsibility, and equity rather than just mechanical efficiency.

Antyodaya (Inclusive Reach): Measuring policy innovation based on its terminal impact on the most marginalized citizen.

Panchakosha Model: Applying holistic development frameworks to human resource management and administrative capacity building

Methodological Design & Data Collection

Mixed-Methods Approach: Combining quantitative evaluation (using structural equation modeling on administrative performance indicators) with qualitative narrative inquiry.

Action Research & Yatra Immersions: Engaging researchers and civil servants in field immersions and community co-ownership studies to understand local realities.

Shastrartha (Reflective Dialogues): Utilizing structured, multi-stakeholder deliberations and focus groups to critique and refine administrative policies instead of standard top-down surveys

SAMPLING TECHNIQUE:- purposive(Judgemental) and stratified sampling

SAMPLE SIZE:- 120 customers in Varanasi city.

HYPOTHESIS TESTING:- Testing hypotheses in public administration innovation through the lens of Indian Knowledge Systems (IKS) involves evaluating whether integrating ancient governance principles (*Dharma*, *Arthashastra*) and indigenous practices with modern administrative frameworks improves public service delivery, sustainability, and ethical accountability.

Core Hypotheses for Testing IKS-Driven Innovatio:- **H₁ (Alternative Hypothesis):** Integrating indigenous knowledge traditions (such as decentralized resource management and ethical stewardship) into modern administrative models significantly enhances the cultural resonance and long-term sustainability of public policy outcomes.

H₀ (Null Hypothesis): The inclusion or application of Indian Knowledge Systems principles in public administration yields no statistically significant difference in efficiency, transparency, or citizen satisfaction compared to purely western-derived bureaucratic models.

Key Variables and Parameter:- **Independent Variables:** Adoption of traditional governance frameworks (e.g., Kautilya's statecraft principles, participatory local bodies, *Panchakosha* holistic welfare approaches), dialogic policy formulation (*Samvada*).

Dependent Variables: Citizen trust index, administrative turnaround time, project durability, ecological sustainability of infrastructure, and ethical compliance/reduction of systemic friction.

DATA COLLECTION:- Data collection in Indian public administration has shifted from manual paper registers to real-time digital frameworks, artificial intelligence, and unified data platforms. Key systems like the National Data Analytics Platform (NDAP) and e-Sankhyiki streamline cross-sectoral analytics, while unique tools drive grassroots policy data collection.

Core Methods of Data Collection:- **Digital Portals and Dashboards:** Centralized databases capture live metrics on welfare delivery, grievance redressal, and financial disbursement.

Biometric and Aadhaar Integration: The Unique Identification Authority of India (UIDAI) uses real-time biometric and document authentication to verify identity data.

AI and Semantic Search: Modern platforms utilize artificial intelligence tools for automated coding, semantic search of official datasets, and processing legacy records.

Mobile and Field Apps: Frontline workers use geo-tagged mobile applications to collect localized health, agricultural, and sanitation data directly from villages.

DATA ANALYSIS AND DISCUSSION:- Data analysis drives major changes in Indian public administration. It shifts government work from slow paper tasks to fast digital services. Big data tools help leaders plan welfare programs, track spending in real time, and check if aid reaches the right people.

Core Data Tools and System:- **Darpan Dashboard:** Tracks projects across states without needing complex computer code.

Prayas Platform: Shows progress maps for key national plans on one screen.

API Setu: Connects different government computer systems so they can share information smoothly.

National Data Analytics Platform (NDAP): Cleans and shares public sector facts for better study and research.

Main Benefits in Governance:- Cuts down waste in food, fuel, and money handouts.

Fast Choices: Uses AI and live data to predict weather, crop needs, and health trends.

Open Work: Lets citizens and officials see project updates instantly.

Less Fraud: Stops fake claims using smart ID checks.

Big Challenge : Unequal Access: Small towns lack fast internet and strong computer setups.

Data Safety: Risk of leaks or hacks of private citizen records.

Old Habits: Some workers resist new digital methods and prefer paper files.

Innovations in Indian public administration focus on shifting from rigid bureaucracy to agile, citizen-centric governance. Driven by digital tools, structural shifts, and management reforms, these changes aim to improve public service delivery, cut down delays, and increase transparency across local and national levels. Innovations in public service could be a core driver for ensuring that public administration becomes competitive, efficient, cost-effective and accountable to the citizenry. This state of innovation in India is analysed through the Prime Minister's Awards for Excellence in Public Administration for the period 2005–06 to 2016–17. The analysis shows that most of the innovations are management innovations, followed by technological innovations. They indicate some degree of direction in good governance and replicability. There is also need for some scouting mechanism for public administration innovations and for providing a replicable yet flexible template to promote them across the country.

The Government of India launched Mission Karmayogi on September 2nd, 2020. Also known as the National Program for Civil Services Capacity Building, it is a civil services reform initiative that aims to improve capacity building efforts across the Government. Under this, the Capacity Building Commission (CBC) will be publishing an Annual Health of Civil Services Report (AHCSR) in 2022 that will aim to take a deeper look at the health and performance of the Indian civil service.

Under its 1st edition, the report would have the outline of the structures and functions of a well-functioning and effective civil service, and measurement of the performance of various departments using this framework. It would also provide a platform to highlight innovations in public human resource management through contributions from experts and civil servants, and put forth the vision for how Mission Karmayogi will impact capacity building in the civil service. Selected innovators will have the opportunity to showcase their leadership, creativity, and initiative to enhance bureaucratic functioning and public service delivery. This will include:

The chance to be published in the AHCSR and receive recognition from a wide audience consisting of the political executive, other policymakers, civil society organizations, researchers and academics and citizens across the country. For this, selected innovators will be provided with writing and editorial support from the CBC.

A place on the Capacity Building Commission's list of model innovations that will be disseminated to ministries within the civil service, as well as a feature in the Commission's case-study bank for capacity building of civil servants in CTIs, ATIs and STIs.

Support and automatic consideration to create a TEDx talk about the work undertaken. Public sector Innovations have been extensively analysed in the EU, the US and other countries. This article uses insights from the global innovation literature, and the database of the Indian Prime Minister's Awards for Excellence in Public Administration (PMA), to fill critical knowledge gaps and help develop templates for successful replication across organizations and administrative jurisdictions in India and other developing countries

There is a discernible trend in the history of public administration in India over the recent years towards making governance more effective and responsive to the demands of 21st-century democracy. Through a combination of technological innovation, policy reforms, and institutional restructuring, India has embarked on an agenda to make its administration more efficient, transparent, and citizen-responsive. Government schemes such as Digital India and Direct Benefit Transfers demonstrate the government's potential to deploy technology at unprecedented levels to enhance service delivery and minimize leakages. Reforms in the training of the civil service (Mission Karmayogi) and in lateral recruitment are a sign of openness to introspection and change within the bureaucracy, seeking to overcome the inertia of the past.

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ROLE OF INDIAN KNOWLEDGE SYSTEMS IN WOMEN'S EMPOWERMENT THROUGH SHGS: EVIDENCE FROM KALABURAGI AND BIDAR, KARNATAKA

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Abstract:

Indian Knowledge Systems (IKS) represent a rich body of knowledge, values and practices that can offer meaningful perspectives for contemporary management, entrepreneurship, innovation and leadership. Principles such as ethical conduct, collective responsibility, cooperation, service, self-discipline and social welfare are particularly relevant to community-based organizations such as Women's Self-Help Groups (SHGs). This study examines the socio-economic empowerment of women through SHGs in Kalaburagi and Bidar districts of Karnataka and connects their collective management practices with the broader relevance of Indian Knowledge Systems in contemporary management. The study adopts a descriptive and analytical research design using primary data collected from 300 women SHG members through a structured questionnaire, supported by secondary sources. The research examines income generation, savings, financial inclusion, livelihood activities, entrepreneurship, decision-making, social participation and leadership. The study interprets these dimensions in relation to collective management, ethical responsibility, sustainable livelihoods and community-oriented development. The findings indicate that SHG participation has contributed to improved savings, access to formal credit, income-generating opportunities, financial awareness, confidence, household decision-making and social participation. The study also highlights the potential of combining Indian values and community knowledge with modern digital finance, technology, entrepreneurship and market-oriented innovation. Challenges including limited market access, inadequate digital and financial literacy, insufficient entrepreneurial training and restricted institutional support continue to affect the sustainability and growth of SHG enterprises. The paper argues that an IKS-informed management perspective can complement contemporary business practices by promoting responsible leadership, inclusive entrepreneurship, innovation and sustainable development.

Keywords: Indian Knowledge Systems, Women Empowerment, Self-Help Groups, Indian Management, Entrepreneurship, Innovation, Leadership, Sustainable Development, Financial Inclusion, Rural Entrepreneurship

Definitions:

Women empowerment refers to the process of enhancing women's economic independence, decision-making ability, social participation, leadership, and access to education, employment, and financial resources.

A Self-Help Group is a voluntary association of 10–20 individuals, primarily women, who collectively save money, access credit, undertake income-generating activities, and promote mutual support for improving their socio-economic conditions.

Socio-economic empowerment refers to improvements in income, savings, employment opportunities, ownership of assets, education, health, social status, confidence, and participation in household and community decision-making.

Sustainable development refers to development that improves the quality of life and economic opportunities of the present generation while ensuring long-term social, economic, and environmental well-being for future generations.

Financial inclusion means ensuring access to affordable financial services such as savings accounts, credit, insurance, pensions, and digital banking for all individuals, particularly rural women.

Objectives of the Study

1. To examine the socio-economic empowerment of women through Self-Help Groups from the perspective of Indian Knowledge Systems and management values

2. To identify the challenges and opportunities for integrating traditional knowledge, modern innovation and digital management practices in women-led SHG enterprises.
3. To evaluate the role of collective decision-making, ethical responsibility and participative leadership in enhancing women's empowerment.
4. To analyze the impact of SHGs on income generation, savings, entrepreneurship and financial inclusion.
5. To assess the contribution of SHGs towards sustainable rural livelihoods and community-oriented development.

Scope of the Study

- The study is confined to Kalaburagi and Bidar districts of Karnataka.
- It focuses exclusively on women who are active members of Self-Help Groups.
- The research examines economic, financial, and social dimensions of empowerment.
- The study provides recommendations for policymakers, NGOs, and financial institutions to strengthen SHGs.
- The findings may help improve programs aimed at sustainable rural development.

Limitations of the Study

- The study is limited to Kalaburagi and Bidar districts; therefore, findings may not be generalizable to other regions.
- The research relies mainly on responses provided by SHG members.
- Time and financial constraints may limit the sample size.
- Secondary data availability on district-specific SHG performance may be limited.
- Changes in government policies during the study period may influence the findings.

Research Gap

Recent studies have established that Self-Help Groups significantly improve women's financial inclusion, livelihoods, entrepreneurship, and social participation. However, most studies focus on national or state-level outcomes, while limited empirical research examines the combined dimensions of socio-economic empowerment and sustainable development at the district level in **Kalaburagi and Bidar**. Existing literature also pays relatively less attention to the interaction between financial inclusion, livelihood sustainability, household decision-making, and long-term economic resilience among rural women. Furthermore, there is insufficient evidence comparing SHG outcomes across the Kalyana Karnataka region. This study seeks to address these gaps by providing district-specific empirical evidence and offering policy recommendations for strengthening women's socio-economic empowerment through SHGs.

The conceptual relationship proposed in this study is: Indian Knowledge Systems and values → collective responsibility, ethical conduct, cooperation and self-discipline → SHG management practices → entrepreneurship, innovation, financial inclusion and participative leadership → sustainable livelihoods, women's empowerment and community development. This framework connects the grassroots experience of SHGs with the conference theme of driving business, innovation and leadership in the 21st century.

Conceptual Link between IKS and SHG Management

The relevance of IKS to contemporary management lies in combining traditional values and local knowledge with modern technology and innovation. SHG members can use locally available knowledge and skills as the basis for products and services while adopting digital payments, online marketing, e-commerce, improved packaging and modern financial management. Similarly, SHG leadership can be strengthened through participative, ethical and service-oriented approaches. This integration can help transform community knowledge into sustainable business opportunities without losing the social values that support collective action.

IKS, Innovation and Leadership in the 21st Century

Women's SHGs operate through regular savings, collective decision-making, mutual support, resource mobilization and income-generating activities. These practices can be connected with an IKS-oriented management perspective because they combine economic objectives with social relationships and community welfare. The original study already identifies financial inclusion, entrepreneurship, social participation and sustainable livelihoods as important dimensions of SHG development. An IKS perspective extends this discussion by examining how collective and responsible management practices can support women's leadership and enterprise development.

Relevance of IKS to Women's Self-Help Groups

Indian Knowledge Systems provide a broader perspective for understanding management by connecting economic activity with ethics, social responsibility, collective welfare and long-term sustainability. For the present study, IKS is used as a conceptual lens rather than as a replacement for modern management. The collective functioning of SHGs provides a relevant grassroots setting in which values such as cooperation, mutual responsibility, self-discipline, service and community welfare can be examined alongside contemporary entrepreneurship and management practices.

Literature Review

1. Mahato, Jha, Nayak and Kaushal (2022) conducted a bibliometric and systematic review of research on women's Self-Help Groups (SHGs) and empowerment. Their study revealed that SHGs have become an effective mechanism for improving women's economic independence, financial inclusion, entrepreneurship, and social participation. The authors observed that research on SHGs has expanded considerably over the last decade, reflecting their increasing importance in sustainable development and inclusive growth. However, they emphasized the need for more region-specific empirical studies to understand the diverse impact of SHGs across different socio-economic contexts.

2. Malhotra and Baag (2022) examined the sustainability of Self-Help Groups through a systematic review of existing literature. The study identified financial management, leadership, member participation, institutional support, and capacity building as the major determinants of sustainable SHG performance. The authors concluded that SHGs can contribute significantly to long-term socio-economic development only when they receive continuous training, financial support, and effective governance. They also highlighted the lack of empirical studies measuring the sustainability of SHGs at the district level.

3. Studies on financial inclusion and women's empowerment (2023) reported that participation in SHGs improves women's access to formal banking services, savings, microcredit, and digital financial services. Increased financial literacy and credit accessibility enabled women to establish micro-enterprises and improve household income. The studies concluded that financial inclusion enhances women's confidence and decision-making ability; however, the long-term relationship between financial inclusion and sustainable livelihoods requires further investigation.

4. Rural livelihood studies (2023) found that SHGs play a significant role in promoting livelihood diversification through agriculture, dairy farming, handicrafts, food processing, and small-scale enterprises. The studies observed improvements in employment opportunities, household income, and living standards among SHG members. Nevertheless, inadequate market access, limited entrepreneurial skills, and insufficient institutional support continue to restrict sustainable livelihood development in many rural areas.

5. Women's entrepreneurship research (2024) emphasized that entrepreneurial training, skill development, and access to finance through SHGs enhance women's business performance and income-generating capacity. The findings suggested that women who receive entrepreneurship training are more likely to establish sustainable enterprises and improve their household economic conditions. However, the studies recommended stronger digital literacy, business mentoring, and market linkage programs to improve enterprise sustainability.

6. Sustainable rural development studies (2024) highlighted the contribution of SHGs to inclusive rural development through income generation, social participation, community leadership, and collective decision-making. The studies concluded that SHGs strengthen social capital and improve women's participation in local

governance, thereby contributing to sustainable community development. However, evidence from backward and economically disadvantaged regions remains limited.

7. Justin, Cherian and Mathew (2025) conducted a comprehensive bibliometric analysis of 387 research publications on women's SHGs published between 1994 and 2024. Their findings indicated that SHGs contribute significantly to economic empowerment, social cohesion, health, leadership, financial inclusion, and sustainable development. The study also observed a growing association between SHGs and global sustainable development research. The authors recommended more district-level empirical studies and stronger theoretical frameworks to evaluate the long-term sustainability of SHGs.

8. Studies on sustainable development in India (2025) emphasized that economic inclusion, women's participation in productive activities, financial literacy, and livelihood opportunities are essential for balanced regional development. The studies suggested that strengthening community institutions such as SHGs can improve household well-being and promote inclusive economic growth. However, more localized evidence is required to assess the effectiveness of these initiatives across different regions.

9. Sasikumar and Nair (2026) reviewed recent research on women and sustainable development in India and found a growing emphasis on women's empowerment, financial inclusion, entrepreneurship, and sustainable livelihoods. The review concluded that although research has expanded significantly, empirical studies integrating socio-economic empowerment with sustainable development outcomes remain limited. The authors recommended more field-based research focusing on rural women and community-based institutions such as SHGs.

10. Sarfaraz (2026) conducted a systematic review of government-supported SHG programs in India, including initiatives under DAY-NRLM. The study found that SHGs have improved income generation, leadership, financial inclusion, household decision-making, and social participation among rural women. Despite these achievements, the review identified regional disparities, implementation challenges, and the lack of long-term impact assessment as major concerns. The author recommended longitudinal and district-level studies to generate stronger evidence for policy formulation and inclusive rural development.

Sources of Data

The present study is based on both **primary** and **secondary** sources of data.

Primary Data

Primary data were collected directly from **300 women members of Self-Help Groups (SHGs)** in Kalaburagi and Bidar districts of Karnataka using a structured questionnaire. The questionnaire was designed to gather information on respondents' socio-economic characteristics, income, savings, access to credit, financial inclusion, livelihood activities, decision-making power, social participation, and the contribution of SHGs to sustainable development. Personal interviews were conducted to ensure the accuracy and completeness of the responses.

Secondary Data

Secondary data were collected from various published and unpublished sources to support the study. These include: Books and book chapters related to SHGs and women's empowerment, Government reports, Reports of the Ministry of Rural Development, Government of India, National Rural Livelihoods Mission (NRLM) reports, National Bank for Agriculture and Rural Development (NABARD) reports, Karnataka State Rural Livelihood Promotion Society (KSRLPS) reports, Official websites of government departments and development agencies.

Government Initiatives in Karnataka

1. Sanjeevini – Karnataka State Rural Livelihood Promotion Society (KSRLPS)

Sanjeevini (KSRLPS) is Karnataka's implementation of the Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY-NRLM). It mobilizes rural women into Self-Help Groups (SHGs), promotes financial inclusion, supports livelihood enhancement, and facilitates entrepreneurship through Revolving Funds (RF), Community Investment Funds (CIF), bank credit linkage, skill development, and market access. The programme also strengthens SHG federations at village, gram panchayat, and taluk levels to improve women's socio-economic empowerment and sustainable livelihoods.

2. Stree Shakti Programme

The **Stree Shakti Programme**, launched by the Government of Karnataka, aims to empower rural women through SHGs based on thrift, savings, and credit. The programme promotes regular savings, access to bank loans, income-generating activities, leadership development, and collective decision-making. It has played a significant role in improving financial independence and strengthening women's participation in local economic activities.

3. Karnataka State Women's Development Corporation (KSWDC)

The **Karnataka State Women's Development Corporation (KSWDC)** provides entrepreneurship development, marketing assistance, interest-free microcredit to eligible **Stree Shakti SHGs**, skill development, counselling, and training programmes. These initiatives help women establish micro-enterprises, improve income generation, and achieve economic self-reliance.

4. Stree Samarthy Yojana

The **Stree Samarthy Yojana**, implemented through KSRLPS in collaboration with development partners, focuses on improving the livelihood opportunities of women artisans. It provides entrepreneurship training, product development, digital skills, branding, and market linkage support to help women SHG members expand sustainable enterprises.

5. Community Investment Fund (CIF)

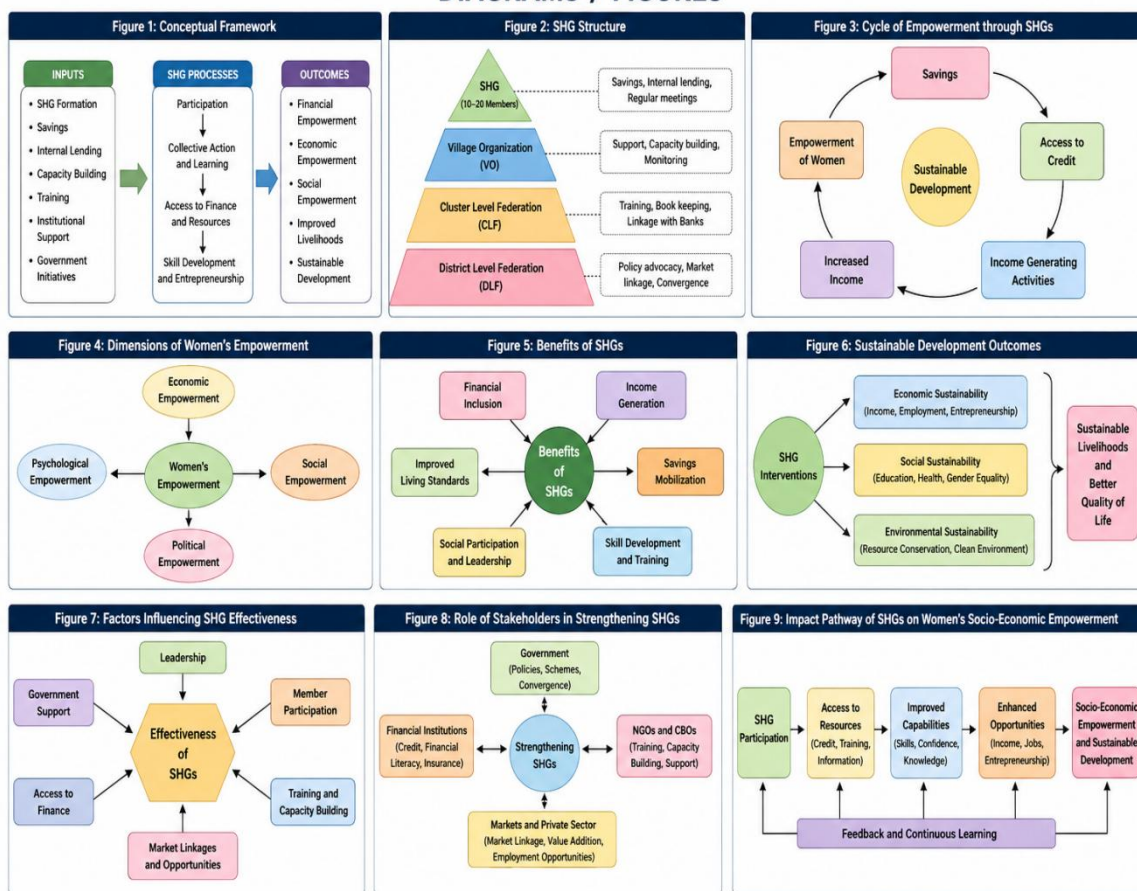
Under **Sanjeevini-KSRLPS**, Community Investment Funds (CIF) are provided to SHG federations to strengthen community institutions, expand livelihood activities, improve financial management, and enhance women's entrepreneurship. The programme supports women-led economic activities and rural development across Karnataka.

Problem Statement:

Women's Self-Help Groups (SHGs) play a significant role in improving financial inclusion, income generation, and socio-economic empowerment. Despite various government initiatives, many women SHG members continue to face challenges such as limited livelihood opportunities, inadequate financial literacy, poor market access, and restricted decision-making power. These issues affect the long-term sustainability of their economic and social development.

Although several studies have examined the impact of SHGs, limited research has focused on the combined relationship between socio-economic empowerment and sustainable development among women SHG members in Kalaburagi and Bidar districts of Karnataka. Therefore, this study aims to examine the contribution of SHGs to women's socio-economic empowerment from a sustainable development perspective and provide recommendations for strengthening SHG programmes in the study area.

DIAGRAMS / FIGURES



the above diagrams illustrate the conceptual framework, key dimensions, organizational structure, influencing factors, and pathways through which Self-Help Groups contribute to the socio-economic empowerment of women and sustainable development. They provide a comprehensive overview of the interrelationships among financial inclusion, livelihood enhancement, decision-making, entrepreneurship, and community development.

Discussion:

The findings indicate that SHG participation positively influences the socio-economic empowerment of women in Kalaburagi and Bidar districts. SHGs improve savings habits, access to formal credit, income-generating opportunities, financial awareness, confidence, and household decision-making. The study also highlights the role of Indian Knowledge Systems (IKS) in promoting collective responsibility, cooperation, ethical leadership, and community welfare. However, challenges such as limited market access, inadequate digital literacy, insufficient training, and low awareness of government schemes remain. Integrating traditional knowledge with digital technology, entrepreneurship training, e-commerce, branding, and stronger institutional support can enhance women-led enterprises and contribute to sustainable development.

Conclusion:

The study concludes that Women's Self-Help Groups (SHGs) play an important role in promoting socio-economic empowerment through income generation, savings, financial inclusion, entrepreneurship, and participation in household and community decision-making. The findings from Kalaburagi and Bidar highlight that SHGs also strengthen women's confidence, leadership, and sustainable livelihoods.

Indian Knowledge Systems (IKS) provide relevant values such as collective responsibility, cooperation, ethical conduct, self-discipline, service, and community welfare, which can complement modern management practices.

Integrating traditional knowledge with digital technology, entrepreneurship, professional management, branding, digital marketing, and market innovation can further strengthen women-led SHG enterprises.

However, challenges related to market access, digital literacy, training, and institutional support need to be addressed. Strengthening SHGs through IKS-informed leadership, entrepreneurship development, digital capability, and better market linkages can promote inclusive and sustainable development and demonstrate the practical relevance of IKS in contemporary management.

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A RAJARSHI LEADERSHIP FRAMEWORK FROM THE LEGACY OF CHHATRAPATI SHIVAJI MAHARAJ : AN INDIAN KNOWLEDGE SYSTEMS (IKS) PERSPECTIVE

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Abstract

Leadership research in management has largely grown out of Western industrial and organizational settings. Because of this, India's own historical experience of statecraft is less often discussed as a source of leadership ideas (Avancha, 2024; Pandit, 2025). This study looks at the rule of Chhatrapati Shivaji Maharaj (1630–1680), founder of the Maratha Swarajya, as an example of early modern South Asian statecraft. It uses the Indian Knowledge Systems (IKS) perspective, where ideas such as dharma and Rajdharma can be studied as part of the intellectual framework of leadership rather than being treated only as cultural concepts (Pandit, 2025). The study draws on biographical and administrative works (Takakhav, 1921; Keluskar & Takakhav, 1921; Rana, 2005; Sorokhaibam, 2013), recent studies on water management at forts (More, 2025; Patil, 2025), work on the social composition of Maratha administration (O'Hanlon, 2010), and historiographical studies of how Shivaji's image has been used and reinterpreted over time (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003). From these sources, the paper develops a nine-pillar Rajarshi Leadership Framework covering vision, merit-based administration, pluralism, welfare, decentralization, resource planning, strategic adaptability, and accountability. The framework is then compared with selected Indic leadership ideas and Western leadership theories. The aim is to identify similarities without ignoring the historical and intellectual setting in which the Rajarshi idea developed. The study also takes into account the fact that Shivaji's legacy has been interpreted differently in colonial, nationalist, and caste-political writings (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003). For this reason, the framework is presented as an interpretation of a contested historical record, not as a final or unquestionable account of his leadership. The paper ends by discussing possible relevance for governance, organizational leadership, and IKS-based management education.

Keywords: *Chhatrapati Shivaji Maharaj, Rajarshi leadership, Rajdharma, Indian Knowledge Systems, Maratha statecraft, historiography, fort water management, indigenous leadership models.*

1. Introduction

Leadership studies became a formal field mainly through twentieth-century Western industrial and military settings. This led to influential approaches such as trait theory, transformational leadership, and servant leadership. These approaches are still useful, but they come from particular cultural and historical settings and may not fully explain leadership traditions that developed elsewhere. India has a long history of political thought, from the Arthashastra to the Dharmashastra tradition, in which political authority and moral responsibility are closely connected. Recent studies have started to bring these ideas into discussions of management and leadership education (Kumari et al., n.d.; Nachimuthu, 2006; Avancha, 2024). The Indian Knowledge Systems (IKS) initiative has also provided wider academic space for this kind of work (Pandit, 2025).

Chhatrapati Shivaji Maharaj is widely discussed as an important example of indigenous statecraft (Rana, 2005; Chirania, 2022; Bhaskar & Roy, 2022). The early works of Takakhav (1921) and Keluskar and Takakhav (1921) give detailed accounts of his campaigns, court, and administration. Sorokhaibam (2013) provides a more focused study of his campaigns, while Bhosle (2017) and Laṭṭhe (1924) help place his rule within the wider Maratha political tradition in Thanjavur and Kolhapur. Even with this body of work, there is relatively little research that brings these materials together as a structured leadership framework and then discusses that framework alongside present-day leadership theories. There is also an important historiographical question: Shivaji's image has been constructed and reconstructed in different ways over time (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003). The present study tries to address both parts of this gap.

2. Objectives of the Study

- To study Shivaji Maharaj's leadership through the Indian Knowledge Systems (IKS) approach, with Rajdharma and Swarajya as the main concepts.
- To bring together biographical, administrative, and campaign histories (Takakhav, 1921; Keluskar & Takakhav, 1921; Sorokhaibam, 2013; Rana, 2005) and use them to build a structured understanding of his statecraft.
- To include evidence that is often missed in general leadership discussions, especially studies of water management at forts (More, 2025; Patil, 2025) and the social background of administrative service groups (O'Hanlon, 2010).
- To examine the historiographical debate about how Shivaji's memory has been constructed and contested (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003), rather than presenting his legacy as completely settled.
- To compare the proposed Rajarshi Leadership Framework with Western leadership theories and with existing work on Indic leadership (Kumari et al., n.d.; Nachimuthu, 2006; Avancha, 2024; Prashant, 2022).
- To consider where the framework may be useful in present-day governance, organizational leadership, and IKS-based management education.

3. Literature Review

3.1 Biographical and Administrative Histories

The early biographical accounts by Takakhav (1921) and Keluskar and Takakhav (1921) remain important for studying Shivaji Maharaj's military campaigns, court, and administrative institutions. Their work also provides a base for later studies such as Rana (2005). Sorokhaibam (2013) focuses more closely on the campaigns and is useful for understanding the strategic and military side of Shivaji's leadership. The later history of Maratha statecraft is also visible in Laththe's (1924) memoir of Shahu Chhatrapati of Kolhapur and Bhosle's (2017) study of the Thanjavur Maratha rulers. Read together, these works suggest that Shivaji's approach to administration can be understood as part of a longer Maratha political tradition, not simply as an isolated episode.

3.2 Indigenous Leadership and Management Scholarship

There is also a growing body of writing on Indian ideas of leadership and management. Kumari, Saxena, and Chand (n.d.) discuss leadership and management principles found in ancient Indian texts. Nachimuthu (2006) looks at mentorship ideas in Indian mythology, while Avancha (2024) takes a broader cultural and historical view of leadership traits in Indian history. Prashant (2022) presents Indic leadership ideas in a more practical form for contemporary readers. This reflects the increasing interest in such frameworks outside strictly historical studies as well. Nagbhidkar and Khubalkar (n.d.) take the discussion into economics and examine the influence of Indian philosophy on present-day economic models. This is useful for the present study because it suggests that Indic ideas may have relevance not only to values and ethics but also to questions of how institutions are organized.

4. Research Methodology

The study uses a qualitative, interpretive research design and follows the broad approach of Indian Knowledge Systems (IKS). It is based on secondary and archival-derived material. The sources include early biographies (Takakhav, 1921; Keluskar & Takakhav, 1921; Rana, 2005), campaign and dynastic histories (Sorokhaibam, 2013; Laththe, 1924; Bhosle, 2017), specialized administrative studies (More, 2025; Patil, 2025; O'Hanlon, 2010), and scholarship on Indic leadership (Kumari et al., n.d.; Nachimuthu, 2006; Avancha, 2024; Prashant, 2022; Nagbhidkar & Khubalkar, n.d.). It also uses historiographical studies (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003) and IKS policy literature (Pandit, 2025). Popular works such as Chirania (2022) and Bhaskar and Roy (2022) are used only for understanding cultural reception and are not treated as the main historical evidence.

The analysis starts with the indigenous categories used in the study rather than applying a Western leadership model first. Rajdharma and the Rajarshi idea provide the initial lens. The historical material is then examined thematically to identify recurring leadership practices. Only after this stage are the resulting pillars compared with

Western leadership theories. The sources are also used for different purposes. Peer-reviewed, archival, and biographical works provide the main evidence. Historiographical studies help question how that evidence has been interpreted and how Shivaji's memory was shaped politically. Popular works are limited to discussion of contemporary cultural reception. Since this is a qualitative and interpretive study, the framework should be seen as a conceptual model and not as a statistically tested leadership measure.

5. Historical Context: Shivaji Maharaj and the Idea of Swarajya

Shivaji Maharaj was born in 1630 in a Deccan political setting influenced by the Adilshahi, Nizamshahi, and Mughal powers (Takakhav, 1921; Keluskar & Takakhav, 1921). From an early stage, he worked toward Swarajya, or self-rule, for the Maratha people and built both administrative and military institutions around that goal. Over about three decades, he established a kingdom with a large fort network, an organized administrative council, and a disciplined army. Recent studies also point to planned efforts to secure water supplies at important forts (More, 2025; Patil, 2025). His coronation as Chhatrapati in 1674 was an important assertion of sovereign authority at a time when many regional rulers were operating within larger imperial systems (Rana, 2005). The administrative and political tradition connected with his rule continued after his death, including in Kolhapur under Shahu Chhatrapati and in the Thanjavur Maratha kingdom (Laththe, 1924; Bhosle, 2017).

6. The Concept of Rajarshi: Sage and Sovereign

The word Rajarshi describes a ruler who combines the authority of a king (raja) with the discipline and self-control associated with a sage (rishi). It is different from a view of statecraft in which success is judged mainly by the ability to hold on to political power. In the Rajarshi idea, power has to be used in a morally responsible way and should be connected with the welfare of the people. This concern with ethical rule and public welfare can also be found in Indic leadership literature (Kumari et al., n.d.; Nachimuthu, 2006).

When this idea is applied to the historical record of Shivaji Maharaj, two sides of his leadership become visible. One is his strategic and military decisiveness (Sorokhaibam, 2013). The other is the emphasis placed on personal restraint, welfare, and, in recent studies, planning for resources and infrastructure (More, 2025; Patil, 2025). The argument here is that the Rajarshi interpretation becomes stronger when these qualities are considered together. At the same time, historians have shown that different periods have given different importance to parts of Shivaji's legacy, especially questions related to religion and gender (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003).

7. The Rajarshi Leadership Framework: Nine Pillars

A thematic reading of the literature points to nine recurring leadership pillars. These are discussed alongside related ideas in contemporary leadership theory. The purpose is not to suggest that a seventeenth-century political system was the same as a modern organization. Rather, the comparison helps identify a few useful similarities and differences.

Pillar	Historical Practice under Shivaji Maharaj	Modern Leadership Parallel
Swarajya-driven Vision	A clear aim of self-rule that brought different groups together around a common purpose (Takakhav, 1921; Rana, 2005)	Vision-driven / Transformational leadership
Competency-based Administrative Council (Ashta Pradhan)	An eight-member council dealing with major administrative functions and drawing officials from Brahmin, Kayastha, and other service groups (O'Hanlon, 2010)	Competency-based delegation and cabinet governance
Religious & Social Pluralism	Appointments across communities and protection of places of worship, although these practices were later interpreted in different ways (Burman, 2001)	Inclusive and diversity-driven leadership

Raiyat-Kalyan (Welfare of Subjects)	Land-revenue measures and protection of farmers' crops during military campaigns (Takakhav, 1921; Keluskar & Takakhav, 1921)	Stakeholder-centric / servant leadership
Decentralized Fort Administration	A network of forts with separate administrative, military, and revenue responsibilities (Sorokhaibam, 2013)	Decentralized organizational structures
Water Resource Engineering & Foresight	Planned groundwater and reservoir management at forts such as Sindhudurg to maintain water security during sieges (More, 2025; Patil, 2025)	Infrastructure foresight and resource-resilience planning
Strategic Innovation (Ganimi Kava)	Warfare adapted to terrain and changing circumstances instead of relying only on conventional formations (Sorokhaibam, 2013)	Adaptive and contingency-based strategy
Justice and Accountability	Rules of conduct for soldiers and officials, along with attention to succession and administrative continuity	Ethical governance and accountability systems
Respect for Women / Contested Gender Legacy	Orders concerning the dignity of women, while later nationalist retellings placed selective emphasis on this aspect of his legacy (Banerjee, 2003)	Gender-sensitive leadership, read critically

7.1 Discussion of Selected Pillars

Competency-based Administrative Council (Ashta Pradhan). The Ashta Pradhan was an eight-member council dealing with major areas such as finance, foreign affairs, and justice. O'Hanlon's (2010) discussion of scribes, Brahmins, and Kayasthas in early modern India helps place the council within the social and administrative setting of its time. It can therefore be discussed as an example of delegation based on administrative competence without removing it from the historical context in which it operated.

Water Resource Engineering & Foresight. More (2025) examines groundwater management, while Patil (2025) studies water-management arrangements at Sindhudurg Fort. Both works point to planned attention to water security as part of fort administration. In this paper, that practice is treated as a separate leadership capability because it shows advance planning for difficult conditions, especially during sieges. The closest modern comparison is with resource planning and business-continuity thinking.

Religious and Social Pluralism. Historical accounts mention appointments across communities and the protection of places of worship belonging to different faiths. Burman (2001), however, shows that this part of Shivaji's legacy was later interpreted and used in different political and cultural ways in Maharashtra. The framework therefore presents pluralism as an administrative pattern described in the sources, while also recognizing that its later public memory has not remained neutral or unchanged.

Respect for Women / Contested Gender Legacy. Some accounts describe orders meant to protect the dignity of women, including women associated with defeated groups. Banerjee (2003) points to the broader tendency of nationalist writing to masculinize Hindu historical narratives. For that reason, this part of the framework needs to be treated carefully and with attention to the sources. It is included, but not presented as a simple or unquestioned fact about Shivaji's legacy.

8. Comparative Analysis with Established Leadership Theories

The Rajarshi framework is developed first using the IKS approach and is compared with Western leadership theories only afterward. This order is important because it allows the historical material and the indigenous categories to shape the framework before modern theories are brought in for comparison. Transformational leadership gives importance to vision and motivation, servant leadership focuses on the growth and well-being of followers, and ethical leadership emphasizes the leader's moral conduct. The following table compares the Rajarshi framework with selected elements of transformational and servant leadership.

Dimension	Rajarshi Framework	Transformational Leadership	Servant Leadership
Core driver	Dharma combined with sovereignty (Kumari et al.; Nachimuthu, 2006)	Inspirational vision and change	Service to followers' growth
Locus of authority	Sage-king: ethical legitimacy together with political power	Charismatic individual	Leader as steward, not ruler
Orientation	State-building, welfare, and self-rule	Organizational transformation	Follower well-being
Cultural grounding	Indic civilizational values (Avancha, 2024; Pandit, 2025)	Western management theory	Western management theory

There is clear overlap between the Rajarshi model and transformational and servant leadership, especially in the areas of vision, welfare, and ethical conduct. Still, the Rajarshi framework gives particular importance to two features. The first is the joining of political authority with the self-discipline expected of a sage (Nachimuthu, 2006). The second is the treatment of resource planning and engineering as practical evidence of leadership rather than only as a general strategic principle (More, 2025; Patil, 2025). Prashant (2022) and Avancha (2024) also place Indic leadership ideas within a wider field of developing scholarship instead of treating them as relevant only to Shivaji Maharaj.

9. Contemporary Applications

Public administration and governance: Merit-based appointments, an understanding of the social background of administrative service groups (O'Hanlon, 2010), decentralized delegation, accountability, and concern for welfare together provide a historical reference point for thinking about public institutions.

Infrastructure and resource-resilience planning: The water-management arrangements discussed in studies of Maratha forts (More, 2025; Patil, 2025) provide an example of planning for resource needs before a crisis occurs. They can therefore be discussed in relation to public infrastructure and disaster-resilience planning today.

Organizational leadership: Swarajya gave Shivaji's rule a clear strategic purpose. Combining such a purpose with disciplined and ethical action offers one way to think about the balance between ambitious goals and the trust of stakeholders.

Crisis and adaptive strategy: Shivaji's use of tactics suited to particular terrain and circumstances (Sorokhaibam, 2013) can be compared with the modern idea of contingency-based strategy, especially where resources are limited and conditions can change quickly.

IKS-informed management pedagogy: Pandit (2025) emphasizes the need to connect tradition and modernity under NEP 2020. In that context, the framework could be used in business and public-policy classes as a source-based example of leadership from an Indian perspective. It can be taught alongside other Indic leadership material (Kumari et al., n.d.; Nachimuthu, 2006; Prashant, 2022). Ji (2024) also reflects the growing academic and conference interest in this area.

Contemporary comparator: The Raiyat-Kalyan idea, with its emphasis on welfare and access, has a present-day comparison in the work of Indian education reformers such as Madhav Chavan (Mukerji, 2017). This does not

make the two settings identical, but it shows that welfare-oriented leadership can also be discussed in the context of modern institution-building.

10. Limitations of the Study

A major limitation of the study is its dependence on secondary and archival-derived sources rather than direct work with primary-language archival material in Modi script, Persian, or Marathi. The study does use foundational biographies that themselves drew on such material (Takakhav, 1921; Keluskar & Takakhav, 1921). Another limitation is that the proposed framework has not been tested through validated leadership surveys or other empirical instruments. Its comparison with Western leadership theory therefore remains conceptual rather than statistical.

Another important limitation comes from the way Shivaji Maharaj's memory has been constructed over time. The historiographical literature shows that his image was interpreted and reinterpreted for different political and social purposes, particularly during the nineteenth and twentieth centuries (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003). Because of this, pillars such as religious pluralism and the treatment of women are better understood as documented administrative patterns that were later filtered through changing historical memories. The popular fictional works by Chirania (2022) and Bhaskar and Roy (2022) are used only for cultural context, not as historical proof. Even with these safeguards, there is still a risk of presentism, since modern management terms are being used to discuss a seventeenth-century political setting. That problem cannot be removed completely and remains part of the study's limitation.

11. Conclusion

This study develops a Rajarshi Leadership Framework from the recorded statecraft associated with Chhatrapati Shivaji Maharaj and examines it through an Indian Knowledge Systems approach, with Rajdharma and Swarajya as the main analytical categories (Pandit, 2025). The discussion draws on early biographies (Takakhav, 1921; Keluskar & Takakhav, 1921; Rana, 2005), campaign and dynastic histories (Sorokhaibam, 2013; Laththe, 1924; Bhosle, 2017), and studies of water management and administrative social structure (More, 2025; Patil, 2025; O'Hanlon, 2010). From this material, nine leadership pillars are identified, including vision, meritocracy, pluralism, welfare, decentralization, resource foresight, strategic adaptability, and accountability. Comparison with transformational and servant leadership, as well as with emerging Indic leadership scholarship (Kumari et al., n.d.; Nachimuthu, 2006; Avancha, 2024; Prashant, 2022), shows several areas of similarity. At the same time, the framework places particular emphasis on the combination of political authority, ethical restraint, and attention to infrastructure and resources.

The historiographical issue is equally important. The paper does not treat debates about Shivaji's memory as something separate from the leadership discussion. Instead, those debates are part of the analysis itself (O'Hanlon, 1983; Burman, 2001; Banerjee, 2003). A framework based on a historical figure of such importance needs to acknowledge that the figure has been interpreted, reshaped, and sometimes simplified over time. Future research could strengthen the study through direct checking of primary sources and through empirical work that tests the proposed leadership pillars in present-day institutions and organizations.

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DHARMA-DRIVEN ESG: INTEGRATING INDIAN KNOWLEDGE SYSTEMS INTO CORPORATE ENVIRONMENTAL, SOCIAL, AND GOVERNANCE FRAMEWORKS

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Abstract

The environmental, social, and governance (ESG) frameworks are now the dominant global language of corporate sustainability, yet their intellectual foundations remain largely Western — built around shareholder primacy and regulatory compliance. This paper argues that Indian Knowledge Systems (IKS), and Dharma (duty rightly performed) in particular, offer something more than a cultural gloss on that model. Alongside allied concepts — Ahimsa (non-violence), Karma Yoga (selfless action), and Gandhian Trusteeship — Dharma constitutes an indigenous ethical system that in several respects anticipated, and can still sharpen, current ESG thinking. Drawing together literature on Dharma-based governance, Vedantic business ethics, and Gandhian trusteeship, the paper builds a 'Dharma-Driven ESG' framework mapping these Indian ethical categories onto the three ESG pillars. Examples from the Tata Group, Infosys, TCS, and Patanjali suggest that Dharma-rooted principles were already operating inside Indian corporate practice well before formal compliance requirements such as Section 135 of the Companies Act, 2013 existed. In line with the conference's theme of pairing traditional wisdom with contemporary managerial thought, the paper closes with implications for management education, policy design, and the broader project of establishing IKS as a legitimate, non-Western foundation for corporate sustainability frameworks.

Keywords

Dharma; Environmental, Social and Governance (ESG); Indian Knowledge Systems (IKS); Gandhian Trusteeship; Vedantic Ethics; Corporate Governance; Sustainable Business+

1. Introduction

1.1 Background and Context

Over the past two decades, Environmental, Social, and Governance (ESG) criteria have moved from the margins of investor due diligence to the centre of corporate strategy, regulatory reporting, and management education. Frameworks such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the UN Principles for Responsible Investment (UN PRI), and — in India's case — the Securities and Exchange Board of India's Business Responsibility and Sustainability Reporting (BRSR) framework have converted sustainability into measurable, disclosable indicators.

Yet the intellectual and ethical foundations of these frameworks are almost entirely Western in origin — rooted in debates over shareholder primacy, stakeholder theory, and the regulatory reflexes that followed a long history of corporate harm in industrialised economies. That raises a genuine question for a country like India, which has its own longstanding traditions around duty, non-harm, and the stewardship of wealth: are these traditions simply a cultural overlay on an imported model, or do they constitute an independent — and in places older — ethical system for sustainable business?

1.2 The problem being stated

Much of the existing scholarship on IKS and business ethics treats concepts like Dharma, Ahimsa, Karma Yoga, and Gandhian Trusteeship as cultural colour layered onto ESG practice after the fact, rather than as a structured ethical system capable of generating its own governance framework. IKS concepts are rarely mapped systematically onto the three ESG pillars, and where they appear in accounts of Indian corporate practice, it is usually anecdotal rather than conceptual. This paper tries to close that gap, asking how far the core IKS concepts can be organised into a coherent framework that maps onto — and strengthens — the Environmental, Social, and Governance dimensions of current ESG practice.

1.3 Research Objectives

- Examine how the core IKS concepts — Dharma, Ahimsa, Karma Yoga, and Gandhian Trusteeship — align with the three pillars (Environmental, Social, Governance) of current ESG frameworks.
- Synthesise the existing literature on Dharma-based and Vedantic ethical principles as applied to Indian corporate governance and CSR practice.
- Examine how Indian companies, such as the Tata Group and Infosys, have put these traditional principles into practice within their current ESG reporting and strategy.
- Propose a conceptual 'Dharma-Driven ESG' framework that treats IKS not as a cultural supplement but as a foundational ethical structure for sustainable business.
- Draw out implications for how Dharma-based ESG thinking might inform Indian management education, policy, and practice.

1.4 The Importance and Reason for the Study

The study matters for three reasons. First, it speaks directly to the conference's theme by positioning Indian Knowledge Systems as globally relevant to management thinking rather than confining them to cultural studies. Second, it gives Indian companies, regulators, and business schools a working vocabulary — Dharma for governance, Ahimsa for environmental restraint, Karma Yoga and Trusteeship for social responsibility — that can sit alongside and potentially strengthen existing ESG disclosure systems such as BRSR. Third, at a time when global ESG discourse is criticised for reducing sustainability to a compliance checklist, a duty-based, non-possessive ethic offers a substantive rather than a merely procedural reason for why these obligations exist in the first place.

1.5 Scope and Limitations

This is a conceptual, literature-based study. It draws on secondary scholarly sources on Dharma, Vedantic ethics, and Gandhian trusteeship, and illustrates the resulting framework using the publicly available practices of a handful of Indian companies — chiefly the Tata Group, Infosys, TCS, and Patanjali. No new primary data is collected, no statistical analysis is performed, and no claim is made to a representative sample of Indian firms; the corporate examples are chosen because they are prominent in the existing literature and useful for showing that the framework is conceptually plausible, not for establishing generalisable causal claims. Empirical validation of the framework is left as a direction for future research.

2. Review of Literature

2.1 Dharma and Corporate Governance

Several scholars treat Dharma — variously translated as righteous duty, cosmic order, or contextual moral law — as a normative basis for corporate governance that predates, and compares favourably with, contemporary approaches. One study of Asian markets argued for applying the Dharma set out in the ancient Indian Shastras to improve corporate governance, noting that progressive Indian firms already draw voluntarily on Shashtra-derived ethical values (Dharma, Corporate Governance and Transparency: An Overview of the Asian Markets, ResearchGate, 2010). Another, grounded in the Bhagavad Gita, argued that the text's treatment of Dharma parallels current governance and CSR practice in treating ethical conduct as the foundation of sustainable leadership (A Study of Management Concepts from Ancient Indian Scriptures, bpasjournals.com). A third traced ancient Indian business culture back to Kautilya's Arthashastra, where dharma, ahimsa, and satyam described the ethical conduct expected of rulers and administrators — concepts the authors link to today's governance 'pillars' of shareholders, board, management, and employees (Corporate Governance: An Ancient Indian Business Culture, ResearchGate, 2018).

A 2026 policy paper extends Dharma-based thinking into public governance, proposing a 'Dharmic Governance' model built on citizen-centrality, selfless service (Seva Bhav), and collective welfare (Yogakshema), and connecting it explicitly to India's Mission Karmayogi and National Education Policy (Dharmic Governance, cbc.gov.in, 2026).

Mapping Dharma and IKS onto ESG specifically One legal research article — closest in spirit to this paper's title — compares the shareholder-first Western model of ESG compliance with an Indian approach in which companies increasingly treat ethics as inherent to governance rather than a compliance matter. It cites the Tata Group (with its Dharma and Satya principles and sustainable mining practices) and Infosys (with its carbon-neutrality target and GRI-aligned reporting) as current examples, and links Section 135 of the Companies Act 2013 — which mandates CSR spending — to the Dharma principle of duty-based responsibility (Harmonising Ethics and Governance: Can Ancient Teachings Shape Modern Corporate Responsibility?, CRIL–NLIU, 2025).

A study in a finance journal goes further, explicitly linking the IKS concepts of Dharma, Karma Yoga, Artha, and Sattva to corporate strategy, and showing how TCS and Infosys reflect these values implicitly in governance and stakeholder relations, while Patanjali builds them explicitly into its Ayurveda-based branding. It concludes that IKS principles function as genuine strategic foundations for ethical decision-making, ESG performance, and cultural authenticity, rather than as abstract philosophical ideals (Indian Knowledge System as the Soul of Sustainable Corporate Strategy, allfinancejournal.com).

A sector-specific study applies values drawn from the Arthashastra and the Mahabharata to financial decision-making in Indian oil companies, arguing that these traditions align with current governance, risk-management, and sustainability practice (Tradition Meets Modernity: Indian Knowledge Systems in Oil Companies' Financial Decision-Making, *American Journal of Economics and Business Management*, 2024).

2.3 Gandhian trusteeship as a proto-ESG model

Trusteeship — Gandhi's view that those who hold wealth should see themselves as trustees of society's resources rather than as owners — appears repeatedly in the literature as a precursor to today's CSR and ESG thinking. One Springer study examined trusteeship against India's statutory CSR framework (the Companies Act 2013) across eight comparative dimensions and concluded that CSR in India would benefit from returning to a trusteeship model (Mohapatra, Corporate Social Responsibility in India: Rethinking Gandhi's Doctrine of Trusteeship in the Twenty-First Century, *Asian Journal of Business Ethics*, 2021). Another comparative article set Gandhian trusteeship against Western stakeholder and stewardship theories, arguing it is more comprehensive because it operates simultaneously at the institutional, organisational, and individual levels — again using the Tata Group as its illustrative case (Gandhian Trusteeship as a CSR Framework: A Comparison with Stakeholder and Stewardship Theories, *ResearchGate*).

Other studies caution against collapsing trusteeship and CSR into the same idea; one argues that trusteeship's origins lie in religious and moral principle rather than market economics, even where the two arrive at similar outcomes (Gandhian Trusteeship & CSR: Interrogating the Relationship, *ResearchGate*, 2018). A paper in *JETIR* argues that trusteeship goes 'beyond CSR' precisely because it is grounded in nonviolence and economic equality (An Idea Beyond CSR: Trusteeship Theory of Mahatma Gandhi, *JETIR*, 2021). A chapter in a Springer volume grounds trusteeship in Aparigraha (non-possession), Ahimsa (non-violence), and Swaraj (self-restraint), applying it to the 'commoning' of ecological resources (Iyengar & Bhatt, *Trusteeship: Gandhian Approach to Reconceptualize Social Responsibility and Sustainability*, Springer, 2023). Another derives a Sarvodaya (welfare-of-all) framework from trusteeship for self-reliant, locally rooted economies (Gandhi's Principles and Corporate Responsibilities, *ResearchGate*). One practitioner-oriented piece goes further still, arguing that trusteeship anticipated the UN SDGs and ESG standards by decades, well before their formalisation in 2015–2016 (The Trusteeship Model: A Way Forward to Sustainability, *Global Gandhi*).

2.4 Vedantic Ethics and Business

Balakrishnan Muniapan's body of work applies Vedantic philosophy directly to business ethics. One paper frames 'Vedantic virtues' as a leadership model tied to the UN's Principles of Responsible Management Education (PRME) (Muniapan et al., *Expanding Vedantic Virtues into Business Ethics: A Leadership Perspective*, 2016). A second, published in *Procedia/ScienceDirect*, introduces Chatur Dharma — the idea that business must operate in harmony across four levels: the universal/natural, the human, the societal, and the individual — and argues that Vedic literature grounds CSR in introspection and inner purification (Thoughts on Business Ethics and Corporate Social Responsibility from Vedic Literature, *ScienceDirect*, 2014). S. K. Chakraborty's book-length study works through Vedantic ethical principles in managerial and corporate contexts, using the 1991 Tata leadership crisis and the 1991–92 Indian securities scam as case studies (Chakraborty, *Ethics in Management: Vedantic Perspectives*).

More recent work applies these ideas directly to CSR practice. A 2025 study argues that culturally grounded Vedantic values improve both community relations and employee satisfaction, narrowing the gap between regulatory compliance and genuine ethical practice (Revisiting Corporate Social Responsibility in India: Implementing Vedantic Foundation for Sustainable Business Practices, MET Management Review, 2025). Another recent article draws on earlier work by Das (2011), Sharma (2007), Reddy (2015), and Gupta (2012) to argue for the relevance of Vedic principles to ethical, productive modern management (The Relevance of Vedic Principles in Modern Management, theacademic.in, 2025).

2.5 IKS, employee well-being, and organisational culture

Alongside the governance-focused literature, a 2024 qualitative study finds that Yoga, Ayurveda, and Vedantic self-regulation underpin a 'Dharma-driven leadership' style associated with ethical, compassionate, and sustainable governance (Indian Knowledge System in Corporate Wellness: Aligning Profitability with Employee Well-Being, ShodhKosh Journal, 2024). This strand of the literature reinforces the Social pillar of the proposed framework by tying an organisation's internal culture to the same Dharmic vocabulary used for its external governance and environmental commitments.

2.6 Empirical IKS–CSR Study

A 2025 study surveying 120 employees across FMCG and IT firms in Rajasthan takes a Vedantic hermeneutic approach — drawing on svadharma, karma, and the pancha rina (fivefold debts) — to argue that CSR should begin at Individual Social Responsibility (ISR) before extending to Global Social Responsibility (GSR), treating both as the fundamental dharma of corporate leaders (The Role of Indian Knowledge System in Shaping Corporate Social Responsibility in India, ResearchGate, 2025). It is one of the few studies reviewed here that moves beyond conceptual discussion to incorporate primary data, and it is used later in this paper to support the case for empirically testing the Dharma-Driven ESG framework.

2.7 Synthesis of the findings and identification of the research gap

Read together, the literature points to three conclusions. First, Dharma-based and Vedantic ethical ideas have long been, and remain, part of Indian scholarly thinking about management. Second, Gandhian Trusteeship is consistently treated as a proto-ESG or proto-CSR model, particularly for the Governance and Social dimensions. Third, explicit mapping exercises that connect these ethical concepts to the individual Environmental, Social, and Governance categories — rather than to CSR or governance in general — are relatively rare, and where they exist, they usually address one or two constructs at a time (Dharma for governance, say, or Karma Yoga for social conduct) rather than an integrated three-pillar account. It is this gap that the framework developed here is intended to address.

3. Theoretical and Conceptual Framework

3.1 The reason for having an integrated framework

Building on the literature reviewed above, this paper proposes that four related IKS constructs — Dharma, Ahimsa, Karma Yoga, and Gandhian Trusteeship — can be organised into a single 'Dharma-Driven ESG' framework. Dharma serves as the overarching ethical umbrella, while the remaining three constructs each map most naturally, though not exclusively, onto one of the three ESG pillars.

3.2 Mapping the IKS constructs to the ESG pillars

On governance (Dharma and Satya): read as situationally appropriate moral duty and as truthfulness respectively, these two principles ground the duties of governance — board accountability, disclosure, fiduciary conduct — in something other than agency theory or regulatory compliance alone. On the environment (Ahimsa): non-violence extended to all life and to nature grounds environmental restraint as a moral obligation that precedes, and exceeds, any regulatory emissions or waste limit — treating environmental performance as a duty rather than a risk to be managed. On social issues (Karma Yoga and Trusteeship): Karma Yoga's emphasis on action performed as duty rather than for reward, combined with the Gandhian view of wealth-holders as trustees of society's resources, together ground socially oriented conduct toward stakeholders — employee welfare, community investment, and the equitable distribution of value.

3.3 The Dharma-Driven ESG Model (Summary Table)

Table 1 summarises this proposed mapping, alongside the corporate example most often associated with each construct in the literature reviewed.

Table 1. The ESG Framework Based on the Dharma

ESG Pillar	Core IKS Construct(s)	Conceptual Contribution	Illustrative Corporate Reference
Governance	Dharma; Satya	Duty-based rationale for accountability, transparency, and fiduciary conduct beyond compliance	Tata Group (Dharma and Satya as stated governing principles)
Environmental	Ahimsa	Non-violence toward nature as an ethical (not only regulatory) basis for environmental restraint	Tata Group (sustainable mining practice)
Social	Karma Yoga; Trusteeship	Selfless action and wealth-as-trust as the ethical basis for stakeholder welfare and community investment	Infosys; Tata Group (CSR and trusteeship legacy)
Cross-pillar / Strategic	Artha, within Dharma	Legitimate pursuit of profit ('Artha') bounded by Dharma, offering a values-based strategy rationale	TCS; Patanjali (Ayurveda-based, explicit IKS branding)

4. Research Methodology

4.1 Research Design

This is a qualitative, conceptual paper built on a systematic narrative review. Its aim is theory-building — developing the Dharma-Driven ESG framework — rather than hypothesis testing, so the design is interpretive and synthetic rather than experimental or statistical.

4.2 Sampling Method and Choosing Sources

Sources were purposively selected rather than drawn from a probability sample, consistent with standard practice in conceptual and interpretive management research. Three criteria governed selection: (i) direct engagement with Dharma, Vedantic ethics, or Gandhian Trusteeship; (ii) an explicit or implicit link to corporate governance, CSR, or ESG; and (iii) publication in a peer-reviewed journal, indexed conference proceedings, or a credible institutional or policy outlet between 2010 and 2026. Twenty-one sources met these criteria and were retained for thematic synthesis (see the reference list for details).

4.3 Data Collection Tools

Secondary sources were retrieved from academic databases and search platforms including Google Scholar, ResearchGate, and ScienceDirect, along with subject-specific outlets such as JETIR, Springer, and MET Management Review. No primary data — surveys, interviews, or observations — were collected for this paper; the single empirical study identified in the literature (Section 2.6) is treated as a secondary source used to support the discussion rather than as original data for this study.

4.4 Data Analysis Technique

Sources were thematically synthesised by assigning each to the relevant IKS construct — Dharma, Ahimsa, Karma Yoga, Trusteeship, Satya, Artha — and to the ESG or CSR dimension it most closely addressed. Recurring themes were then grouped into the six thematic clusters presented in the literature review (Sections 2.1–2.6), and this thematic map was used to build the three-pillar conceptual framework set out in Section 3.

4.5 Ethical Considerations

As a conceptual, literature-based study, this paper involves no human subjects and required no institutional ethics approval. Even so, care was taken to interpret scriptural and philosophical concepts — Dharma, Ahimsa, Karma Yoga — consistently with how they appear in the secondary literature, to avoid selective or decontextualised readings, and to credit the original authors for the arguments reviewed.

5. Findings

5.1 The Thematic Distribution of the Literature Reviewed

The thematic analysis shows Gandhian Trusteeship as the most thoroughly theorised construct in relation to CSR/ESG, cited directly in six of the twenty-one sources, followed by Vedantic ethics generally (five sources) and Dharma-specific governance (four sources). Only a small number of sources — chiefly CRIL–NLIU (2025) and the *allfinancejournal.com* piece — explicitly connect IKS constructs to the formal Environmental, Social, Governance terminology used in this paper, which confirms the research gap identified in Section 2.7.

5.2 Applied Corporate Illustrations

Four companies recur as examples of Dharma-oriented practice in the literature reviewed, each illustrating a different degree of explicitness. The Tata Group appears most often, given its stated commitment to Dharma and Satya and its sustainable mining practices, which the literature treats as evidence of an implicit link between traditional ethics and its governance and environmental conduct. Infosys is cited for its carbon-neutrality target and GRI-aligned reporting, and is presented as ESG performance that is procedurally Western but philosophically continuous with duty grounded in Dharma. TCS is described as reflecting IKS values implicitly through its governance and stakeholder relations, without explicit religious or philosophical branding. Patanjali offers the clearest case of explicit IKS integration, having built its entire brand identity around Ayurveda and treated IKS as central to marketing and product strategy rather than governance philosophy alone.

That the pattern runs from fully implicit (TCS, Infosys) to explicitly branded (Patanjali), with Tata somewhere in between — Dharma stated but not fully operationalised — is itself informative. It suggests Dharma-driven ESG is not, at this stage, a single established model in India but a spectrum of adoption that the framework proposed in Section 3 can classify and compare.

6. Discussion

6.1 Interpreting the findings in the light of the existing literature

The plausibility of this adoption spectrum supports the paper's central claim: that IKS constructs need not be treated as a cultural add-on to Western ESG disclosure but can function as an independent generative framework from which governance, environmental, and social obligations arise. Earlier work (Sections 2.2–2.3) tends to make this case construct by construct — Dharma for governance, Trusteeship for CSR — whereas the Dharma-Driven ESG framework proposed here treats these constructs as complementary parts of a single ethical system, each addressing a different ESG pillar.

6.2 Responding to the research questions

Against the study's stated aims: Table 1 addresses Objective 1 by mapping constructs to pillars; Section 2's literature review addresses Objective 2; the corporate examples in Section 5.2 address Objective 3; and the framework as a whole, rather than any single observation, addresses Objective 4. The implications discussed below and the recommendations in Section 9 respond to Objective 5.

6.3 The Compliance-versus-Duty Tension

A recurring theme in the literature (e.g. CRIL–NLIU, 2025) is the contrast between a shareholder-first, compliance-based Western view of ESG and an Indian approach grounded in duty, where ethical conduct is treated as inherent to a company's identity rather than imposed from outside. The CSR spending requirement under Section 135 of the Companies Act, 2013 illustrates this well: the literature treats it as the legal expression of a duty (Dharma) that many Indian companies had already recognised informally, rather than as the origin of that duty. This matters because it reframes regulatory ESG compliance in India as the formal recognition of a pre-existing ethical expectation rather than an imported obligation — with implications for how compliance is taught and understood inside Indian companies.

6.4 Patterns that are unexpected or noteworthy

Two of the trends found in the literature deserve special mention. Firstly, the amount of work focusing on Trusteeship is much greater than that which is based on the Ahimsa principle in the context of the environment; sustainability research that treats Ahimsa specifically as an environmental-ethics concept (rather than merely as a general principle of non-violence) is relatively underdeveloped, which means that the environmental aspect of the proposed framework is currently built on weaker conceptual grounds than the Governance and Social aspects. Secondly, the only empirical study in the corpus (Section 2.6) looks at the link between IKS and CSR via the attitudes of individual employees (ISR/GSR) rather than by using firm-level ESG indicators, showing that so far empirical research has confirmed the framework's underlying ethical rationale at the individual level but has not yet tested it at the organisational or firm level — exactly the gap that the recommendations in this paper (Section 9) are intended to fill.

7. A summary of the differences between Western ESG and Dharma-driven ESG

This summary presents a direct comparison between the traditional Western ESG paradigm and the Dharma-Driven ESG framework outlined in this paper. The aim of this comparison is not to treat the two as mutually exclusive alternatives, but rather to make clear the different ethical foundations that each approach brings to achieving essentially the same sustainability results.

Table 2. Summary of Differences Between Western ESG and Dharma-Driven ESG

Dimension	Western ESG Paradigm	Dharma-Driven ESG Paradigm
Origin of obligation	External regulation, investor pressure, and disclosure standards (GRI, SASB, UN PRI)	Internal ethical duty (Dharma) treated as inherent to the firm's identity
Underlying motivation	Risk management, reputational protection, and shareholder value protection	Righteous conduct and selfless action (Karma Yoga) performed as duty rather than for reward
Environmental rationale	Emission targets, regulatory compliance, and quantified climate risk	Non-violence toward nature (Ahimsa) as an intrinsic moral obligation, independent of regulation
Social rationale	Stakeholder theory; CSR as a strategic or reputational instrument	Trusteeship — wealth-holders as custodians of societal resources, not owners
Governance rationale	Agency theory; board accountability driven by fiduciary and legal duty to shareholders	Dharma and Satya (truthfulness) as the ethical basis of accountability, prior to legal codification
Relationship to profit (Artha)	Profit maximisation as the primary objective, constrained by regulation	Profit (Artha) is legitimate but must remain bounded within Dharma

Dimension	Western ESG Paradigm	Dharma-Driven ESG Paradigm
Compliance orientation	Primarily procedural — compliance is the objective	Primarily substantive — compliance is a formalisation of a pre-existing duty (e.g., Companies Act Section 135)
Point of formal codification	20th–21st century regulatory and investor frameworks	Ancient (Vedic, Arthashastra, Bhagavad Gita) with 20th-century Gandhian reformulation (Trusteeship)

As Table 2 shows, the two paradigms often converge on similar outcomes — carbon reduction, community investment, transparent governance — while diverging sharply on why those outcomes are owed. That distinction is the paper's central argument: Dharma-Driven ESG is not Western ESG repackaged in Indian vocabulary but an independently derived ethical architecture that happens to produce compatible obligations.

8. Conclusion

The article has claimed that the key concepts of the Indian Knowledge System—Dharma, Ahimsa, Karma Yoga, and Gandhian Trusteeship—can be arranged into a coherent 'Dharma-Driven ESG' framework which corresponds to and offers an independent ethical basis for the Governance, Environmental, and Social aspects of current ESG practice. By carrying out a thematic analysis of twenty-one academic sources and four examples of Indian companies, the article has demonstrated that various parts of this framework are already present in Indian corporate practice, although the extent to which they appear differs and the degree of explicitness varies. The main contribution of the article is conceptual in that, instead of viewing the IKS as a cultural addition to an imported ESG terminology, it regards Dharma and the other related concepts as forming their own fundamental ethical structure, one that is able to produce governance, environmental, and social responsibilities without relying on Western regulatory standards.

The main limitations of the study arise since it is based on a conceptual and literature-dependent approach: the framework has not been tested empirically using firm-level ESG performance data, the corporate examples were chosen because they are prominent in the existing literature rather than being selected by systematic sampling, and any interpretation of the scriptural and philosophical ideas inevitably requires some degree of synthesis which experts in Indian philosophy might wish to examine and improve upon. Future research should therefore aim at carrying out empirical verification—for instance, by correlating BRSR or other ESG disclosure scores with a specially constructed 'Dharma-Driven ESG' index—as well as conduct comparative cross-cultural studies to see whether similar duty-based ethical systems exist in other non-Western management traditions.

9. Recommendations

* In the field of management education, business schools should integrate modules on Dharma-based and Vedantic ethics into their ESG and corporate governance courses, not treat them as optional cultural material but rather present them as an alternative theoretical basis together with stakeholder and agency theory.

* In the area of policy and regulation, bodies such as SEBI could consider whether the BRSR and the associated disclosure requirements can be made to include a supplementary form of narrative disclosure based on Dharma-driven ESG principles, so that companies are able to explain the ethical reasons for their ESG performance rather than merely presenting metrics.

* Regarding corporate strategy, companies that at present exhibit Dharma-oriented behaviour may find it advantageous to make the reason for this approach explicit in their governance codes and in their sustainability reports, thus enhancing the internal cultural consistency between their stated values and the performance they disclose.

* For future research, priority should be assigned to creating a measurable Dharma-Driven ESG index and then testing it empirically against firm-level ESG scores, extending the organisation-level empirical study referred to in Section 2.6 from the individual level to the organisational level.

* Conceptual development: Since there is relatively little literature that links Ahimsa specifically to environmental ethics (as opposed to general non-violence), further development of the Environmental aspect of the framework suggested in this paper should be carried out in the future.

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11. Appendices

Not applicable to this conceptual paper. Supplementary material, such as a detailed source-coding table, could be added by the author if the conference template requires it.

ANCIENT WISDOM, MODERN WORKFORCE: INTEGRATING PURUSHARTHA, GURU-SHISHYA PARAMPARA, AND YOGIC PRACTICES INTO MILLENNIAL–GEN Z ORGANIZATIONAL CULTURE

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Abstract

The contemporary workplace is undergoing a generational transition as Millennials and Generation Z increasingly co-exist within the same organizational structures, each carrying distinct expectations around purpose, autonomy, mentorship, and well-being. While Western human resource theories describe this shift through cohort and lifecycle models, they offer limited guidance on how organizations can respond in a values-based, sustainable manner. This paper argues that Indian Knowledge Systems (IKS) — specifically the doctrine of Purushartha (the four aims of human life: Dharma, Artha, Kama, and Moksha), the Guru-Shishya Parampara (mentor-disciple tradition), and yogic practices rooted in mindfulness and self-regulation — offer a coherent indigenous framework for both diagnosing generational divergence and designing culturally grounded interventions in Human Resource Management, Employee Well-being, Organizational Culture, Emotional Intelligence, and Learning and Development. Using a qualitative, conceptual research design grounded in comparative literature analysis, this paper proposes that Millennials' workplace orientation reflects a stronger emphasis on Artha (security and achievement), while Gen Z increasingly foregrounds Dharma (purpose) and Kama/Moksha (fulfilment and autonomy). Drawing on this diagnostic lens, the paper develops a practical IKS-based intervention model — mentorship-driven onboarding (Guru-Shishya), structured mindfulness practice (Yoga), and purpose-anchored recognition systems (Nishkama Karma / Seva) — as pathways to improved Gen Z engagement and retention. The paper contributes to the discourse on Human Capital, Well-being, and Workplace Transformation by demonstrating that Indian philosophical traditions are not merely complementary to modern HR theory but can function as an integrating principle beneath it.

Keywords: *Purushartha, Guru-Shishya Parampara, Yoga and Mindfulness, Millennials, Generation Z, Organizational Culture.*

1. Introduction

Organizations today operate across an unprecedented generational spread, with Millennials (born approximately 1981–1996) and Generation Z (born approximately 1997–2012) forming an increasingly large share of the active workforce. These two cohorts, while often grouped together as "young employees," hold markedly different assumptions about career progression, workplace communication, feedback, and the meaning of work itself (Twenge, 2017; Deloitte Global, 2023). Millennials entered the workforce during a period of economic uncertainty that shaped a strong orientation toward stability, career advancement, and skill accumulation. Generation Z, by contrast, has entered a labour market already saturated with digital connectivity, mental-health awareness, and social-purpose discourse, producing a workforce cohort that prioritizes psychological safety, flexibility, and alignment between personal values and organizational purpose (Francis & Hoefel, 2018).

Mainstream human resource literature explains this divergence largely through Western cohort and generational-values frameworks, which describe the differences but offer comparatively thin guidance on how organizations should respond in a manner that is both sustainable and culturally authentic — particularly within the Indian organizational context. Indian Knowledge Systems (IKS) provide an alternative and complementary lens. The Purushartha framework, articulated across Indian philosophical texts, describes four legitimate aims of human life — Dharma (duty/purpose), Artha (material security), Kama (fulfilment/desire), and Moksha (liberation/self-actualization) — that can be read as a values taxonomy against which generational orientations can be meaningfully compared. Complementing this, the Guru-Shishya Parampara offers a relational model of learning and mentorship built on trust and gradual mastery, while yogic practice, particularly mindfulness (Dhyana) and ethical self-discipline (Yama-Niyama), offers a well-established indigenous method for emotional regulation and well-being that maps directly onto contemporary corporate wellness and Emotional Intelligence agendas.

This paper positions IKS not as a decorative cultural reference appended to Western HR theory, but as the primary diagnostic and design framework: Purushartha explains why the generational values gap exists, while Guru-Shishya Parampara and yogic practice supply concrete, implementable interventions for organizational culture, learning and development, and employee well-being.

The relevance of this inquiry extends beyond academic interest. Indian organizations today are navigating a workforce composition where, for the first time, three generations — late-career Baby Boomers, mid-career Millennials, and early-career Generation Z — operate under the same policies, the same appraisal systems, and often the same managers. HR frameworks built primarily around a single generational profile risk alienating whichever cohort is least represented in the assumptions baked into policy design. This paper's focus on the Millennial–Gen Z interface reflects the fact that this is currently the fastest-widening generational seam in Indian organizations, and the one most likely to determine near-term retention outcomes as Gen Z's share of the workforce continues to grow through the remainder of this decade.

Accordingly, the paper is structured as follows: Section 2 outlines the research objectives; Section 3 sets out the research questions; Section 4 reviews literature across generational-workplace studies and the relevant IKS concepts; Section 5 proposes an integrated framework along with a comparative table; Section 6 discusses its practical implications; Section 7 presents findings organized by theme; Section 8 details the research methodology; Section 9 addresses ethical considerations and limitations; and Section 10 concludes with directions for future research.

2. Research Objectives

- To examine the differences in workplace values and expectations between Millennial and Generation Z employees through the lens of the Purushartha framework.
- To explore how the Guru-Shishya Parampara can be adapted as a mentorship-based model for Learning and Development suited to Generation Z employees.
- To assess the relevance of yogic and mindfulness-based practices in addressing workplace well-being and emotional intelligence needs across generational cohorts.
- To propose an IKS-informed framework for organizational culture transformation that improves Generation Z engagement and retention.

3. Research Questions

- RQ1: How do the workplace value orientations of Millennials and Generation Z differ when analysed through the Purushartha framework?
- RQ2: In what ways can the Guru-Shishya Parampara be operationalized within modern Learning and Development practices to improve Generation Z engagement?
- RQ3: How can yogic and mindfulness-based interventions be structured within organizational well-being programmes to address generational differences in emotional resilience?
- RQ4: What organizational culture changes, informed by IKS principles, are most likely to improve Generation Z retention?

4. Literature Review

4.1 Generational Differences in the Workplace

Generational cohort theory suggests that shared formative experiences during early adulthood shape enduring workplace values (Twenge, 2017). Millennials, shaped by economic recession and the early digital transition, have been widely documented as valuing career progression, recognition, and work-life balance (Deloitte Global, 2023). Generation Z, having entered adulthood amid heightened awareness of mental health, climate concerns, and social equity, demonstrates a stronger preference for purpose-driven work, transparent leadership, and flexible, autonomy-respecting work arrangements (Francis & Hoefel, 2018). Existing literature, however, largely frames these differences descriptively rather than offering an integrated values framework capable of guiding organizational response.

In the Indian context specifically, this generational transition is compounded by rapid economic and technological change occurring within a single career span. Employees who entered the workforce in the early 2010s did so under

substantially different digital, economic, and social conditions than those entering in the mid-2020s, compressing generational change into a shorter timeframe than in many Western labour markets. This compression makes an indigenous, India-relevant explanatory framework — rather than a borrowed Western cohort model — particularly valuable for HR practitioners operating in this environment.

4.2 Purushartha as a Values Framework

The Purushartha doctrine — Dharma, Artha, Kama, and Moksha — represents a classical Indian articulation of the legitimate aims of human life, traditionally understood as complementary rather than competing pursuits (Rastogi & Pati, 2015). Applied to workplace behaviour, Artha corresponds to the pursuit of financial security and career stability; Kama to the pursuit of engagement, creativity, and personal fulfilment; Dharma to a sense of duty, ethical alignment, and purpose; and Moksha to autonomy and self-actualization. Read this way, Millennials' documented emphasis on stability and advancement aligns closely with Artha, whereas Generation Z's documented emphasis on purpose, flexibility, and self-expression aligns more closely with Dharma and Kama/Moksha.

4.3 Guru-Shishya Parampara and Modern Mentorship

The Guru-Shishya Parampara describes a relational, trust-based model of knowledge transfer in which the mentor (Guru) provides sustained, individualized guidance to the learner (Shishya), in contrast to transactional or purely content-based instruction (Bhide, Wilson, Kakkar, & Misra, 2014). Contemporary organizational research on Generation Z consistently reports a stated preference for coaching-style feedback, frequent check-ins, and relationship-based mentorship over hierarchical, one-way training delivery (Deloitte Global, 2023) — a preference that closely mirrors the structure of the Guru-Shishya relationship, suggesting its applicability to modern Learning and Development design.

4.4 Yoga, Mindfulness, and Emotional Regulation

Yogic practice, encompassing ethical self-discipline (Yama-Niyama) and meditative concentration (Dhyana), has long been associated with stress reduction and emotional stability (Rastogi, Pati, & Kumar, 2015). The Bhagavad Gita's concept of Sthitaprajna — the person of steady wisdom, undisturbed by external fluctuation — offers a philosophical basis for Emotional Intelligence (Goleman, 1998) that predates and parallels contemporary EI theory. Given the well-documented rise in burnout and anxiety among younger employees (Ferreira, da Costa Ferreira, Cooper, & Oliveira, 2019), structured mindfulness practice grounded in yogic tradition — rather than superficial "wellness perk" initiatives — is increasingly relevant to organizational well-being strategy.

4.5 Nishkama Karma and Purpose-Driven Motivation

The principle of Nishkama Karma — selfless action performed without attachment to reward (Bhagavad Gita 2.47) — offers an indigenous parallel to contemporary prosocial motivation theory (Grant, 2008) and meaningful-work scholarship (Pratt & Ashforth, 2003). Recognition systems built around contribution and purpose, rather than purely transactional incentive, are theorized to align more closely with Generation Z's purpose-oriented motivation profile.

5. Proposed IKS-Based Framework

Synthesizing the literature above, this paper proposes a four-part framework linking IKS concepts directly to the Human Capital, Well-being, and Workplace Transformation sub-themes of organizational culture, learning and development, and emotional intelligence.

- Diagnostic Layer — Purushartha: Explains the underlying values shift from Millennial Artha-orientation to Gen Z Dharma/Kama-Moksha orientation, providing a non-Western explanatory model for generational divergence.
- Learning and Development — Guru-Shishya Parampara: Recommends restructuring onboarding and training around sustained, relationship-based mentorship rather than transactional e-learning modules.
- Well-being and Emotional Intelligence — Yoga and Sthitaprajna: Recommends structured, non-performative mindfulness and self-regulation programmes embedded into the workday, paired with EI training for managers leading multi-generational teams.

- Organizational Culture and Retention — Nishkama Karma/Seva: Recommends redesigning recognition and motivation systems around purpose and contribution, addressing Gen Z's documented preference for meaning over pure incentive.

This framework positions IKS not as a set of isolated cultural references but as an integrating principle beneath existing HR theory — a single value architecture in which diagnosis (Purushartha), development (Guru-Shishya), well-being (Yoga), and motivation (Nishkama Karma) function as parts of one coherent whole rather than separate initiatives.

5.1 Comparative Overview: Millennial and Generation Z Orientation under Purushartha

The table below summarizes the conceptual mapping developed in this paper. It is offered as an interpretive synthesis of patterns reported across the generational-workplace literature reviewed above, read through the Purushartha lens, and is intended as a starting framework for future empirical testing rather than a statistically derived typology.

Purushartha Dimension	Millennial Orientation (Literature-Reported)	Generation Z Orientation (Literature-Reported)
Artha (security/achievement)	Strong emphasis on job security, salary progression, and title-based advancement (Deloitte Global, 2023)	Present but secondary; security valued alongside, not above, purpose (Francis & Hoefel, 2018)
Dharma (duty/purpose)	Purpose framed around loyalty to employer and career narrative	Purpose framed around social impact and alignment with personal values (Twenge, 2017)
Kama (fulfilment/engagement)	Fulfilment tied to recognition and promotion milestones	Fulfilment tied to autonomy, creativity, and day-to-day meaning in tasks
Moksha (autonomy/self-actualization)	Longer-horizon goal, pursued after career stability is secured	Sought earlier and continuously; strong preference for flexibility and self-directed growth (Deloitte Global, 2023)

Source: Authors' own compilation, synthesized from Twenge (2017), Deloitte Global (2023), and Francis & Hoefel (2018).

5.2 Practical Implications for Organizations

Translating the framework in Section 5 into practice requires organizations to treat each IKS concept as an operational lever rather than a one-time training theme. The following implications follow directly from the comparative mapping above.

- HR Policy Design: Dual-track career pathways that allow Artha-oriented employees to pursue conventional promotion ladders while offering Dharma/Moksha-oriented employees project-based, purpose-linked progression routes.
- Onboarding: Assigning each new Gen Z employee a Guru-figure mentor for the first 90 days, evaluated not on training-completion metrics but on relationship continuity and the mentee's clarity of purpose within the role.
- Well-being Infrastructure: Embedding short, recurring mindfulness sessions (10–15 minutes) into the actual work calendar rather than offering them as optional after-hours add-ons, consistent with the yogic emphasis on regular practice over occasional intensity.
- Recognition Systems: Supplementing quarterly performance bonuses (Artha-aligned) with a parallel contribution-narrative recognition channel — for instance, peer-nominated impact stories — that speaks to Dharma-aligned motivation without replacing existing incentive structures.

6. Discussion

The comparative mapping above suggests that the Millennial–Gen Z divide is not merely a difference in workplace preferences but a difference in which Purushartha is foregrounded at a given career stage and under a given set of formative economic conditions. This reframing has practical value: rather than treating Gen Z's preferences as a deviation from a Millennial "norm" that HR must correct for, organizations can treat both orientations as legitimate expressions of the same underlying value architecture, differently weighted. This shifts the organizational task from persuasion ("convincing" Gen Z to value stability the way Millennials do) toward integration (building systems flexible enough to serve Artha-oriented and Dharma-oriented employees simultaneously).

This has direct implications for the Guru-Shishya-based mentorship model proposed in Section 5. A mentorship relationship, properly structured, does not impose a single value orientation on the learner; it is designed to draw out the learner's own path under sustained guidance. Applied to onboarding, this suggests pairing Gen Z employees with mentors trained to recognize and support Dharma/Kama-Moksha-oriented goals (purpose, autonomy, creative latitude) rather than defaulting to Artha-oriented coaching (career-ladder milestones) that may have worked well for Millennial cohorts a decade earlier.

Similarly, the yogic and mindfulness component of the framework gains sharper justification here: if Gen Z's Dharma/Moksha orientation is accompanied by heightened attention to meaning and psychological well-being (as burnout and mental-health literature suggests; Ferreira et al., 2019), then well-being interventions succeed only if they are structured as genuine self-regulation practice — consistent, non-performative, and integrated into work rhythms — rather than episodic "wellness days" that read, to a purpose-attentive workforce, as symbolic gestures rather than substantive support.

Finally, the Nishkama Karma-based recognition model addresses a tension that pure incentive-based systems struggle with: Millennials' Artha-orientation responds predictably to promotion- and compensation-linked recognition, but Gen Z's Dharma-orientation is better served by recognition tied to contribution and impact narrative. A dual-track recognition architecture — retaining milestone-based recognition for Artha-oriented employees while introducing contribution-based, purpose-narrated recognition for Dharma-oriented employees — follows directly from treating Purushartha as a spectrum within the workforce rather than a fixed generational label.

It is worth noting that these interventions are most directly applicable within organizational cultures already receptive to indigenous frameworks, such as many Indian family-owned enterprises, public-sector undertakings, and mission-driven organizations. Multinational or highly standardized corporate environments may require the same underlying principles to be translated into more culturally neutral language — for instance, presenting Guru-Shishya-based mentorship simply as "deep mentorship" — without necessarily invoking the Sanskrit terminology directly, in order to gain organizational buy-in while retaining the substance of the framework.

7. Findings

7.1 Findings on Value Orientation

Finding 1 — Generational divergence is better explained as a shift in Purushartha weighting than as a wholesale change in values. The literature reviewed does not suggest Gen Z rejects security (Artha) or that Millennials are indifferent to purpose (Dharma); rather, the relative priority assigned to each shifts between cohorts, which explains why blanket "Gen Z wants X, Millennials want Y" narratives in HR trade literature tend to oversimplify.

Finding 2 — The Kama/Moksha dimension is the least served by conventional HR systems. Most organizational reward and career-development architecture is built to serve Artha (compensation, title) and, to a lesser extent, Dharma (mission statements, CSR framing). Autonomy and self-actualization — core to Gen Z's stated preferences — remain the most structurally underdeveloped dimension in existing HR practice, representing the clearest opportunity area.

7.2 Findings on Learning and Development

Finding 3 — Mentorship structure matters more than mentorship frequency. Guru-Shishya Parampara emphasizes depth and continuity of relationship over transactional check-ins. Applied to Gen Z, this implies that the volume of

feedback sessions matters less than whether mentors are trained to engage with the mentee's individual purpose and growth trajectory — a qualitative, relational competency rather than a scheduling metric.

7.3 Findings on Well-being and Emotional Intelligence

Finding 4 — Sthitaprajna-based EI training addresses a gap conventional EI models leave open. Contemporary EI frameworks (Goleman, 1998) describe self-regulation as a competency to be trained; the Gita's Sthitaprajna concept additionally supplies a sustained practice method (yogic mindfulness) for cultivating it, rather than treating it as a trait to be assessed and coached abstractly. This suggests well-being and EI programmes are strengthened when paired with an actual practice regimen rather than delivered as workshop content alone.

7.4 Findings on Organizational Culture and Retention

Finding 5 — Retention risk concentrates where Dharma/Moksha needs go unmet, not where Artha needs go unmet. Because compensation and title-based systems are already well developed in most organizations, Gen Z attrition attributed to "pay" or "promotion pace" in exit interviews may often be a proxy for unmet purpose and autonomy needs that employees find easier to articulate in Artha terms. This reframes retention strategy: compensation adjustments alone are unlikely to resolve attrition rooted in a Dharma/Moksha deficit.

8. Research Methodology

This study adopts a qualitative, conceptual research design based on comparative literature analysis. Secondary sources — including peer-reviewed HR and organizational-behaviour literature on generational differences, and primary and secondary sources on Indian philosophical concepts (Purushartha, Guru-Shishya Parampara, Nishkama Karma, and yogic practice) — are thematically analysed and cross-referenced to identify conceptual parallels between indigenous Indian frameworks and contemporary workplace theory. This method is well suited to an emerging, interdisciplinary research area where the objective is to construct an integrative conceptual model rather than test a pre-specified hypothesis through primary data collection.

9. Ethical Considerations and Limitations

As a conceptual study grounded in philosophical and secondary literature rather than primary empirical data, the findings are interpretive rather than statistically generalizable. Interpretations of Purushartha, Guru-Shishya Parampara, and yogic concepts may vary across scholarly and cultural perspectives, and the researchers acknowledge the risk of subjective bias in mapping ancient concepts onto modern HR constructs. The applicability of this framework may also vary across organizational and cultural contexts outside India. Future research incorporating primary survey or interview data across Millennial and Gen Z employee samples is recommended to empirically validate the proposed framework.

10. Conclusion

As Millennials and Generation Z increasingly share the same organizational spaces, the resulting gap in values, expectations, and motivation styles presents both a challenge and an opportunity for workplace transformation. This paper has argued that Indian Knowledge Systems — through the Purushartha framework, the Guru-Shishya Parampara, yogic mindfulness practice, and the principle of Nishkama Karma — offer a coherent, indigenous, and value-based route to understanding and addressing this generational divide, going beyond what Western cohort theory alone provides. By reframing onboarding as mentorship, well-being as structured mindfulness practice, and recognition as purpose-driven rather than purely transactional, organizations can build cultures that improve Generation Z engagement and retention while remaining ethically and culturally grounded. Future empirical research is needed to test and refine this framework across diverse organizational settings.

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CULTIVATING EMOTIONAL INTELLIGENCE THROUGH INDIAN WISDOM: CHARACTER-BASED INSIGHTS FROM THE RAMAYANA FOR CONTEMPORARY WORKPLACES

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Abstract

Emotional intelligence (EI) — the capacity to perceive, understand, regulate, and skilfully deploy emotion in oneself and others — has become one of the most cited predictors of leadership effectiveness and organizational performance. While the dominant models of EI (Salovey & Mayer, 1997; Goleman, 1995, 1998; Bar-On, 2006) originate in Western psychology, India's own textual traditions encode rich, situated accounts of emotional self-regulation, empathy, and relationship management long before the term "emotional intelligence" existed. This paper draws on the Valmiki Ramayana as a corpus of Indian Knowledge Systems (IKS) to examine how its principal characters — Rama, Sita, Lakshmana, Hanuman, Sugriva, and Vibhishana — model distinct facets of emotional intelligence at pivotal narrative moments. Using a qualitative, hermeneutic character-analysis method, the study maps seven episodes (Rama's response to exile at the close of Ayodhya Kanda; Sita and Lakshmana's refusal to leave Rama; Hanuman's first meeting with Rama and Lakshmana; Sugriva's test of Rama's strength at the Sala trees; Hanuman's conduct during the burning of Lanka; Sita's emotional endurance in Ashoka Vana; and Vibhishana's dharma-based departure from Ravana) onto Goleman's four-domain EI framework (self-awareness, self-management, social awareness, and relationship management). The analysis is presented through two comparative tables and a discussion connecting each episode to contemporary organizational themes such as change management, psychological safety, whistleblowing and ethical voice, trust-building with new colleagues, crisis communication, resilience under prolonged stress, and succession-related loyalty conflicts. The paper concludes that the Ramayana characters, read as a coherent ensemble rather than isolated exemplars, portray emotionally intelligent responses that are appropriate to their specific circumstances, offering Indian organizations a culturally resonant vocabulary for EI training that complements, rather than replaces, existing psychometric models. Limitations arising from the epic's multiple regional and vernacular retellings are discussed, along with directions for future empirical validation.

Keywords: Emotional Intelligence; Ramayana; Indian Knowledge Systems; Organizational Behaviour; Goleman Model; Dharma; Leadership; Workplace Culture

1. Introduction

Organizations today operate in what has widely been termed a VUCA (volatile, uncertain, complex, ambiguous) environment, in which technical competence alone no longer predicts sustained success. Since Goleman's (1995) popularization of emotional intelligence, a substantial body of management literature has linked EI to leadership effectiveness, job performance, team cohesion, and occupational wellbeing (Chrusciel, 2006; Tischler, 2002). Indian management scholarship has, in parallel, begun turning toward the country's own epistemic resources — the Indian Knowledge Systems (IKS) initiative promoted by the University Grants Commission and AICTE — to root managerial competencies in indigenous narrative and philosophical traditions rather than importing frameworks wholesale.

The Ramayana, attributed to sage Valmiki, is one of the two great Sanskrit epics (itihasa) of India and continues to shape ethical and behavioural imagination across South and Southeast Asia. Unlike a management case study, the epic does not present emotional competence as an abstract trait; it dramatizes it, character by character, under conditions of loss, humiliation, temptation, captivity, and moral conflict. This paper treats the Ramayana as a form of narrative data: a repository of behavioural exemplars that can be systematically read against a contemporary EI framework and then translated into implications for organizational culture — onboarding and trust-building, change management, ethical dissent, crisis leadership, and resilience under prolonged adversity.

2. Review of Literature

2.1 Foundational Models of Emotional Intelligence

The ability-based model of Salovey and Mayer (1997) conceptualizes EI as a four-branch hierarchy: perceiving emotion, using emotion to facilitate thought, understanding emotion, and managing emotion for personal and social growth (Sharma & Sehrawat, n.d.). Goleman (1995, 1998) subsequently popularized a mixed model integrating personal competence (self-awareness, self-regulation, motivation) with social competence (empathy, social skills), later consolidated into four domains — self-awareness, self-management, social awareness, and relationship management — which he applied directly to leadership style in "Leadership That Gets Results" (Disruptive Leadership Institute, n.d.). Bar-On's (2006) model further emphasises personal and social competencies over narrowly cognitive emotion-processing, favouring a practical, trait-based orientation (as summarised in recent EI-leadership syntheses; arXiv, 2024). These three models converge on a common insight relevant to this paper: EI is not a single trait but a bundle of distinguishable competencies that can be observed separately in behaviour — a premise that makes character-level narrative analysis methodologically viable.

2.2 Emotional Intelligence and Organizational Outcomes

Empirical work across sectors supports the EI–performance link. In healthcare settings, higher EI among nursing staff has been associated with improved communication, critical thinking, and job satisfaction. In high-risk industries, EI has been shown to mediate the relationship between occupational health and safety practices and safety performance, reducing workplace accidents. In corporate contexts, EI has been linked to reduced emotional and physiological harm from workplace bullying and cyberbullying, acting as a buffering coping resource for employees. Studies on high-technology leadership similarly link EI and workplace spirituality to career success and organizational citizenship behaviour, positioning emotionally intelligent leadership as a driver of engagement rather than a soft, peripheral skill. Within the Indian corporate context specifically, survey-based research has identified persistent EI gaps — difficulty sustaining positivity under stress, reluctance to set stretch goals, and avoidance of accountability — suggesting a live organizational need that indigenous pedagogical resources such as epic narratives could help address.

2.3 Indian Knowledge Systems and Epic Narratives as EI Pedagogy

A growing stream of IKS-oriented scholarship treats the Ramayana explicitly as a corpus for teaching socio-emotional competencies. Recent work frames the epic as fertile ground for socio-emotional intelligence instruction, citing Rama's empathy toward the marginalised and his self-confidence and discipline during the search for Sita as concrete pedagogical exemplars, and linking these to the karma-oriented ethical reasoning embedded in the text. A parallel paper reframes Rama's conduct as "orange-peel" emotional intelligence — the idea that emotional composure, like the protective peel of a fruit, shields the self while nourishing others — and explicitly sets out to evaluate Rama's contemporary EI principles for workplace application, based on both secondary literary evidence and primary character analysis. Another study, drawing on Bandura's social learning theory and Jungian archetypal theory, analyses EI within the Ramayana as a whole, arguing that a comprehensive synthesis comparing modern psychological EI theory with ancient narrative has been largely absent from the literature and identifying this as a live research gap. Related IKS scholarship on leadership extends this reading across both epics, treating Rama as an exemplar of servant leadership, compassion, and moral integrity, and Yudhishtira's dilemmas in the Mahabharata as illustrations of ethical decision-making and emotional intelligence, while explicitly noting that much of this literature remains philosophical with limited empirical validation — a gap the present paper addresses through structured, competency-mapped character analysis. Complementary work on the Bhagavad Gita develops an indigenous model of "spiritual emotional intelligence" grounded in lived experience, reinforcing that Indian textual traditions beyond the Ramayana are increasingly being mined for culturally grounded EI constructs.

3. Research Objectives

The study pursues two research objectives:

- RO1: To identify and characterize the specific emotional intelligence competencies (per Goleman's self-awareness, self-management, social awareness, and relationship management domains) demonstrated by

principal and supporting Ramayana characters — Rama, Sita, Lakshmana, Hanuman, Sugriva, and Vibhishana — at defined narrative junctures, through qualitative textual analysis.

- RO2: To translate these character-based EI competencies into applied recommendations for contemporary organizational culture, mapping each episode onto a corresponding workplace scenario (e.g., change management, onboarding trust, ethical voice, crisis response, resilience, succession loyalty).

4. Research Methodology

This is a qualitative, interpretive (hermeneutic) study using purposive character-episode sampling from the Valmiki Ramayana (with reference, where relevant, to widely cited retellings such as Tulsidas's *Ramcharitmanas* and Kamban's *Kambaramayanam* for comparative colour). Seven episodes were purposively selected because they are widely recognised turning points in the narrative and because each foregrounds a different EI competency and a different organizational role (leader, spouse/peer, new team member, evaluator/gatekeeper, crisis responder, isolated employee, and principled dissenter, respectively). Each episode was analysed against Goleman's (1998) four-domain framework, cross-checked against the ability-based model of Salovey and Mayer (1997) where the behaviour was primarily cognitive-emotional (e.g., perspective-taking) rather than social. The analysis is thematic and illustrative rather than statistical; no claim of quantitative generalizability is made.

5. Discussion: Character-Based Analysis of Emotional Intelligence in the Ramayana

5.1 Rama at the Close of Ayodhya Kanda: Accepting Exile

When Kaikeyi invokes her two boons and Dasharatha, bound by his word, must send Rama into fourteen years of forest exile on the very day set for his coronation, Rama's response is the paper's clearest single instance of self-management under abrupt, unjust reversal. He does not argue, does not shame his father, and does not publicly contest the legitimacy of Kaikeyi's claim, even though the succession had already been publicly announced. Instead, Rama reframes the event within his own value system (dharma and filial duty) rather than treating it purely as personal loss, which allows him to regulate the emotional impact of a sudden, humiliating demotion. In Goleman's terms this is self-awareness (recognising the injustice without denial) combined with self-management (choosing composure and continued respect for his father and stepmother over resentment) and social awareness (protecting Kaikeyi and Bharata from public blame, foreseeing the succession crisis this would otherwise create for the kingdom).

Organizational parallel: this maps directly onto change management and involuntary role loss — a promised promotion withdrawn, a reorganization that removes a leader from an expected position. Rama's response models a template for graceful, dignity-preserving transition rather than public grievance, which protects both the individual's long-term reputation and the stability of the wider institution (succession continuity, avoidance of factionalism).

5.2 Sita and Lakshmana Refusing to Leave Rama

When Rama attempts to depart for the forest alone, both Sita and Lakshmana insist on accompanying him, each through a different emotional register. Sita's refusal is rooted in relational identity and empathic attunement — she reframes exile not as deprivation but as shared purpose, asserting that a wife's place is with her husband regardless of material comfort. This demonstrates high relationship management: she manages Rama's anticipated guilt (his wish to spare her hardship) by reframing the separation itself as the greater harm. Lakshmana's insistence is driven by loyalty and role-clarity: he explicitly subordinates personal comfort and even filial ties to service of his brother, an act of motivation (in Goleman's schema, self-generated commitment beyond external reward) and social awareness (correctly reading that Rama would need protection and companionship in an unfamiliar, hostile terrain).

Organizational parallel: this scenario mirrors voluntary followership during a leader's downgrade or difficult reassignment — key team members choosing to remain with a leader through a demotion, spin-off, or unpopular relocation. It illustrates how psychological safety and loyalty are built not in good times but precisely when a leader has least formal power to reward it.

5.3 Hanuman's First Meeting with Rama and Lakshmana (in Disguise)

Sent by Sugriva to assess two unknown armed strangers approaching Kishkindha, Hanuman approaches disguised as a mendicant rather than confronting them directly. His conduct is a study in social awareness and relationship management under uncertainty: he observes before acting, asks measured questions to gauge intent, and only reveals his true identity once satisfied that Rama and Lakshmana are trustworthy. His famous eloquence in this exchange — praised for its precision and warmth — reflects what modern EI literature calls socially skilled communication: reading an unfamiliar counterpart's emotional state and calibrating tone accordingly.

Organizational parallel: this is the archetype of trust-building at first contact — a new vendor, a merger counterpart, or a new hire's first conversation with an unfamiliar team. Hanuman's approach (careful listening before commitment, graduated disclosure, culturally attuned communication) is a template for reducing first-contact ambiguity without either naive over-trust or defensive hostility.

5.4 Sugriva Testing Rama's Caliber at the Sala Trees

Before committing to an alliance, Sugriva — having been betrayed once already by his brother Vali — asks Rama to demonstrate his strength by piercing seven Sala trees with a single arrow. This is not disrespect but a rational, low-risk verification step by someone who has learned, through prior betrayal, not to extend full trust on reputation alone. Sugriva's behaviour shows self-awareness of his own vulnerability (having been burned before) balanced with social awareness (he still engages respectfully and explains his reasoning rather than refusing outright), illustrating that EI does not mean uncritical trust; it means regulated, situationally appropriate caution.

Organizational parallel: this reflects legitimate due-diligence behaviour in partnership formation — a wary stakeholder, burned by a previous vendor or partner, requesting a pilot project or proof-of-concept before a full contract. Emotionally intelligent caution, transparently communicated, is distinguished here from either blind trust or corrosive suspicion.

5.5 Hanuman During Lanka Dahan

Having located Sita in Ashoka Vana, Hanuman is captured and his tail set alight by Ravana's forces. Rather than reacting purely out of anger, Hanuman uses the burning tail strategically to set Lanka ablaze while still extinguishing the flame in the sea before it can harm him further, and crucially he ensures Sita's safety is not compromised by his own retaliation. This is a rare literary depiction of channelled anger: the emotion is real and intense, but it is directed with tactical discipline rather than discharged indiscriminately. Goleman's self-management domain — impulse control paired with purposeful action — is vividly dramatized here, alongside social awareness (protecting a third party, Sita, throughout an otherwise destructive act).

Organizational parallel: this is crisis leadership under provocation — responding to a hostile takeover attempt, a public attack on the organization, or a personal insult from a rival, in a way that converts anger into decisive, contained action rather than reputationally damaging retaliation, while still safeguarding vulnerable stakeholders (customers, junior staff) from collateral damage.

5.6 Sita's Emotional Endurance in Ashoka Vana

Held captive in Ashoka Vana under continuous threat and coercion from Ravana, Sita sustains her composure, dignity, and resolve over an extended period of isolation without external validation or certainty of rescue. This is sustained self-management under chronic, high-stress uncertainty rather than a single acute event: she neither capitulates to Ravana's threats and blandishments nor collapses into despair, maintaining instead a steady internal orientation toward her own values and toward Rama. Her interactions with Ravana also show controlled, assertive communication — firm refusal without unnecessary provocation — a form of relationship management exercised from a position of structural powerlessness.

Organizational parallel: this maps onto resilience during prolonged organizational hardship — an employee enduring an extended difficult assignment, a whistle-blower awaiting resolution, or staff sustaining performance through a long crisis (restructuring, litigation, reputational siege) without the reassurance of a known end date. It highlights that EI under chronic stress is less about a single composed reaction and more about sustained internal regulation over time.

5.7 Vibhishana's Choice Between Dharma and Adharma

Vibhishana, Ravana's own brother, repeatedly counsels Ravana to return Sita and avoid war, and when this counsel is rejected and he is publicly humiliated for it, he chooses to leave Lanka and align with Rama. This is a textbook case of principled dissent and ethical voice: Vibhishana's self-awareness (recognising that continued loyalty to Ravana would make him complicit in adharma) is paired with the social courage to voice unwelcome truth to entrenched power, and finally with the difficult relationship-management decision to exit a toxic, doomed system rather than remain loyal to kinship over principle. Notably, the narrative does not treat this as simple betrayal; it is framed as a costly, emotionally difficult act of integrity.

Organizational parallel: this is the whistle-blower or dissenting-executive scenario — an insider who raises internal red flags about a leadership decision, is overruled or punished for doing so, and ultimately must decide whether to stay silent, comply, or exit the organization on principle. Vibhishana's arc illustrates the emotional cost of ethical voice and the legitimacy of exit as a last-resort EI-consistent choice when voice has been exhausted.

5.8 Synthesis: An Ensemble Reading of Emotional Intelligence

Read individually, each character supplies a different EI competency; read together, they form a more complete organizational ensemble than any single "ideal leader" narrative could. Rama supplies dignified self-management under involuntary loss; Sita and Lakshmana supply loyal followership and empathic reframing; Hanuman supplies both first-contact trust-building and channelled crisis response; Sugriva supplies legitimate, transparent caution; and Vibhishana supplies principled dissent and exit. Contemporary organizational culture rarely requires only one of these competencies — it requires all of them, distributed appropriately across roles and moments, which is precisely what the epic's ensemble structure models.

6. Comparative Analysis Tables

Table 1: Character, Episode, and Goleman EI Domain Mapping

Character	Episode	Primary EI Domain	Key Behaviour Demonstrated
Rama	Accepting exile, end of Ayodhya Kanda	Self-Management	Composed acceptance of unjust reversal; protects family and kingdom from blame
Sita	Refusing to remain in Ayodhya	Relationship Management	Reframes hardship as shared purpose; manages partner's anticipatory guilt
Lakshmana	Refusing to remain in Ayodhya	Motivation / Social Awareness	Self-generated loyalty; anticipates Rama's practical and emotional needs
Hanuman	First meeting, disguised as mendicant	Social Awareness	Careful observation, calibrated trust, skilled communication with strangers
Sugriva	Testing Rama at the Sala trees	Self-Awareness	Regulated caution from past betrayal; transparent, respectful verification
Hanuman	Lanka Dahan (burning of Lanka)	Self-Management	Channels anger into contained, purposeful action; protects a third party
Sita	Captivity in Ashoka Vana	Self-Management (sustained)	Endures prolonged coercion without capitulation or despair

Character	Episode	Primary EI Domain	Key Behaviour Demonstrated
Vibhishana	Leaving Ravana for Rama	Social Awareness / Voice	Principled dissent; exits a system after ethical voice is exhausted

Table 2: Episode-to-Organizational Culture Mapping

Ramayana Episode	Organizational Scenario	EI-Informed Practice Recommended	Cultural/HR Trend Addressed
Rama's exile	Involuntary demotion / reorg	Dignity-preserving transition communication	Change management, leadership transitions
Sita & Lakshmana's insistence	Team loyalty during leader's setback	Reframing hardship as shared mission	Followership, retention through adversity
Hanuman's disguised meeting	Onboarding / merger first contact	Graduated trust, active listening	Psychological safety, cross-cultural onboarding
Sugriva's test	Partner/vendor due diligence	Transparent, respectful verification steps	Trust-but-verify partnership culture
Lanka Dahan	Crisis or reputational attack response	Channelled, contained retaliation; protect bystanders	Crisis communication, conflict management
Sita in Ashoka Vana	Prolonged hardship assignment	Sustained self-regulation without external validation	Resilience, employee wellbeing programs
Vibhishana's departure	Whistleblowing / dissenting exit	Legitimising principled voice and exit	Ethics hotlines, psychological safety for dissent

7. Relating Ramayana-Based EI to Contemporary Organizational Culture Trends

Three current organizational trends align closely with the episodes analysed above. First, psychological safety (Edmondson's construct, now widely adopted in Indian corporate training) is directly prefigured by Hanuman's graduated-trust approach and by Vibhishana's costly but legitimised dissent — both suggest that safety is built through calibrated disclosure and through visible tolerance for unwelcome truth-telling, not merely through policy statements. Second, resilience and wellbeing programming, increasingly funded by Indian organizations after pandemic-era burnout research, finds a narrative anchor in Sita's sustained composure during prolonged, uncertain captivity, reframing resilience as an enduring internal orientation rather than a single stress-inoculation event. Third, ethical leadership and change communication, central to ESG and governance reform in Indian industry, is modelled by Rama's exile response and Vibhishana's exit: both dramatize that ethical conduct sometimes requires absorbing personal cost quietly (Rama) and sometimes requires public departure from a corrupt structure (Vibhishana) — EI, in other words, is not a single behaviour but a repertoire selected according to circumstance.

8. Limitations of the Study

This study is interpretive rather than empirical and does not claim statistical generalizability; it offers a structured reading, not a validated measurement instrument. Several further limitations follow directly from the nature of the source material.

- Textual plurality: The Ramayana exists in numerous regional and vernacular versions (Valmiki's Sanskrit text, Kamban's Tamil Kambaramayana, Tulsidas's Hindi Ramcharitmanas, Jain and Buddhist counter-traditions, and innumerable oral/folk retellings), and these versions differ meaningfully in characterization, motive, and emphasis. Tulsidas, for instance, foregrounds bhakti (devotional surrender) more strongly than Valmiki's more itihasa-oriented narrative style, which can shift a reader's perception of, for example, Rama's emotional

interiority during exile from stoic dharma to devotional equanimity. Sita's characterization in some regional and folk retellings is markedly more assertive or more silently suffering than in others. This means the EI profile attributed to a character is partly an artefact of which version is read.

- Circumstance-dependence: Because the epic's characters act within a specific cosmological and social order (varna, gender norms, divine incarnation), the same behaviour (e.g., Sita's endurance, Lakshmana's subordination to an elder brother) can be read either as emotionally intelligent agency or as culturally conditioned compliance, depending on the interpretive lens applied — a tension this paper does not fully resolve and flags for future feminist and post-colonial re-readings.
- Absence of primary empirical validation: No survey, interview, or experimental data were collected from practising managers to test whether exposure to these narratives measurably changes workplace EI behaviour; this remains an important avenue for future mixed-methods research, echoing the empirical-validation gap already noted in the IKS leadership literature.

9. Conclusion

Despite these limitations, the weight of the analysis presented here supports a clear conclusion: across the seven episodes examined, the principal Ramayana characters consistently display emotional responses that are calibrated to the specific demands of their circumstance rather than generic or excessive reactions. Rama's composure suits an irreversible, institution-threatening reversal; Sita and Lakshmana's insistence suits a moment demanding loyalty over comfort; Hanuman's graduated trust suits first contact with unknown power; Sugriva's caution suits a context of prior betrayal; Hanuman's channelled fury suits an acute physical crisis; Sita's endurance suits prolonged captivity; and Vibhishana's principled exit suits a context in which voice has been exhausted and complicity would follow from silence. In each case, the emotional register selected by the character is the one best matched to the situation at hand — supporting the paper's central claim that the Ramayana, read as an ensemble narrative, portrays the right emotional intelligence at the right time for each role and moment. For contemporary organizations — particularly in the Indian context, where IKS-based training is gaining institutional legitimacy — this suggests that EI development programmes can be meaningfully enriched by narrative, character-based pedagogy drawn from indigenous epics, provided such programmes remain attentive to textual plurality and are paired, over time, with empirical validation of behavioural transfer into the workplace.

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CONSUMER TRUST AND RISK PERCEPTION IN THE ADOPTION OF FINTECH E-WALLETS

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Abstract

FinTech has changed how people pay for things almost everywhere. Cash-based economies are giving way, more and more, to platforms that sit between buyer and seller for nearly every transaction. This review pulls together a wide range of recent studies on FinTech-driven digital payments, looking at the technology side, the regulatory side, consumer behaviour, financial inclusion, and sustainability all at once. Evidence from the EU, the GCC, Africa, and several emerging Asian markets tells a mixed story. FinTech widens access to financial services and makes transactions faster and easier. At the same time, it brings new risks: data security problems, financial crime, regulation that varies wildly from place to place, and a persistent question mark over trust. COVID-19 accelerated all of this. Adoption jumped faster than most people expected, and the pandemic exposed both how resilient digital payment systems can be and where they still break down. Trust, brand image, perceived usefulness, and social influence keep showing up in the literature as the main drivers of consumer intention, often explained through the stimulus-organism-response (SOR) framework. Regulators, meanwhile, are trying to keep up, balancing innovation against consumer protection, as seen in the EU's FinTech agenda and the ongoing work on Central Bank Digital Currencies (CBDCs). There is also research on FinTech's role in urban financial inclusion, its potential to shrink carbon footprints, and its effect on organisational innovation. Gaps remain, though, especially around long-term social and economic impacts, how adoption differs by gender, and how FinTech lending interacts with the broader move away from cash. This review ends by mapping out where the field stands now and where it might go next, with particular attention to ethical AI, cross-border interoperability, and the governance of digital financial systems.

Keywords

FinTech; digital payments; mobile payments; financial inclusion; consumer trust; platformisation; regulatory technology (RegTech); Central Bank Digital Currency (CBDC); COVID-19; e-wallets; financial crime; sustainability; stimulus-organism-response (SOR) model; brand image; cashless economy; digital banking; organizational innovation; emerging markets; FinTech lending; consumer behaviour.

Introduction

FinTech has reshaped global payments at a fundamental level, moving economies away from cash and toward systems that are platform-mediated and algorithm-driven (Puschmann, 2017; Anifa et al., 2022). COVID-19 sped this up by a lot. Years of expected adoption got compressed into a few months, and being part of the digital financial system stopped being optional for most people (Tut, 2023; Daragmeh et al., 2021). Not everyone reads this shift as straightforwardly positive, though. Ferrari (2022) argues that the platformisation of digital payments, as it appears in regulatory agendas, actually manufactures "consumer interest" rather than responding to it. It is a narrative that quietly lines up market goals with legal reasoning while the power imbalances sitting underneath stay hidden.

Most research on consumer adoption leans on behavioural models, and the Stimulus-Organism-Response (SOR) framework in particular, treating trust, perceived usefulness, and brand image as the main things that push people toward using these tools (Alamoudi et al., 2025; Fernando, 2024). Look closer, though, and trust starts to seem less like something earned and more like something engineered, built through interface design rather than a real fiduciary relationship. Jaiswal et al. (2023) frame this as a subtle kind of technological paternalism, one that locks users in and lets platforms extract more from their behaviour than most people would consciously agree to. Financial inclusion gets told as an equally appealing story: digital payments bring the unbanked into the system, or so the argument goes (Ferguson et al., 2019; Lan et al., 2026). Azmeh and Al-Raei (2024) are not so sure. They warn that inclusion can tip into surveillance once cashless transaction trails start feeding algorithmic lending systems, systems that end up disciplining users as much as empowering them (Ghosh et al., 2026). "Buy Now, Pay Later" products make this especially visible. Loomis and Cockayne (2025), writing from a feminist perspective, show how algorithmic debt lands harder on women.

Regulation has not caught up. It remains fragmented, still working out how to balance innovation against consumer protection and crime prevention (Wiwoho et al., 2022; Miglionico, 2022), and the arrival of Central Bank Digital Currencies (CBDCs) only adds more questions about privacy and who controls money at the state level (Razi-ur-Rahim et al., 2026). This paper tries to hold these threads together. It looks critically at the story FinTech tells about itself, at the contradiction between democratisation and surveillance, between innovation and precarity. The aim is to unpack these narratives, weigh the behavioural models used to explain adoption, and sketch a research agenda built around justice, data sovereignty, and financial systems that are actually equitable. Digital finance is not slowing down, so scholarship that takes these tensions seriously matters more, not less.

Literature Review

Work on FinTech and digital payments has expanded fast, and it tends to cluster around a few recurring themes. One line of research looks at the underlying technology and how it disrupts existing markets. Puschmann (2017) and Dapp et al. (2015) did much of the early groundwork here, mapping how FinTech reshapes banking and creates new competitive pressure. Kang (2018) and Khando et al. (2022) push this further, digging into the technologies behind digital payments while flagging security gaps and infrastructural weaknesses. Wiwoho et al. (2022) develop these concerns in more depth through their work on financial crime.

A second, larger body of work is about consumer behaviour. Using frameworks like the Stimulus-Organism-Response (S-O-R) model (Alamoudi et al., 2025) and the Technology Acceptance Model (TAM), researchers have tried to pin down what actually drives adoption. Trust, brand image, and outcome expectancy come up again and again as key factors (Fernando, 2024; Daragmeh et al., 2021). This got a lot of attention during COVID-19. Tut (2023) and Daragmeh et al. (2021) both documented a faster shift toward cashless transactions and noticed that different generations adopted at different rates. Jaiswal et al. (2023) take this a step further, rejecting the one-size-fits-all model of adoption altogether and segmenting users into distinct groups instead.

Socio-economic effects form another major thread, particularly whether FinTech expands financial inclusion and drives growth. Hong et al. (2025), Lan et al. (2026), and Azmeh and Al-Racei (2024) all frame digital payments as a route to closing the gap for unbanked populations, especially in developing and urban contexts, with knock-on effects for economic development and poverty reduction. A smaller strand tries to link FinTech to sustainability outcomes (Kuosuwan et al., 2024; Almasria et al., 2024), though this work does not always look hard enough at the trade-offs involved. On regulation, Ferrari (2022) and Miglionico (2022) offer sharp critiques of platformisation, asking how regulatory agendas end up fabricating "consumer interest" and reshaping legal structures that were not built for this. Razi-ur-Rahim et al. (2026) push the conversation in a different direction, toward what actually drives CBDC adoption.

Lastly, there is a growing effort to synthesise all of this and figure out where the field is going. Ungratwar et al. (2025), Gupta et al. (2024), and Sethi et al. (2025), through systematic reviews and bibliometric analysis, try to organise the expanding literature and identify where future research should point. Read across this body of work, though, and a real fragmentation shows up. Technical, behavioural, regulatory, and sustainability research rarely talk to each other. And because so much attention goes to what drives adoption and what economic upside follows, feminist and ethical critiques stay marginal. Loomis and Cockayne (2025) are close to the only exception, which leaves power imbalances, user vulnerability, and the long-term social costs of platform-driven finance still largely unexamined.

Discussion

Put the literature together and a complicated, layered picture of FinTech-driven digital payments emerges, one that does not reduce neatly to "technological progress" or "financial inclusion." This section works through the main tensions and contradictions in current FinTech scholarship and tries to place them within the larger shift happening across the financial system.

The Dialectics of Trust and Technological Paternalism

Trust shows up as a paradox throughout this literature. Alamoudi et al. (2025) and Fernando (2024) treat it as central to adoption, but a closer read suggests trust in FinTech does not function the way it does in traditional banking. The SOR framework is good for mapping how adoption unfolds, but it tends to skate past how

deliberately that trust gets engineered. Jaiswal et al. (2023), through their segmentation work, show trust increasingly built through interface design, algorithmic reassurance, and behavioural nudges, what Ferrari (2022) calls the "fabrication of consumer interest."

So how genuine is trust, really, in these platform-mediated relationships? Traditional banking trust comes from long institutional history and regulatory oversight. FinTech platforms build it differently, through user experience design, social proof, and functionality that simply works. That is a real shift, from relational trust to something closer to calculative trust, where confidence tracks how reliable a system feels rather than any actual relationship or track record. The stakes matter here. When trust is a design feature rather than something earned, users become more exposed, particularly when a system fails or throws up a situation their mental model never accounted for.

The pandemic compressed the time trust normally takes to form, as Tut (2023) and Daragmeh et al. (2021) both document, and that compression may have produced fragile adoption. People who started using digital payments out of necessity during lockdowns never had the chance to build a deeper foundation of trust, which might explain some of the volatility in usage patterns since.

Financial Inclusion: Empowerment or Data Colonization?

Financial inclusion is probably the most persuasive story FinTech tells about itself, and also the most contested. Hong et al. (2025), Lan et al. (2026), and Ferguson et al. (2019) present solid evidence that digital payments bring previously unbanked people into the financial system, especially in developing economies. Azmeh and Al-Raei (2024) and Ghosh et al. (2026) complicate that picture, asking for a harder look at inclusion's downsides.

"Data colonization" is a useful term here. Someone who was unbanked and starts using digital payments does not just gain access. They also become a subject of algorithmic surveillance, their behaviour feeding credit scoring systems, marketing algorithms, and risk models. That is a new kind of financial citizenship, one where access comes bundled with data surrender, and where the gains from inclusion are offset by a level of financial surveillance that simply did not exist before. Loomis and Cockayne (2025) bring a feminist reading to this, showing that algorithmic debt systems place a disproportionate weight on women specifically.

This tension is sharpest in emerging Asian markets, where digitalisation is moving faster than data protection frameworks can keep up. The regulatory gaps Wiwoho et al. (2022) and Miglionico (2022) describe suggest the protections needed to limit surveillance risk just are not there yet, which risks hurting exactly the populations inclusion efforts are supposed to help.

Platformisation and the Reconstruction of Financial Subjectivity

Ferrari's (2022) account of "platformisation" offers a useful lens for the power dynamics at play. Platforms do not only process transactions; they actively construct new kinds of financial identity. Users become, at the same time, data producers, network nodes, and subjects of algorithmic governance, not just consumers. That raises real questions about agency, autonomy, and what financial citizenship even means once it is mediated through a platform.

This plays out in a few concrete ways. Payment infrastructure keeps concentrating in the hands of a small number of tech companies, giving them market power that now rivals traditional financial institutions. Linking payment systems to other digital services, such as social media, e-commerce, and ride-hailing, creates lock-in effects that quietly shrink user choice. Handing financial risk and opportunity over to algorithmic management pushes human judgment aside in favour of machine learning systems that can just as easily reinforce existing inequalities as fix them.

Central Bank Digital Currencies complicate this further. Razi-ur-Rahim et al. (2026) explore how CBDCs promise more efficient, better-controlled money, but they also expand what states can surveil, raising real questions about privacy and monetary sovereignty. How private FinTech platforms and public CBDCs end up interacting will probably shape the future architecture of digital payments, with real consequences for how power gets split between states, companies, and individuals.

Regulatory Fragmentation and the Governance Challenge

Fragmented regulation comes up again and again as a barrier to building coherent, protective frameworks for digital payments. Wiwoho et al. (2022) focus on transnational financial crime; Miglionico (2022) looks at how regulatory divergence disrupts markets. Underneath both is a deeper tension: innovation versus consumer protection, national sovereignty versus global integration, and the simple fact that technology moves faster than institutions can adapt.

The EU's FinTech agenda, as Ferrari (2022) critiques it, is one attempt at balancing these forces, prioritising consumer protection while still leaving room for platformisation to continue. Emerging-market regulators arguably have it harder. They need to encourage innovation, expand inclusion, and protect vulnerable populations all at once, often with limited institutional capacity to do any of it well. Ekasari et al. (2024) and Abuamsha (2025) point to just how differently regions are handling this, which suggests fragmented governance is not going away anytime soon.

The consequences are real. Companies operating across borders face heavy compliance burdens that can slow innovation, while consumers in less-regulated markets face a higher risk of exploitation. Without coordinated international standards on data protection, consumer rights, and financial crime, gaps open up that regulatory arbitrage can exploit, undermining the integrity of the system as a whole.

Sustainability and the Uncounted Costs

A growing body of work links FinTech to sustainability outcomes (Kuosuwan et al., 2024; Almasria et al., 2024), which complicates any easy read on FinTech's overall footprint. Digital payments do reduce the carbon cost tied to cash-based transactions; that part is fairly well established. What is underexplored is the bigger environmental picture.

Blockchain-based payment systems consume real energy. Data centres need resources to run. Payment devices generate e-waste as they proliferate. None of this shows up much in sustainability assessments. And the behavioural side matters too: frictionless digital payments make spending easier, widen the gap between spending money and using tangible resources, and help fuel fast-delivery economies, all of which could offset whatever efficiency gains come from moving away from cash.

Almasria et al. (2024) look at how FinTech might drive broader sustainability shifts inside financial organisations, and that is a promising line of inquiry, but the findings tend toward optimism without weighing trade-offs closely enough. A sharper sustainability analysis would go past carbon accounting to ask about labour displacement, community disruption, and the commodification of financial relationships that platform-driven finance brings with it.

Analysis

Theoretical Integration and Critical Extension

There is real room here to bring different theoretical traditions together. Adoption-focused models such as TAM, SOR, and UTAUT dominate the field, and they have produced a fragmented theoretical landscape that favours individual-level explanation while missing the structural picture. A more integrated approach would combine behavioural frameworks with institutional theory, political economy, and critical technology studies, capturing how FinTech ecosystems operate at several levels simultaneously.

The SOR framework works reasonably well for modelling adoption intention, but it needs extending to account for context and power. Drawing on Loomis and Cockayne (2025) and Ferrari (2022), this paper proposes four additions. The first is structural determinants: the macro-level conditions, such as regulatory frameworks, market concentration, and data governance regimes, that set the stage for adoption. The second is platform affordances, the built-in features and constraints that shape what users can and cannot do. The third is social embeddedness, meaning the social networks, cultural norms, and community institutions that mediate how technology gets taken up. The fourth is critical reflexivity, or how aware users actually are of power imbalances, surveillance, and algorithmic control.

Together, these additions allow for a more nuanced picture, one where individual adoption decisions are shaped by systemic forces, and where user agency operates, but within real constraints.

Methodological Critique and Research Design Implications

The field leans heavily on cross-sectional surveys and bibliometric analysis, and that raises some real methodological concerns. These methods are good for capturing adoption patterns and how knowledge is structured, but they are a poor fit for studying process, power, or long-term impact. A few priorities follow from this.

Longitudinal studies come first. A better sense is needed of how adoption evolves, how trust builds or erodes, and how FinTech's effects on financial behaviour, economic outcomes, and social relationships unfold over years rather than months. The pandemic-driven adoption surge (Tut, 2023; Daragmeh et al., 2021) amounts to a natural experiment that deserves sustained follow-up, and so far has not gotten one.

Qualitative and ethnographic work matters too, especially where digital payments intersect with marginalised communities, gender, and informal economies. Loomis and Cockayne's (2025) feminist critique makes the case well: qualitative methods surface things surveys just do not catch.

Multi-level research designs, combining individual, organisational, institutional, and systemic analysis, would help address the fragmentation running through this literature. Mixed methods, drawing on surveys, interviews, case studies, and policy analysis together, could connect micro-level behaviour to macro-level outcomes in ways single-method studies cannot.

Comparative research, spanning different regulatory regimes, market structures, and cultural contexts, would also help show how much of FinTech's impact is actually contingent on setting. Abuamsha (2025) and Hong et al. (2025) already gesture toward this, pointing to how much context shapes the relationship between adoption and socio-economic outcomes.

Power, Politics, and the Ideological Dimensions of FinTech Discourse

A critical read of this literature turns up ideological assumptions baked into the research questions, the interpretations, and the recommendations. Much of it operates inside what might be called a techno-optimistic paradigm: the assumption that technological progress is inherently good, that efficiency is the value that matters most, and that market-based solutions beat regulatory ones almost by default.

This shows up in how digital payments get framed as inevitably expanding inclusion (Ferguson et al., 2019; Lan et al., 2026), how innovation gets treated as an unqualified good (Ekasari et al., 2024; Puschmann, 2017), and in just how lopsided the attention is toward adoption drivers over risks and harms. Ferrari (2022), Loomis and Cockayne (2025), and Azmeh and Al-Raei (2024) are the exceptions that push back against these assumptions.

A more politically alert analysis would ask who actually gains and who loses as FinTech expands, how power gets redistributed in the process, and what forms of resistance emerge in response. Ferrari's (2022) account of platformisation is not describing a purely technological shift. It is describing a political one, reorganising financial relationships and redistributing power among states, companies, and individuals.

The Indian Knowledge Systems Perspective: A Different Foundation

This paper's connection to Indian Knowledge Systems (IKS), reflected in both the conference theme and the title, opens up an analytical angle that mainstream FinTech scholarship has mostly ignored. IKS offers conceptual resources that could genuinely reshape how questions of trust, inclusion, and sustainability get asked in this space.

Traditional Indian thought on economic life, running from the Arthashastra through the ethical writing of the Dharmashastra, treats economic transactions as embedded in a wider social and moral order. Concepts like dharma (right conduct), artha (material well-being as one part of a balanced life), and dana (generosity and redistribution) offer ways of evaluating digital payment systems that go beyond narrow metrics of efficiency and growth.

An IKS-informed view might foreground relational accountability, treating financial relationships as built on mutual obligation rather than pure transaction. It might also stress contextual ethics, recognising that what counts as right conduct depends on circumstance and relationship, and sarvodaya, or the welfare of all, judging FinTech by its contribution to collective flourishing, especially for the most vulnerable. Balance and moderation matter too, questioning the reflexive push for more growth and more efficiency, as does non-duality, or advaita, which

challenges the split between economic, social, and spiritual life that conventional FinTech discourse takes for granted.

These are not just a cultural garnish on the mainstream analysis. They challenge core assumptions about what "successful" FinTech development even looks like, suggesting sustainability is not only carbon accounting but a question of whether financial practices can sustain human flourishing within ecological limits, over the long run.

Conclusion

This review has pulled together a wide range of recent research on FinTech-driven digital payments, mapping the main themes, theoretical frameworks, and findings while also questioning some of the assumptions built into the current literature. What follows summarises the key findings, addresses the gaps, works through implications, and points toward future research.

Synthesis of Key Findings

The picture that emerges is rich, and genuinely divided. On one side, there is strong evidence that digital payments improve access, speed up transactions, and drive organisational innovation. Pandemic-era adoption, documented across dozens of studies, shows how resilient and adaptable digital payment infrastructure can be, and the rise of CBDCs and RegTech points to continued institutional innovation on top of that.

On the other side, critical work raises real concerns. Trust gets engineered rather than earned, surveillance is woven into inclusion, algorithmic debt lands harder on women, and ideological assumptions sit quietly underneath platformisation. Fragmented regulation and uneven power in current FinTech systems raise a hard question: whose interests does the digital payment revolution actually serve?

These two narratives do not resolve into each other easily, and maybe they should not. They reflect deeper contradictions running through contemporary capitalism more broadly. Digital payments expand participation and expand surveillance at the same time. They reduce friction while increasing dependency. They widen access while extracting more value than before. Making sense of that requires integrated, multidisciplinary approaches, something between blind techno-optimism and flat rejection.

Implications for Theory and Practice

These findings matter for both theory and practice.

For theory, this review points toward frameworks that combine behavioural, institutional, and critical perspectives, ones that can capture how individual choice, platform design, regulatory limits, and systemic forces interact rather than treating each in isolation. The extended SOR framework proposed here, adding structural determinants, platform affordances, social embeddedness, and critical reflexivity, is one direction for that kind of work.

For policymakers, the priority should be regulatory frameworks that balance innovation against real consumer protection, data privacy, and financial stability. The fragmentation documented throughout this review calls for more international coordination, particularly on cross-border transactions, data governance, and financial crime. An IKS-informed approach would ground that regulation in relational accountability, collective well-being, and ethical balance rather than efficiency alone.

FinTech practitioners should push past compliance toward design that actually reckons with social and environmental consequences. Building genuine trust, rather than engineering its appearance, respecting user privacy and autonomy, and supporting sustainable financial systems all matter here. Organisational innovation research suggests FinTech can drive real change in financial practice, but only when it is guided by values that go beyond efficiency and profit.

Financial institutions, for their part, need to engage constructively with FinTech innovation without abandoning institutional values like trust, integrity, and long-term relationships. As payments become more platform-driven, traditional institutions may have to rethink customer relationships, data governance, and value creation from the ground up.

Civil society and consumer organisations have work to do as well, particularly around data protection, algorithmic fairness, and the broader social and environmental costs of digital payments. The surveillance and vulnerability tied up in financial inclusion deserve sustained attention, so that digital payment expansion serves collective welfare rather than entrenching inequality further.

Future Research Directions

FinTech and digital payments keep changing fast, and research needs to keep pace. Five areas stand out.

First, the intersection of FinTech, AI, and ethics needs sustained attention. As AI gets more deeply embedded in payment processing, credit scoring, fraud detection, and customer service, questions of algorithmic fairness, transparency, and accountability become urgent rather than academic. Building ethical AI frameworks for FinTech applications should be a priority, not an afterthought.

Second, the geopolitics of digital payments and CBDCs deserve more attention than they have gotten. The competition between China's digital yuan, a potential US digital dollar, and private stablecoins raises questions about monetary sovereignty, financial stability, and international power that go well beyond typical FinTech scholarship.

Third, urban development and spatial inequality merit further investigation. Lan et al.'s (2026) work on urban inclusion is a useful starting point, but there is much more to understand about how payment platforms shape urban economies, access to services, and patterns of spatial segregation.

Fourth, FinTech's environmental impact needs fuller assessment, not just carbon accounting, but resource extraction, e-waste, energy consumption, and the environmental consequences of behavioural change driven by digital payments.

Fifth, continued engagement with IKS and other non-Western knowledge traditions could genuinely enrich this scholarship, bringing different conceptual tools to questions of inclusion, sustainability, and well-being. Diverse knowledge traditions, taken seriously, could help FinTech development become more culturally grounded, more ethically sound, and more ecologically sustainable.

Concluding Reflections

The shift to digital payments ranks among the most significant transformations in the history of finance, and its consequences reach well past transaction efficiency. As this review has tried to show, moving toward platform-mediated, data-driven financial systems raises hard questions about trust, inclusion, governance, sustainability, and power, questions that do not have easy answers yet.

The critical look at FinTech narratives offered here, along with the research gaps identified and the directions proposed, is meant to support scholarship that takes both the opportunities and the risks of digital finance seriously. Bringing in an IKS perspective suggests that other knowledge traditions have real substance to offer toward a richer, more ethically grounded understanding of this shift.

In the end, digital payments will keep expanding; that much seems settled. What is not settled is what form that expansion takes, and who actually benefits from it. Making sure the FinTech revolution serves collective welfare, protects the vulnerable, respects human dignity, and supports sustainable development will take sustained interdisciplinary work, honest engagement with questions of power, and values that reach beyond narrow economic calculation. The move from cash to cashless societies is a real chance to rebuild financial relationships for the better, but only if that journey is guided by wisdom as much as by technology, and by justice as much as by efficiency.

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FROM ARTHA TO ALGORITHMS: APPLYING KAUTILYAN PRINCIPLES TO ETHICAL FINTECH AND DIGITAL FINANCIAL INCLUSION AN INDIAN KNOWLEDGE SYSTEMS FRAMEWORK FOR RESPONSIBLE DIGITAL FINANCE

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Abstract

FinTech has changed the way people access financial services in India. Digital payments, online lending, and automated financial tools have made many services easier to reach. At the same time, the growing use of AI and automated decision-making has raised new ethical questions. Problems such as data privacy, dark patterns, algorithmic discrimination, and exclusion also show that providing digital access is not the same as achieving meaningful inclusion. This paper looks at whether ideas from Indian intellectual traditions can offer a useful ethical perspective for digital finance, with particular attention to Kautilya's Arthaśāstra. Through a qualitative analysis of literature spanning FinTech governance, responsible innovation, and Indian Knowledge Systems (IKS), we map key Kautilyan concepts—specifically protection (raksha), accountability (palana), ethical governance (yogakshema), economic prudence (varta), and social welfare (lokasamgraha)—onto core modern FinTech requirements. The framework developed in this study connects these ideas with modern responsible-innovation thinking. The aim is to show how they may support financial systems that are safer, fairer, and more inclusive.

Keywords: FinTech, Digital Financial Inclusion, Kautilya, Arthaśāstra, Indian Knowledge Systems, Responsible Innovation, Ethical AI

Introduction

The financial sector has changed considerably with the growth of financial technology (FinTech). Digital payments, micro-credit platforms, and online savings services have changed how financial products are delivered and used. In a country such as India, digital finance has also created new ways for people who were previously outside formal financial systems to access services. However, the expansion of digital finance has not removed every barrier. Low digital financial literacy, uneven infrastructure, and gaps in regulatory implementation continue to affect access (Morgan, 2022; Amnas et al., 2024).

Another important change is the growing use of AI, automated credit scoring, and big- data analytics in financial decisions. This has made the ethical side of digital finance harder to ignore. Some automated systems are difficult for ordinary users to understand. When the reasons behind a decision are unclear, problems such as biasedscoring, unfair lending practices, unclear loan rejections, and misuse of personal data can become difficult to challenge.

Modern empirical literature shows that expanding raw technological access does not automatically lead to equitable financial well-being; long-term, meaningful inclusion depends on user trust, consumer protection, and strict regulatory guardrails (Aldboush & Ferdous, 2023; Devlin et al., 2025; Mandić et al., 2025). For this reason, the success of FinTech cannot be judged only by how quickly a platform grows or how efficiently it processes transactions. Frameworks like Stilgoe et al.'s (2013) responsible innovation model emphasize that emerging technologies must be designed around anticipation, reflexivity, inclusion, and responsiveness to avoid societal harm.

At the same time, research on Indian Knowledge Systems (IKS) has been examining how classical Indian ideas can contribute to present-day management, administration, and public policy. Kautilya's Arthaśāstra is particularly relevant to this discussion because it deals with governance, regulation, accountability, economic activity, and public welfare. Contemporary research demonstrates that Kautilyan economic philosophy offers remarkably modern insights into corporate governance, public finance, and institutional ethics (Bhat, 2023; Sihag, 2017; Kasliwal, 2026). Even so, these three areas are usually discussed separately in the existing literature.

There is still limited work connecting Kautilyan governance ideas directly with the ethical problems created by algorithm-based financial services. This study attempts to bring these discussions together. The study does not

suggest that Kautilya predicted modern digital algorithms. Instead, it interprets selected Kautilyan principles and considers how their underlying ideas can be applied to today's FinTech environment.

Literature Review

FinTech and the Realities of Digital Financial Inclusion FinTech has made many financial transactions faster and, in some cases, less costly to deliver. Systematic reviews confirm that digital payments and automated lending platforms are critical drivers of expanded access in emerging markets, provided they are supported by basic digital infrastructure (Ha et al., 2025).

India provides an important example of technology-led financial inclusion. Research highlights that while India's unified digital infrastructure has successfully dismantled geographic and socio-economic barriers to entry, technology alone cannot resolve systemic inequalities without targeted policy measures (Morgan, 2022; Ghosh & Kulkarni, 2024). Sustainable financial inclusion requires much more than a smartphone and an internet connection; it requires digital literacy, systemic trust, and clear regulatory protections (Amnas et al., 2024; Jena, 2025). Furthermore, aligning FinTech development with broader sustainable development goals demands a shift toward ethical, community-centered implementation (Arner et al., 2020).

Ethical Frictions in Digital Finance The growing use of digital financial platforms has also created new ethical weaknesses. Issues surrounding customer trust, data sovereignty, algorithmic fairness, and aggressive digital lending have become central concerns (Prastyanti et al., 2023).

User trust is particularly fragile in digital ecosystems, as financial interactions rely entirely on automated platforms handling highly sensitive personal data (Devlin et al., 2025; Roh et al., 2022). The deployment of AI and big data analytics further exacerbates these concerns. Aldboush and Ferdous (2023) highlight acute risks related to algorithmic bias, data misuse, and opaque automated decision-making. When automated credit-scoring algorithms rely on flawed historical data, they risk codifying social biases—effectively locking marginalized groups out of formal credit markets (Obi, 2025; Mandić et al., 2025). Preventing these outcomes requires robust privacy laws, transparent governance, and active institutional oversight (Oyewole et al., 2024). Responsible Innovation as an Analytical Lens Stilgoe et al. (2013) describe responsible innovation through four main ideas: Anticipation: Proactively analyzing potential socio-economic risks and unintended consequences before deployment. Reflexivity: Critically examining the profit motives, value assumptions, and ethical biases embedded within technological designs.

Inclusion: Engaging marginalized groups to ensure technologies serve diverse public interests. **Responsiveness:** Adapting institutional architectures and regulatory rules as unforeseen harms emerge. In the context of FinTech, responsible innovation requires evaluating financial platforms not merely by profitability or transaction volume, but by their fairness, safety, and social accountability (Voegtlin et al., 2021). Integrating indigenous knowledge systems into this framework offers a fresh, value-driven foundation for responsible design. Kautilyan Economic Philosophy and Governance Within the IKS tradition, Kautilya's Arthaśāstra discusses statecraft along with regulation, markets, economic activity, and welfare. The text also gives considerable importance to the economic security and welfare of the people, rather than treating governance simply as an exercise of authority. Contemporary scholarship regularly draws on Kautilyan thought to analyze modern corporate governance, public finance, and administrative integrity (Bhat, 2023; Sihag, 2017; Sahni, 2025; Kasliwal, 2026). Authors have also linked Kautilyan principles to accounting ethics (Juliantini et al., 2024) and state welfare infrastructure (Aditya & Bhardwaj, 2026). However, the literature has yet to extend these insights into automated FinTech architectures.

Synthesis and Research Gap Taken together, the literature presents a mixed picture. FinTech can expand financial access, but it can also create problems involving algorithmic bias, misuse of data, and exclusion. While responsible innovation theories offer useful analytical pillars, and IKS scholarship demonstrates the enduring power of ancient governance principles, these bodies of work remain disconnected. This study responds to that gap by bringing Kautilyan governance principles into conversation with responsible FinTech practices and developing a culturally grounded framework for ethical digital finance.

Research Methodology

The study uses a qualitative conceptual approach. It brings together relevant literature and examines it thematically. To map ancient governance principles onto contemporary FinTech issues, literature was reviewed across four core domains: digital financial inclusion, FinTech ethics, responsible innovation, and Kautilyan economic thought. The literature was identified using targeted combinations of search terms across major academic databases:

"FinTech" AND "digital financial inclusion" AND India

"ethical FinTech" AND "financial inclusion"

"responsible innovation" AND FinTech

"Indian Knowledge Systems" AND ethics AND governance

"Kautilya" AND "economic governance" / "Arthaśāstra"

The selected literature was then examined thematically to identify common ideas and areas of overlap. The main themes are summarized in Table 1:

Literature Stream Core Conceptual Focus

FinTech & Inclusion Access channels, operational costs, technology adoption, digital literacy Ethical FinTech Consumer trust, data privacy, algorithmic fairness, anti-predatory practices Responsible Innovation Anticipation, reflexivity, stakeholder inclusion, systemic responsiveness IKS & Governance Administrative integrity, state oversight, sustainable welfare, public duty Kautilyan Thought Institutional accountability, user protection, market regulation, economic prudence

Table 1: Key Thematic Streams Synthesized in the Study

Conceptual Framework A Kautilyan Framework for Ethical Digital Finance Based on the literature, the study proposes a framework that connects five Kautilyan principles with current ethical challenges in FinTech. Table 2 presents this mapping: Kautilyan Principle Modern FinTech Risk Responsible FinTech

Practice

Desired Outcome

Protection (Raksha) Data breaches, predatory

scams, user exploitation

Secure architecture, strict

consumer data privacy,

anti-fraud rules

Safer financial participation Accountability (Palana) Opaque 'black box' AI

scoring, lack of legal

recourse

Explainable AI (XAI),

algorithmic audits, explicit

recourse mechanisms

Increased consumer trust

Ethical Governance

(Yogakshema)

Algorithmic bias, unfair

automated credit denials

Unbiased AI training,

inclusive risk models,

ethical oversight

Equitable access to

financial credit

Economic Prudence

(Varta)

Predatory micro-lending,

aggressive interest, over-

indebtedness

Ethical underwriting,

transparent terms,

responsible lending

standards

Sustainable financial

engagement

Social Welfare

(Lokasamgraha)

Systemic exclusion of rural

and low-literacy

populations

Universal UI/UX design,

offline capabilities,

localized support

Genuine, widespread

inclusion

Table 2: Proposed Kautilyan Framework for Ethical FinTech Governance

Alignment with Responsible Innovation Pillars

The five Kautilyan principles can also be related to the four responsible-innovation

pillars proposed by Stilgoe et al. (2013):

Anticipation (Prudence & Foresight): Proactively auditing platforms for risks like predatory credit loops, data leaks, and algorithmic bias before launch.

Reflexivity (Ethical Governance): Re-evaluating profit-maximizing automated workflows to ensure they align with human dignity and ethical fairness.

Inclusion (Protection & Social Welfare): Designing products alongside low-literacy and rural users to build accessible, non-discriminatory interfaces.

Responsiveness (Accountability & Regulation): Updating algorithmic models and corporate practices immediately when consumer harm or systemic bias is identified.

Kautilyan Governance Principles

(Protection | Accountability | Ethical Governance | Economic Prudence | Social Welfare)

↓

Responsible FinTech Implementation

(Consumer Safeguards | Explainable AI | Unbiased Scoring | Ethical Lending | Universal Design)

↓

Systemic Outcomes

(Trust | Fairness | Data Privacy | Accessible Services)

↓

Ethical & Inclusive Digital Financial Ecosystem

Discussion and Implications

Bringing Kautilyan ideas into the discussion of digital finance adds a values-based perspective to technology governance. The idea of protection (raksha) highlights a basic point: wider financial access should not mean weaker protection for users.

Without strong safeguards, digital platforms risk exposing vulnerable users to fraud and aggressive debt traps.

Accountability (palana) is especially relevant when credit decisions are made by automated systems. Users need understandable explanations and a clear way to seek redress. Ethical governance (yogakshema) points toward the need to reduce unfair algorithmic outcomes, while economic prudence (varta) supports responsible lending rather than practices that can push users into excessive debt. Finally, social welfare (lokasamgraha) keeps attention on people who are often left behind. In this sense, digital finance should expand opportunities for underserved communities rather than make their vulnerabilities worse.

From a theoretical point of view, the framework shows how classical Indian thought can contribute to current discussions about responsible technology. For practitioners, the framework offers a way for FinTech companies, technology teams, and regulators to consider ethics during product design, policy decisions, and algorithmic audits.

Conclusion

FinTech has clearly contributed to financial inclusion in India, but technology alone cannot make the financial system equitable. Risks such as algorithmic bias, misuse of data, and digital exclusion therefore need to be addressed through clear and values-based governance. The framework developed here suggests that Kautilya's Arthaśāstra can provide a useful intellectual foundation for thinking about responsible digital finance. If principles of protection, accountability, ethical governance, economic prudence, and social welfare are reflected in FinTech practices, digital financial services can move closer to being trustworthy, sustainable, and genuinely inclusive. Future studies could test the framework through case studies of FinTech platforms, user-focused research, and algorithmic audits in emerging markets.

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FROM VEDA TO BYTE: INTEGRATING INDIAN KNOWLEDGE SYSTEMS INTO AI-DRIVEN BUSINESS INNOVATION

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Abstract

Artificial Intelligence (AI) is a force behind today's business innovation. It changes the way companies make decisions, design their operations, interact with customers, manage resources and plan their digital strategies. At the time the quick use of algorithms brings big problems. These problems include treatment of people, unclear processes, loss of privacy, unclear responsibility and too much trust in automated decisions. This study looks into whether the main ideas from Indian Knowledge Systems (IKS) can offer a management system that works well with AI in businesses. The study says that old texts didn't predict computer methods. Instead it looks at Dharma as a duty to the system, Nyāya as a way to find truth logically, statecraft as managing resources wisely and leadership that puts people first in managing knowledge. The research uses a method and looks at different sources about AI ethics, technology management and old philosophy. It shows three examples from companies: Amazon's hiring system, Google DeepMind's cooling system for data centers and Wipro's use of Microsoft Copilot. The model called Veda to Byte connects ideas with ethical rules, people-focused ideas and long-term success for businesses.

Keywords: Indian Knowledge Systems; Artificial Intelligence; Business Innovation; Ethical AI; Dharma; Nyāya; Digital Transformation; Responsible Innovation; Sustainability; Human-Centred Management.

1. Introduction

The Fourth Industrial Revolution has changed how companies make value, compete and make decisions. New machine learning systems, cloud systems, automation, big data and the Internet of Things now shape the business plans and daily work. Algorithms look at amounts of data, find small patterns, predict what people will buy, automate hiring, find fraud, improve supply chains and help make new products.

A company's value is not just about how fast it works, how much it replaces workers or how efficient it is in the short term. Machine learning systems take on the biases, the ideas of the company and the choices made by developers in the data they use. If these systems are not watched, they can create treatment, hide how decisions are made and reduce the control that institutions have. Because of this, global rules focus on fairness, transparency, responsibility, privacy and making sure people are in charge.

This study looks at whether some ideas from Indian Knowledge Systems (IKS) can give a deep way to guide how AI is used in businesses. IKS is a group of ways of thinking that include philosophy, math, language, how to run a country, economics and medicine. It does not say that old books had the ideas as today's software. Instead, this paper looks at ideas, like duty to society (Dharma), checking things carefully (Nyāya) and managing things wisely. These old ideas can help today's managers make decisions.

1.1 Research Problem and Theoretical Gap

While business books talk a lot about using AI, changing to ways and staying ahead of others, research on responsible AI focuses on making sure AI is fair, easy to understand and safe. At the time, studies about old ways of managing look at leading with ethics, taking care of the company and using resources properly. These areas of study are not connected. There is still a gap in bringing old ideas from philosophy into how companies manage AI today. This study tries to answer a question: How can some ideas from Indian Knowledge Systems be connected to ethical AI and to making business better, for people?

1.2 Core Research Objective

To deal with this issue, the study has six main goals. The study of Artificial Intelligence adoption and its effect on enterprise innovation is very important.

Here are the main things the study wants to do:

Look at how Artificial Intelligence adoption and digital transformation affect how companies innovate.

Find the problems with ethics and management when companies use Artificial Intelligence.

Study the principles that guide decision making and a company responsibilities.

See how old ideas like Dharma and Nyāya and new ideas like taking care of resources and putting people first can help with Artificial Intelligence problems.

Create a model called the Veda to Byte Model to help companies use Artificial Intelligence in a way.

Show how this model can be used in life by looking at how companies have used it and plan for future research, on Artificial Intelligence.

2. Theoretical Foundations and Literature Synthesis

2.1 Artificial Intelligence, Digital Transformation, and Value Creation

Artificial intelligence is something that companies use to help them work better it is not a technology that they buy. Artificial intelligence helps companies when it is used to solve business problems, such as making processes easier helping people understand things better and getting customers more involved. This has to be done in a way that fits with the company's plan and how they do things.

When companies want to use technology to change how they work they have to make some changes. They have to think about what jobs people will do who gets to make decisions and how they interact with customers. Some researchers have talked about the difference between using intelligence to automate tasks and using it to help people do their jobs better.

Automation is when artificial intelligence is used to make decisions on its own without people being involved. Augmentation is when artificial intelligence is used to help people make decisions and people are still, in charge. Artificial intelligence is used to help with things that're not as important and people make the decisions that are more complicated and require human judgment. Artificial intelligence and human judgment are used together to make decisions that're about artificial intelligence and value.

2.2 The Landscape of Responsible and Ethical AI

The widespread adoption of automated decision systems creates ethical exposure around algorithmic bias, black-box opacity, and accountability deficits (Mittelstadt et al., 2016). Global AI ethics frameworks highlight key principles: transparency, justice, non-maleficence, responsibility, and privacy (Floridi et al., 2018; Jobin et al., 2019). Operational frameworks, such as the NIST AI Risk Management Framework, establish govern-map-measure-manage protocols (NIST, 2023), while UNESCO emphasizes human dignity, environmental sustainability, and oversight (UNESCO, 2021).

2.3 Indian Knowledge Systems in Contemporary Management

Indian Knowledge Systems are a mix of different philosophical, scientific and administrative traditions. They are not one set of ideas. To really understand Indian Knowledge Systems in the context of management we need to carefully think about what the texts are saying. We should not just take the words at face value. Indian Knowledge Systems give us a way of looking at things focusing on values and quality which is different, from just following rules and doing technical safety checks. This is what makes Indian Knowledge Systems useful.

2.4 Ethical Frameworks: Dharma and Nyāya

Dharma is not easy to translate into simple words like compliance or business ethics. In ideas Dharma means duty based on situation good behavior organized structure and thinking about the long-term good of society. When it comes to enterprise AI Dharma changes the way managers ask questions. Of asking "Can an algorithm do this job?" they should ask "Should this job be done by an algorithm? For whom? Under what limits? who is responsible?"

The Nyāya school of thinking is about how we know things, logic and ways to check if something is true. Of seeing Nyāya as something that came before explainable AI this study uses its way of thinking to make sure that business decisions are based on strong evidence. Nyāya says that managers must look carefully at the quality of data the ideas behind the data the limits of the model and other possible explanations before believing that an automated result is real.

2.5 Environmental Stewardship, Governance and Leadership

Enterprise AI needs a lot of energy, special computer systems, storage for data and money. Old Indian ideas about how to run a country from the Arthashāstra talk about using resources carefully making sure organizations last a long time and being responsible for what they do. Even though the Arthashāstra is an old book about how to manage a country it gives a good way to think about taking care of resources. This way of thinking helps companies work in a way. When combined with leaders who care about people it means companies must have rules, about who makes decisions how to handle problems and ways to check everything regularly.

3. Analytical Framework and Conceptual Mapping

3.1 Conceptual Research Design

This study is based on a conceptual research design. It does not use hypothesis testing. Instead it combines literature from technology management and Indian philosophy to build a conceptual framework. The design has four parts: a structured literature review, thematic analysis, conceptual mapping and business case illustrations. The conceptual framework of this study is very important. It helps us understand the relationship between technology management and Indian philosophy.

3.2 Source Corpus Selection and Qualitative Synthesis

The sources used in this study were chosen based on how they were researched how relevant they were to the topic and what they contributed to technology ethics and traditional philosophy. The sources included peer-reviewed journal articles, important philosophical commentaries, government reports and case studies of companies. The main themes that were identified include innovation in intelligence, bias in algorithms, Dharma, Nyāya, governance of resources and leadership that focuses on humans. These themes are all part of the framework of this study.

3.3 Structural Mapping and Case Contextualization

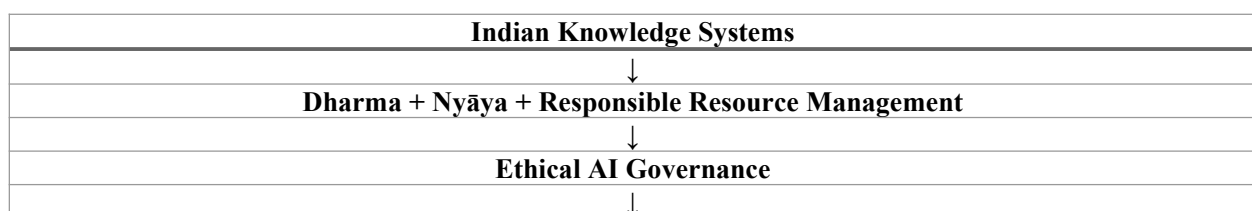
To make the conceptual model more understandable three examples of companies were looked at: Amazons tool for recruiting using artificial intelligence Google DeepMinds system for cooling data centers and Wipros use of Microsoft Copilot in their organization. The conceptual mapping of this study links principles to specific challenges that companies face and the outcomes of their operations through the framework. This helps us see how the conceptual framework of this study can be applied to real-world situations : IKS Principle → AI/Business Challenge → Ethical Application → Indicative Outcome.

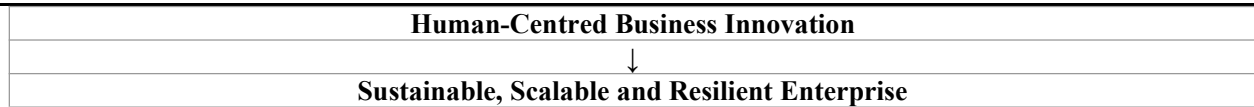
4. The Veda to Byte Conceptual Model

4.1 Core Structural Architecture

The main idea of this study is the Veda to Byte Model. The word Veda means Indian knowledge. Byte is, about computers and digital technology. The Veda to Byte Model does not say that old books knew about computers. It uses ideas to make modern Artificial Intelligence systems better. The Veda to Byte Model is important for the Veda to Byte Model because it helps make Artificial Intelligence systems work in a way.

The structural flow of the model moves progressively through connected analytical stages:





Enterprise the core dimensions of the model are summarized in Table below:

IKS Principle	AI / Business Challenge	Ethical Application	Indicative Outcome
Dharma	Algorithmic bias, unfair automated decisions, irresponsible deployment	Ethical responsibility, fairness, multi-stakeholder welfare alignment	Trustworthy decision-making architectures
Nyāya	Lack of transparency, unreliable outputs, hallucination risks	Checking evidence, critical thinking, explaining AI outputs	High-quality, validated managerial decisions
Resource Management	High energy consumption, compute expenditure, environmental footprint	Responsible resource use, efficient operations, long-term planning	Sustainable and eco-efficient enterprise operations
Human-Centred Leadership	Excessive reliance on automation, loss of human oversight and accountability	Mandatory human-in-the-loop oversight, decision ownership	Responsible and accountable AI adoption
Knowledge Management	Governance recurring errors, organizational learning gaps	Clear documentation, sharing experiences, continuous learning	Resilient organizational innovation capability

4.2 Making Dharma Work in AI Governance

Dharma sets the level of ethical responsibility in the model. This means business leaders have to think about whether an AI application's good for the people it affects if it treats them fairly and if it does what is good for society, as a whole. Dharma changes the way we govern AI from thinking about if it can be done to thinking about if it is the right thing to do. Dharma is what makes sure AI applications are responsible and follow the rules of Dharma.

4.3 Checking Knowledge with Nyāya

The Nyāya part makes sure we check our knowledge. People in charge of companies must carefully look at the quality of the information they get the ideas behind the algorithms how sure they're about the answers and what could go wrong. Nyāya treats what the artificial intelligence system predicts, as things that might happen. People need to think about what they mean rather than just accepting them as true.

4.4 Environmental Responsibility and Efficient Resource Use

Responsible resource use considers the environmental and operational impact of business computing. It encourages organizations to evaluate AI deployment based on efficient resource use, balancing computing needs with financial costs and environmental effects.

4.5 Human-Centred Leadership and Organizational Knowledge Integration

Human-centred leadership retains ultimate moral and operational accountability with human decision-makers. Organizations must define clear decision rights, mandatory human review thresholds, and employee appeal channels. Knowledge management captures operational lessons, failure modes, and governance edge cases, building institutional memory across project lifecycles.

5. Empirical Illustrations and Business Contexts

5.1 Algorithmic Bias in Talent Acquisition: The Amazon Case

In 2014, Amazon attempted to develop an experimental machine learning system to automate parts of the resume screening process. The algorithm was trained using ten years of historical hiring data. Since the technology sector had been largely male-dominated, the system learned patterns from this historical data that disadvantaged women. It began penalizing resumes that included terms such as “women’s” or references to women’s colleges, eventually leading Amazon to discontinue the project in 2018 (Reuters, 2018).

This case demonstrates why *Dharma* is relevant to AI governance. Faster decision-making has limited value if the system itself produces unfair outcomes. Organizations therefore need to examine their training data, regularly check AI systems for bias, and ensure that human recruiters remain involved in important hiring decisions.

5.2 Green Automation: Google DeepMind’s Cooling Systems

Google used DeepMind’s reinforcement learning algorithms to improve the cooling systems in its data centers. By using real-time information from sensors, the AI could adjust cooling operations according to changing conditions. Google reported that this approach reduced the energy used for data-center cooling by up to 40% (Google DeepMind, 2016).

This example shows that AI innovation does not have to focus only on productivity or cost reduction. It can also be directed toward responsible resource use and environmental sustainability. From the perspective of the proposed model, this reflects the importance of considering both operational efficiency and the longer-term effects of resource consumption.

5.3 Safe Adoption: Wipro’s “Client Zero” Strategy

When Wipro adopted Microsoft Copilot, the organization had to consider issues such as data privacy, the accuracy of AI-generated outputs, employee skills, and human oversight. Through its internal “Client Zero” initiative, Wipro tested the technology within its own teams and used the experience to improve its governance practices and training approaches before wider deployment (Microsoft, 2024).

Wipro’s experience shows that adopting AI involves more than introducing a new technology. Employees need to understand how the technology works, organizations need to learn from their experiences, and governance practices may need to change as the technology is used. This connects with the model’s emphasis on human-centred leadership and knowledge management, where people remain central to the process.

6. Critical Discussion

6.1 Algorithmic Governance as Strategic Executive Responsibility

AI governance is not only a technical responsibility; it is also an important part of strategic leadership. Executives decide why AI systems are being used, which problems they are expected to solve, what data is used, and who remains responsible for the final outcomes. The Veda to Byte Model brings these decisions together by connecting responsibility, careful reasoning, responsible resource use, and human judgment.

6.2 Human-AI Collaboration and Better Decision-Making

Machine learning systems can process large amounts of information quickly, but human decision-makers bring context, values, relationships, and an understanding of consequences that may not be captured by a model. The framework therefore supports using AI to assist human decision-making rather than relying on it without question. Human judgment should remain particularly important when business decisions have significant consequences for people.

6.3 Transparency, Environmental Impact, and Organizational Resilience

Important AI-based decisions require proper documentation, supporting evidence, review processes, and records that allow decisions to be examined when necessary. Environmental sustainability should also be considered when organizations plan their AI systems, particularly because these systems require computing power and other

resources. At the same time, AI can be used to improve efficiency and reduce resource use. Organizations also need alternative ways of making decisions, regular evaluation of AI systems, employee training, and continuous learning so that they can respond when AI systems do not perform as expected.

6.4 Stakeholder Fairness and Collective Welfare

A narrow focus on efficiency asks whether AI can increase output or reduce costs. A broader approach also asks who benefits from the technology, who may face negative consequences, and who is responsible for those outcomes. The principle of *Dharma* provides a useful conceptual basis for this wider perspective by encouraging organizations to consider fairness, responsibility, and the welfare of people affected by their decisions.

7. Theoretical Frameworks and Practical Implications

This study extends the discussion of Indian Knowledge Systems into the context of contemporary digital governance without suggesting that ancient concepts are direct equivalents of modern technologies. *Dharma* provides a perspective on ethical responsibility, while *Nyāya* encourages careful reasoning, examination of evidence, and questioning of AI-generated decisions. From a business perspective, the framework suggests that innovation should not be judged only by technological novelty. Issues such as fairness, sustainability, human involvement, and long-term organizational value also need to be considered.

For business leaders, AI adoption should be treated as a strategic responsibility rather than simply a technology investment. Organizations need clear accountability, appropriate human review, regular checks for bias, and adequate employee training. Technology developers should also consider responsible practices during system design, including transparency about data use, privacy protection, clear information about system limitations, and ongoing monitoring. Policymakers can support responsible AI adoption by creating frameworks that encourage innovation while also addressing oversight, data protection, fairness, and sustainability.

8. Limitations and Future Research

This study is conceptual and does not empirically measure whether using IKS-based approaches actually improves AI outcomes in organizations. The analysis is based mainly on secondary literature and documented business examples. Concepts such as *Dharma* and *Nyāya* are complex and have different meanings across Indian philosophical traditions, so their use in this study is selective and contextual. The relationships proposed in the Veda to Byte Model therefore need to be tested through future research.

Future research can examine the model through quantitative surveys, interviews with business leaders and AI professionals, and detailed organizational case studies. Researchers can also study how the framework applies across different industries, including financial services, healthcare, human resources, manufacturing, retail, public administration, and agriculture. Comparative studies could further examine how IKS-based principles relate to other culturally grounded approaches to responsible technology and AI governance.

9. Conclusion

The main point of this study is theoretical. The paper shows that IKS provides a way of thinking that focuses on values when it comes to managing technology in companies. By bringing ideas from philosophy together with today's ways of managing technology the study suggests a theory. The proposed path is: IKS → Ethical AI Governance → Human-Centred Innovation → Enterprise.

Artificial intelligence continues to drive business innovation and digital transformation, yet technological capability alone cannot guarantee ethical or sustainable outcomes. This study examined how selected principles from Indian Knowledge Systems can complement modern AI governance. *Dharma* provides a perspective on ethical responsibility, *Nyāya* encourages careful reasoning and examination of evidence, responsible resource use supports efficient and sustainable operations, and human-centred leadership helps maintain accountability and organizational learning.

The Veda to Byte Model connects these principles into a pathway from IKS principles to ethical AI governance, human-centred innovation, and sustainable enterprise resilience. The model does not claim that ancient Indian knowledge created or predicted modern computing. Instead, it shows how selected ideas from Indian philosophical

traditions can provide a useful perspective for managing contemporary technology. AI should not simply make organizations faster or more automated; it should also help them become more responsible, transparent, resilient, and human-centred.

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INDIAN DIETARY WISDOM AND MODERN HEALTHY FMCG FOODS: EXAMINING CULTURAL AUTHENTICITY, BRAND TRUST AND PURCHASE INTENTION AMONG GENERATION Z CONSUMERS

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ABSTRACT

Indian Knowledge Systems (IKS) provide culturally rooted knowledge and practices that can be examined in contemporary consumer and management contexts. This study examines whether selected Indian dietary wisdom-related values are associated with perceived cultural authenticity of modern healthy packaged fast-moving consumer goods (FMCG) products and whether these perceptions are related to brand trust and purchase intention among Generation Z consumers. A quantitative, cross-sectional survey design was used with 121 valid respondents in India. The questionnaire employed five-point Likert scales. Data were analysed using descriptive statistics, Cronbach's alpha, Pearson correlation, variance inflation factor (VIF), ordinary least squares (OLS) regression and regression diagnostics. The initial five-item Indian Dietary Wisdom (IDW) scale was assessed for internal consistency, and IDW4 was removed because of its negligible negative item-total correlation; the final four-item scale had $\alpha = .767$. Perceived Cultural Authenticity (PCA), Brand Trust (BT) and Purchase Intention (PI) demonstrated $\alpha = .805$, $.844$ and $.768$, respectively. All construct correlations were positive and significant ($p < .001$). Regression results supported all four direct hypotheses: IDW $\rightarrow$ PCA ($B = .707$, $R^2 = .453$), PCA $\rightarrow$ BT ($B = .761$, $R^2 = .433$), BT $\rightarrow$ PI ($B = .620$, $R^2 = .522$), and IDW $\rightarrow$ PI ($B = .641$, $R^2 = .378$). The findings suggest that culturally grounded dietary values, perceived authenticity and brand trust are relevant to purchase-related responses toward healthy FMCG products in the surveyed Generation Z sample.

Keywords: Indian Knowledge Systems; Indian Dietary Wisdom; Cultural Authenticity; Brand Trust; Purchase Intention

1. INTRODUCTION

Indian Knowledge Systems encompass diverse bodies of knowledge, practices and values developed within the Indian intellectual and cultural tradition. In management research, IKS can be examined not only as a historical or philosophical domain but also as a source of culturally grounded values that influence contemporary consumer behaviour. Indian dietary traditions have historically associated food with principles such as balance, moderation and mindful consumption (Tripathi, 2025).

Food consumption has changed substantially with urbanisation, packaged-food availability, digital marketing and growing attention to health. Research on healthier food choices indicates that consumers' food decisions are influenced by multiple personal, product-related and environmental factors (Ogundijo et al., 2022). Modern healthy FMCG foods are commonly positioned around nutrition, natural ingredients, wholesome composition and convenience. In this study, healthy FMCG foods include packaged products such as millet-based products, nuts and seeds, healthy snacks and healthy breakfast products.

The study does not assume that packaged products are equivalent to traditional dietary practices. Instead, it examines whether consumers perceive a meaningful cultural connection between selected dietary principles and contemporary healthy food products. Such a connection is relevant because culturally familiar values may influence how consumers interpret modern food products.

Generation Z is an important consumer segment because its consumption occurs within a rapidly changing information and media environment. Younger consumers are exposed to health claims, nutrition information, influencer communication, brand storytelling and cultural branding. Consequently, product evaluations may depend not only on functional benefits but also on whether consumers find brand communication credible and culturally authentic (Loebnitz & Grunert, 2022).

The research problem addressed in this paper is the limited empirical understanding of how Indian dietary wisdom-related values connect with contemporary healthy FMCG evaluations among Generation Z consumers. While previous research has examined healthier food choice, food-brand authenticity, trust and purchase intention, these constructs have rarely been integrated around an IKS-informed dietary-value perspective.

The study therefore investigates whether Indian dietary wisdom is associated with perceived cultural authenticity, brand trust and purchase intention. The study is relevant to management because culturally grounded knowledge can potentially be translated into responsible marketing, product positioning and brand communication. However, such translation must be credible rather than superficial.

Understanding the relationships among dietary values, authenticity, trust and purchase intention can help managers develop culturally meaningful food brands while avoiding unsupported claims.

2. RESEARCH PROBLEM

Modern healthy FMCG brands increasingly use cultural, traditional and natural-food narratives to differentiate products. Yet consumers may not accept these narratives automatically. A brand may refer to Indian traditions without being perceived as culturally authentic, and a culturally appealing message may not produce purchase intention unless consumers trust the brand.

The specific research problem is therefore to determine whether Indian dietary wisdom-related values are positively associated with perceived cultural authenticity, whether authenticity is associated with brand trust, and whether trust and dietary values are associated with purchase intention among Generation Z consumers.

3. RESEARCH OBJECTIVES

1. To examine the relationship between Indian dietary wisdom-related values and perceived cultural authenticity of modern healthy FMCG food products among Generation Z consumers.
2. To examine the relationship between perceived cultural authenticity and brand trust.
3. To examine the relationship between brand trust and purchase intention toward modern healthy FMCG food products.
4. To examine the relationship between Indian dietary wisdom-related values and purchase intention.

4. RESEARCH QUESTIONS

RQ1: How are Indian dietary wisdom-related values related to perceived cultural authenticity of modern healthy FMCG food products among Generation Z consumers?

RQ2: Does perceived cultural authenticity relate to brand trust?

RQ3: Does brand trust relate to purchase intention?

RQ4: Are Indian dietary wisdom-related values related to purchase intention toward modern healthy FMCG food products?

5. LITERATURE REVIEW

5.1 Indian Dietary Wisdom and Food Consumption

Indian dietary traditions have historically associated food with principles such as balance, moderation, mindful consumption and wellbeing. For empirical consumer research, these broad principles need to be translated into observable attitudes. The present study therefore operationalises Indian Dietary Wisdom through consumers' agreement with statements concerning moderation, mindful selection, wholesome or natural food orientation and traditional Indian dietary principles (Tripathi, 2025).

This operationalisation is intentionally narrower than the entire IKS tradition and should not be interpreted as a complete representation of Indian dietary knowledge. The contemporary relevance of dietary wisdom lies in the

possibility that consumers may use culturally familiar values as interpretive frameworks when evaluating modern products.

If consumers value moderation and wholesome food selection, products positioned around these principles may be evaluated more favourably. However, the cultural connection must be perceived as credible rather than merely promotional.

5.2 Generation Z and Healthy Food Consumption

Generation Z consumers make food decisions within an environment characterised by convenience, health information, social media exposure and changing lifestyle patterns. Research on healthier food choices indicates that food-selection decisions are influenced by multiple personal, product-related and environmental factors (Ogundijo et al., 2022).

The present study extends this perspective by examining cultural dietary values as one possible influence on consumer responses to healthy packaged foods. The focus on younger consumers is also relevant to FMCG companies because this consumer segment is exposed to changing health preferences, digital communication and evolving food-consumption patterns.

At the same time, the use of the present sample requires careful interpretation because the respondents were selected using the age categories specified in the questionnaire and are not necessarily representative of all young Indian consumers.

5.3 Perceived Cultural Authenticity

Perceived Cultural Authenticity refers to the extent to which consumers perceive a product or brand's cultural connection as genuine, credible and consistent with the cultural meaning being communicated. Authenticity is particularly relevant in food marketing because cultural references can create differentiation and influence consumer evaluations when consumers perceive them as genuine and credible (Loebnitz & Grunert, 2022).

Food-brand research suggests that perceived authenticity can influence consumers' evaluations and purchase-related responses. Consumers may respond more positively when the cultural or traditional identity communicated by a brand is perceived as consistent with the product and its positioning (Loebnitz & Grunert, 2022).

In the present context, cultural authenticity is expected to connect Indian dietary values with modern product evaluations. Consumers who place greater importance on Indian dietary principles may be more likely to recognise and value credible cultural connections in healthy FMCG products.

5.4 Brand Trust

Brand Trust represents consumers' confidence that a brand is truthful, reliable and capable of delivering what it promises. Trust is particularly important for healthy FMCG products because consumers may depend on brand information concerning ingredients, quality and product claims when making purchase decisions.

Previous research indicates that consumer trust and brand credibility can influence purchase-related outcomes in food markets. Trust can reduce uncertainty and strengthen consumers' confidence in a food brand, thereby contributing to favourable behavioural intentions (Calvo Porral & Levy-Mangin, 2016; Sekhar et al., 2022).

In the present study, perceived cultural authenticity is expected to contribute to brand trust because culturally consistent and credible communication may signal genuineness. Brand trust is then expected to be positively associated with purchase intention.

5.5 Purchase Intention

Purchase Intention reflects the consumer's stated likelihood or willingness to purchase the relevant product. It is an established outcome variable in consumer behaviour research and is commonly used to assess consumers' behavioural tendencies toward food products.

Previous research on food brands has examined purchase intention in relation to consumer trust, brand credibility and perceived authenticity (Calvo Porral & Levy-Mangin, 2016; Loebnitz & Grunert, 2022; Sekhar et al., 2022).

However, purchase intention should not be treated as identical to actual purchasing behaviour. The present study therefore interprets purchase intention as a self-reported behavioural tendency rather than a direct measure of market sales.

5.6 Research Gap

Existing research has examined healthier food choice, brand authenticity, brand credibility, consumer trust and purchase intention as important dimensions of food-consumer behaviour (Calvo Porral & Levy-Mangin, 2016; Loebnitz & Grunert, 2022; Ogundijo et al., 2022; Sekhar et al., 2022).

However, there is limited empirical integration of these constructs through an Indian Knowledge Systems-informed dietary-value perspective in the context of modern healthy FMCG products and younger Indian consumers.

The present study addresses this gap by examining the relationships between Indian Dietary Wisdom, Perceived Cultural Authenticity, Brand Trust and Purchase Intention.

6. HYPOTHESIS DEVELOPMENT

H1: Indian dietary wisdom-related values are positively associated with perceived cultural authenticity of modern healthy FMCG food products.

H2: Perceived cultural authenticity is positively associated with brand trust.

H3: Brand trust is positively associated with purchase intention toward modern healthy FMCG food products.

H4: Indian dietary wisdom-related values are positively associated with purchase intention toward modern healthy FMCG food products.

7. CONCEPTUAL FRAMEWORK

The conceptual framework proposes direct relationships from Indian Dietary Wisdom (IDW) to Perceived Cultural Authenticity (PCA), from PCA to Brand Trust (BT), from BT to Purchase Intention (PI), and from IDW directly to PI.

Conceptual relationship:

Indian Dietary Wisdom (IDW) → Perceived Cultural Authenticity (PCA) → Brand Trust (BT) → Purchase Intention (PI)

Additional direct relationship:

Indian Dietary Wisdom (IDW) → Purchase Intention (PI)

The analysis tests these direct relationships. It does not claim a formal mediation effect because no indirect-effect or bootstrap mediation analysis was conducted.

Table 1. Construct Measurement and Operational Focus

Construct	Role	Final Items	Operational Focus
Indian Dietary Wisdom (IDW)	Predictor	IDW1, IDW2, IDW3, IDW5	Moderation, mindful selection, wholesome/natural orientation and traditional dietary wisdom
Perceived Cultural Authenticity (PCA)	Predictor/Outcome	PCA1–PCA4	Genuine and credible cultural connection
Brand Trust (BT)	Predictor/Outcome	BT1–BT3	Truthfulness, reliability and confidence in claims
Purchase Intention (PI)	Outcome	PI1–PI3	Likelihood and intention to purchase

Source: Authors' survey instrument and analysis.

8. RESEARCH METHODOLOGY

8.1 Research Design

A quantitative, cross-sectional survey design was adopted. Primary data were collected through a structured questionnaire. The approach was selected because the study aims to measure relationships among defined constructs and statistically test hypotheses.

8.2 Population and Sampling

The target population consisted of young Indian consumers who were familiar with or had experience purchasing packaged healthy FMCG foods. The questionnaire used the specified age categories of 18–20 years, 21–23 years, 24–26 years, and 27–29 years.

Purposive/convenience sampling was used. The final analytical dataset contained **121 valid respondents**.

8.3 Research Instrument

The questionnaire used five-point Likert response scales ranging from **1 = Strongly Disagree** to **5 = Strongly Agree**.

The initial instrument contained five IDW items, four PCA items, three BT items and three PI items. Construct scores were calculated using the mean of retained items.

The initial five-item IDW scale was assessed for internal consistency. IDW4 was removed because of its negligible negative item-total correlation ($r = -.007$), resulting in a final four-item scale with Cronbach's alpha of .767.

8.4 Data Analysis

Data were analysed using descriptive statistics, Cronbach's alpha, Pearson correlation, variance inflation factor (VIF) and ordinary least squares (OLS) regression.

Regression diagnostics included residual normality, heteroscedasticity and Cook's distance. HC3 heteroscedasticity-robust standard errors were used for the PCA → BT and IDW → PI models where robust inference was required.

9. RESULTS

9.1 Respondent Profile

The final sample comprised 121 respondents. The largest age group was 21–23 years ($n = 80$, 66.1%), followed by 18–20 years ($n = 25$, 20.7%), 24–26 years ($n = 11$, 9.1%), and 27–29 years ($n = 5$, 4.1%).

Females accounted for 64 respondents (52.9%) and males for 57 (47.1%). Students represented 81 respondents (66.9%), followed by employed respondents ($n = 30$, 24.8%), housewives ($n = 7$, 5.8%), and self-employed respondents ($n = 3$, 2.5%).

Table 2. Respondent Profile (N = 121)

Variable	Category	n	%
Age	18–20 years	25	20.7
Age	21–23 years	80	66.1
Age	24–26 years	11	9.1
Age	27–29 years	5	4.1
Gender	Male	57	47.1
Gender	Female	64	52.9
Occupation	Student	81	66.9
Occupation	Employed	30	24.8
Occupation	Housewife	7	5.8

Variable	Category	n	%
Occupation	Self-employed	3	2.5
Purchase Frequency	Daily	32	26.4
Purchase Frequency	A few times a week	42	34.7
Purchase Frequency	Once a week	21	17.4
Purchase Frequency	Rarely	26	21.5
Product Type	Millet-based products	20	16.5
Product Type	Nuts / Seeds	48	39.7
Product Type	Healthy snacks	37	30.6
Product Type	Healthy breakfast products	13	10.7
Product Type	All	1	0.8
Product Type	Snacks	2	1.7

Source: Primary survey data and authors' analysis.

9.2 Descriptive Statistics and Reliability

The final construct scores showed generally high mean responses. IDW had $M = 4.000$ and $SD = .516$; PCA had $M = 3.899$ and $SD = .543$; BT had $M = 3.862$ and $SD = .628$; and PI had $M = 3.904$ and $SD = .538$.

Table 3. Construct Descriptive Statistics and Internal Consistency

Construct	Final Items	Mean	SD	Cronbach's α
IDW	4	4.000	.516	.767
PCA	4	3.899	.543	.805
BT	3	3.862	.628	.844
PI	3	3.904	.538	.768

Source: Primary survey data and authors' analysis.

The reliability results indicate acceptable internal consistency for the final scales. The initial IDW scale required refinement because IDW4 had a negligible negative item-total relationship. The final four-item IDW scale achieved $\alpha = .767$. PCA, BT and PI achieved $\alpha = .805$, $.844$ and $.768$, respectively.

9.3 Correlation Analysis

All six pairwise construct correlations were positive and statistically significant at $p < .001$.

The strongest relationship was between Brand Trust and Purchase Intention ($r = .722$), followed by PCA and PI ($r = .694$), IDW and PCA ($r = .673$), PCA and BT ($r = .658$), IDW and PI ($r = .615$), and IDW and BT ($r = .523$).

Table 4. Pearson Correlation Matrix

	IDW	PCA	BT	PI
IDW	1.000	.673***	.523***	.615***
PCA	.673***	1.000	.658***	.694***
BT	.523***	.658***	1.000	.722***
PI	.615***	.694***	.722***	1.000

Source: Primary survey data and authors' analysis. *** $p < .001$, two-tailed; $N = 121$.

9.4 Multicollinearity and Regression Diagnostics

Predictor VIF values ranged from 1.802 to 2.393, indicating no problematic multicollinearity among the predictors used in the regression analyses.

Table 5. Predictor VIF Values

Predictor	VIF
IDW	1.866
PCA	2.393
BT	1.802

Source: Primary survey data and authors' analysis.

For IDW → PCA, the Shapiro–Wilk residual test was significant ($W = .973$, $p = .0143$), while heteroscedasticity tests were not statistically significant ($LM\ p = .0892$; $F\ p = .0906$). Maximum Cook's distance was .161.

For PCA → BT, the Shapiro–Wilk test was significant ($W = .963$, $p = .0023$), heteroscedasticity was detected ($LM\ p = .0287$; $F\ p = .0288$), and maximum Cook's distance was .299; HC3 robust standard errors were therefore used.

For IDW → PI, the Shapiro–Wilk test was significant ($W = .975$, $p = .0221$), and HC3 robust standard errors were used. No respondent was removed solely because of Cook's distance.

9.5 Hypothesis Testing

Table 6. Hypothesis Testing and Regression Results

Hypothesis	Relationship	B	SE	t	p	R ²	Decision
H1	IDW → PCA	.707	.071	9.925	< .001	.453	Supported
H2	PCA → BT	.761	.095	7.993	< .001	.433	Supported
H3	BT → PI	.620	.054	11.397	< .001	.522	Supported
H4	IDW → PI	.641	.084	7.642	< .001	.378	Supported

Source: Primary survey data and authors' regression analysis. H2 and H4 use HC3-robust standard errors.

H1 was supported because Indian Dietary Wisdom was positively associated with Perceived Cultural Authenticity ($B = .707$, $t = 9.925$, $p < .001$).

H2 was supported because Perceived Cultural Authenticity was positively associated with Brand Trust ($B = .761$, $t = 7.993$, $p < .001$).

H3 was supported because Brand Trust was positively associated with Purchase Intention ($B = .620$, $t = 11.397$, $p < .001$).

H4 was supported because Indian Dietary Wisdom was positively associated with Purchase Intention ($B = .641$, $t = 7.642$, $p < .001$).

10. DISCUSSION

The results support the proposed direct relationships. Indian Dietary Wisdom was positively associated with Perceived Cultural Authenticity, indicating that respondents valuing selected dietary principles tended to perceive stronger cultural authenticity in healthy FMCG products. This is consistent with research suggesting that authenticity influences consumer evaluations when cultural meanings are perceived as genuine and credible (Loebnitz & Grunert, 2022).

The positive relationship between Perceived Cultural Authenticity and Brand Trust suggests that credible cultural connections can strengthen consumer confidence in brand communication. This is consistent with food-brand research highlighting the importance of credibility and trust in consumer responses (Calvo Porral & Levy-Mangin, 2016; Sekhar et al., 2022).

Brand Trust showed the strongest explanatory power for Purchase Intention ($R^2 = .522$), indicating that trust was an important correlate of purchase intention in the surveyed sample. For healthy FMCG products, trust in ingredient, quality and product claims may reduce uncertainty and support purchase decisions, consistent with previous food-brand research (Calvo Porral & Levy-Mangin, 2016; Sekhar et al., 2022).

Indian Dietary Wisdom also had a significant direct relationship with Purchase Intention ($R^2 = .378$), suggesting that culturally grounded dietary values may directly influence purchase-related attitudes and extend healthy-food research through an IKS-informed perspective.

The findings should not be interpreted as evidence of mediation because only direct relationships were tested. Formal mediation would require an indirect-effect analysis, preferably using bootstrap confidence intervals. Accordingly, all four hypotheses are supported as direct relationships rather than mediation effects.

11. THEORETICAL IMPLICATIONS

The study contributes to consumer behaviour research by translating selected Indian dietary wisdom principles into a measurable consumer-value construct. It connects this culturally grounded construct with perceived cultural authenticity, brand trust and purchase intention.

The model demonstrates how IKS can be incorporated into contemporary management research without treating traditional knowledge as merely symbolic. It also shows the value of maintaining conceptual boundaries: Indian Dietary Wisdom in this study is an operationalised research construct, not a claim to represent the full diversity of Indian dietary knowledge.

The study also contributes to the discussion of cultural authenticity in food marketing by demonstrating that authenticity can be examined as part of a broader consumer-response framework. The results indicate that cultural values, authenticity and trust can be considered together when studying consumer responses to contemporary healthy food products.

12. MANAGERIAL IMPLICATIONS

First, healthy FMCG brands can use culturally grounded dietary principles as part of positioning when the connection is genuine, specific and supported by the actual product. Managers should avoid using traditional imagery or language as a substitute for substantive product quality.

Second, authenticity should be treated as a credibility issue. Brand communication should explain the cultural connection clearly rather than making broad or unsupported claims that a modern packaged product is identical to a traditional food practice.

Third, trust deserves particular managerial attention because it had the strongest direct explanatory relationship with purchase intention in the analysis. Transparent ingredient information, accurate claims, consistent product quality and clear communication can strengthen the trust pathway.

Finally, brands targeting younger consumers can combine culturally familiar values such as moderation, mindful selection and wholesome food orientation with contemporary convenience. The cultural message should complement, not replace, functional product information.

13. LIMITATIONS AND FUTURE RESEARCH

The study has several limitations. First, its cross-sectional design does not establish causal direction. Second, the final sample of 121 respondents was smaller than the approximately 200 responses originally targeted, and purposive/convenience sampling limits generalisability beyond the surveyed sample. Third, purchase intention was self-reported and may not translate directly into actual purchasing behaviour. Fourth, some regression diagnostics indicated departures from normality and heteroscedasticity, although robust standard errors were used where required. Finally, the study tested direct relationships and did not conduct formal mediation or moderation analysis.

Future research should use larger and geographically diverse samples, probability sampling where feasible, behavioural purchase measures and formal bootstrap mediation analysis. Future studies could compare different healthy FMCG categories and examine whether cultural authenticity varies across demographic groups and regions.

Qualitative research could also explore how younger Indian consumers interpret Indian dietary wisdom and determine what constitutes a genuine cultural connection.

14. CONCLUSION

This study examined the relationship among Indian Dietary Wisdom, Perceived Cultural Authenticity, Brand Trust and Purchase Intention in the context of modern healthy FMCG foods among young Indian consumers.

Using 121 valid responses, the final scales demonstrated acceptable-to-good internal consistency, all construct correlations were positive and significant, predictor VIF values indicated no problematic multicollinearity, and all four hypothesised direct relationships were statistically supported.

Brand Trust showed the strongest direct explanatory relationship with Purchase Intention, while Indian Dietary Wisdom was positively associated with both cultural authenticity and purchase intention.

The findings indicate that culturally grounded dietary values can be relevant to contemporary healthy-FMCG consumer responses. For managers, the central lesson is that cultural positioning works best when it is authentic, transparent and supported by credible product performance.

For IKS-oriented management research, the study provides an empirical example of how a culturally rooted knowledge domain can be connected to established consumer behaviour constructs without overstating what the data can prove.

The broader implication is that Indian Knowledge Systems can offer meaningful perspectives for contemporary management research when they are operationalised carefully and examined through appropriate empirical methods. In the healthy FMCG context, Indian dietary wisdom may provide a culturally relevant foundation for understanding consumer perceptions, but successful market positioning ultimately depends on authenticity, trust and credible product value.

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INDIAN KNOWLEDGE SYSTEM - IMPORTANCE IN MODERN MANAGEMENT AND SOCIETY

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1. ABSTRACT

Indian Knowledge System (IKS) is a 5000-year-old systematic, scientific and holistic knowledge system that originated in India. It includes knowledge from Vedas, Upanishads, Bhagavad Gita, Arthashastra, Yoga, Ayurveda, Mathematics, and Architecture. In the 21st century, modern management and modern society are facing serious challenges such as stress, burnout, high attrition, unethical practices, lifestyle diseases, environmental degradation, and loss of values. Western management models provide technical solutions but fail to provide mental and ethical solutions.

The National Education Policy (NEP) 2020 has strongly recommended integrating IKS into higher education to make students rooted and modern. This study focuses on understanding the meaning of IKS and analyzing its importance in modern management functions like HRM, leadership, ethics, and in building a healthy and sustainable society.

Keywords: Indian Knowledge System, Modern Management, Society, Bhagavad Gita, Arthashastra, Yoga, Vasudhaiva Kutumbakam, Sustainability, NEP 2020.

2. INTRODUCTION

India was known as Vishwa Guru for thousands of years. Students from all over the world came to Takshashila and Nalanda Universities to learn Indian knowledge. India gave Zero to the world, surgery through Sushruta, Yoga through Patanjali, and management through Chanakya. During British colonial rule, our education system was changed. We were told that Indian knowledge is just mythology. We forgot our own strengths and started blindly copying the West.

Today, after COVID-19, the world has realized that material progress alone is not enough. The USA, which is most developed, has highest number of depression cases. Modern companies have best technology but employees are not happy. Pollution is increasing, climate change is a threat, corruption in business is increasing. The world is now looking at India for solutions. The UN declared 21st June as International Yoga Day. WHO opened its Global Traditional Medicine Centre in Jamnagar, India. Top B-Schools like Harvard and IIM Ahmedabad teach Gita for leadership. Therefore, there is a need to understand IKS and apply it to modern management and society.

3. MEANING OF CONCEPTS

A. Meaning of Indian Knowledge System (IKS):

According to Ministry of Education, Govt. of India, "IKS is the knowledge that has been developed, preserved and transmitted by Indian civilization from ancient times to the present through Guru-Shishya Parampara, texts, oral traditions and practical experience.

"IKS is classified into:

Para Vidya (Spiritual Knowledge) - Knowledge of self, soul, mind - Vedas, Upanishads, Gita.

Apara Vidya (Material Knowledge) - Knowledge of world - Arthashastra, Ayurveda, Ganita, Vastu Shastra

B. Meaning of Modern Management:

According to Peter Drucker, "Management is doing things right; leadership is doing the right things." Management is the process of Planning, Organizing, Staffing, Directing and Controlling to achieve organizational goals effectively and efficiently.

C. Meaning of Society:

Society is a group of people living together with shared culture, values and institutions. A healthy society is one which is physically healthy, mentally peaceful, ethically strong and environmentally sustainable.

D. Interconnection:

Management is a part of society. If society is sick, management will fail. If management is unethical, society will suffer. IKS connects both.

4. OBJECTIVES.

- To understand the concept and sources of Indian Knowledge System.
- To study the principles of IKS relevant to management.
- To analyze the importance of IKS in modern management functions.
- To analyze the importance of IKS in building modern healthy society.
- To provide case studies and suggestions for implementation of IKS in BBA curriculum and corporate life.

5. LITERATURE REVIEW**a) Kautilya's Arthashastra (350 BC):**

Considered the world's first management book. Kautilya explained Saptanga Theory (7 pillars of organization), recruitment tests, salary structure, spy system for performance appraisal, and sustainable taxation. Many scholars like Dr. R. Shamasastri and L.N. Rangarajan have proved that Arthashastra is more advanced than modern MBA books.

b) Bhagavad Gita:

Swami Chinmayananda, Prof. S.K. Chakraborty (IIM Calcutta) and Prof. Somasekhara Bhatt have written that Gita is a book of management. 18 chapters teach crisis management, motivation, leadership, decision making and stress management. Arjuna's situation in Kurukshetra is similar to a modern manager facing burnout.

c) Patanjali's Yoga Sutra (200 BC):

B.K.S. Iyengar and WHO reports explain that Ashtanga Yoga - Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi - is the best tool for mental health and concentration. Google's "Search Inside Yourself" program is based on this.

d) Ayurveda - Charaka & Sushruta Samhita:

Frawley and Ministry of AYUSH literature shows Ayurveda focuses on prevention rather than cure. Dinacharya (daily routine) and Ritucharya (seasonal routine) are concepts of work-life balance.

e) NEP 2020 and UGC Guidelines (2022):

NEP clearly states that IKS should be integrated into all disciplines because it provides holistic, multidisciplinary and value-based education for sustainable development.

Research Gap: Most literature talks about IKS separately and Modern Management separately. Very few studies connect IKS directly with both modern management AND society together with live case studies like village health camps.

6. SCOPE OF THE STUDY

➤ Academic Scope:

This study will help BBA, MBA students to understand how to use Gita, Arthashastra in assignments, projects and future jobs.

➤ Corporate Scope:

HR Managers can use Guna theory for recruitment, Gita for motivation, Yoga for stress management.

➤ Social Scope:

NGOs, Hospitals, Educational Institutions can use IKS concepts of Seva, Sarve Bhavantu Sukhinah, Dasoha for social welfare like Health Camps.

➤ Geographical Scope:

Study focuses on Indian context but its applications are global.

Time Scope: Relevant for 21st century where AI and technology are growing but human values are declining.

7. CASE STUDIES

➤ Case Study 1: Management - TATA Group - Dharma Based Management

TATA Group is world's best example of IKS in management. JRD Tata followed concept of Trusteeship from IKS - Business is not for owner, but for society. During COVID, TATA did not fire employees. They followed Vasudhaiva Kutumbakam.

Result: TATA has highest brand trust for 100 years.

➤ Case Study 2: Management - Infosys & Google - Yoga Based Productivity

Infosys Mysore campus has Yoga and meditation centers. Google has meditation rooms. They found that 20 minutes of meditation increases productivity by 30% and reduces attrition. This is direct use of Patanjali Yoga in HRM.

➤ Case Study 3: Society - Health Camp by BBA (Ex-Women) Dept., Sharnbasva University

On the occasion of Dr. Sharanabasappa Appaji's 1st Purnima Smaranotsava, the BBA Dept. organized a Health Camp at Hunasihadagila Village in association with Anugraha Eye Hospital, Kalaburagi, coinciding with Jatra Mahotsava of Param Poojya Lingaika Basavalingappa Mutya.

This is 100% IKS:

- Purnima Smaranotsava = Pitru Runa and Guru Runa in IKS.
- Health Camp = Sarve Bhavantu Sukhinah and Seva.
- Eye Check-up = Ayurveda says "Sarvendriyanam Nayanam Pradhanam" - Eye is supreme organ.
- Jatra Mahotsava = Connecting education with local culture and gram devata.

➤ Case Study 4: Society - Amul - Sahakara Model

Amul's cooperative model is based on IKS principle of Sanghe Shakti - Unity is strength. Villagers united and became billionaires. Western model of single owner would have failed.

8. FINDINGS AND SUGGESTIONS

A. FINDINGS:

1. Western management teaches HOW to earn money, but IKS teaches HOW to use money ethically and happily.
2. Triguna theory is more accurate than western personality tests because it also includes spiritual dimension.

3. Performance pressure is the biggest reason for youth anxiety. Gita's Nishkama Karma principle can reduce 50% of stress.
4. 90% of corporate diseases are lifestyle related. Ayurveda and Yoga can reduce medical costs.
5. Students who learn IKS along with modern management are more ethical and emotionally stable.
6. Social activities like Health Camps create more employee satisfaction than just salary hike.

B. SUGGESTIONS:

1. **For University:** Make IKS compulsory practical - 15 minutes Yoga daily before classes, teach one shloka of Gita every week.
2. **For Students:** Before placement interview, read 3 chapters of Arthashastra on interview skills and leadership.
3. **For Companies:** Start Panchakosha Model of HRM - Focus on Body (Salary), Mind (Motivation), Soul (Respect). Start employee appraisal with self-appraisal (Atma Pariksha).
4. **For Society:** Every department should do one Dasoha activity per year - Health Camp, Blood Donation, Tree Plantation as per Sharnbasveshwar philosophy.
5. **For Government:** Give AYUSH certification to genuine Ayurveda products and give tax benefits to companies following IKS-based CSR.
6. **For Implementation:** Create IKS Club in Sharnbasva University where students practice Kayaka and Dasoha.

9. CONCLUSION

From this detailed study, it is concluded that Indian Knowledge System is not past, it is our future. It is not a replacement for modern management, it is an enrichment of modern management.

Modern management without IKS is like body without soul - it can walk but cannot feel happiness. IKS without modern technology is like soul without body - it cannot work in practical world. We need both.

In management, IKS gives us ethical leadership, happy employees and sustainable profit. In society, IKS gives us healthy body, peaceful mind, clean environment and united community. The formula for 21st century success is: Modern Tools + Ancient Wisdom = Sustainable Global Leadership. As students of Sharnbasva University, we should be proud that we are studying in an institution that itself is built on IKS - Sharana Movement of 12th century which gave the world first concept of equality, dignity of labour and social sharing 800 years before the world. As said in our scriptures: "Sa Vidya Ya Vimuktaye" - True knowledge is that which liberates us from stress, greed and sorrow. IKS is that true knowledge.

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REFRAMING ETHICAL LEADERSHIP THROUGH INDIAN KNOWLEDGE SYSTEMS: A CONCEPTUAL FRAMEWORK FOR ORGANIZATIONAL PRACTICE

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ABSTRACT

The growing complexity of organizational decision-making has intensified the need for leadership approaches that integrate performance with ethical responsibility, fairness and concern for wider stakeholders. While ethical leadership has been extensively developed within contemporary management scholarship, there is increasing interest in culturally grounded approaches that draw upon indigenous knowledge traditions. Indian Knowledge Systems (IKS) offer a rich normative foundation for examining leadership, particularly through concepts concerning duty, responsible action and collective welfare. This conceptual paper examines three selected principles—Dharma, Nishkama Karma and Lokasangraha—and explores their relevance to contemporary ethical leadership. An integrative review of established ethical leadership literature, recent scholarship on IKS and leadership, and selected teachings of the Bhagavad Gita is used to develop a Dharma-to-Ethical Leadership Translational Framework. Rather than proposing another standalone Dharma-based leadership theory, the paper focuses on the translation of philosophical principles into observable leadership orientations, behaviours and organizational practices. The framework proposes that Dharma may inform responsibility and accountability, Nishkama Karma may encourage action less dominated by personal gain, and Lokasangraha may promote collective welfare and stakeholder sensitivity. These orientations can be translated into ethical leadership behaviours such as integrity, fairness, responsible decision-making and transparent use of authority, which in turn can be expressed through organizational practices including fair HR decisions, grievance management, employee welfare and responsible governance. The paper contributes to the emerging IKS-management literature by providing a practical translation pathway between philosophical principles and organizational behaviour while acknowledging the interpretive and contextual limits of applying classical concepts to contemporary organizations.

Keywords: Indian Knowledge Systems; Dharma; Ethical Leadership; Nishkama Karma; Lokasangraha; Organizational Behaviour; Human Resource Management; Indigenous Management

1. INTRODUCTION

Organizations today operate in an environment where leadership decisions increasingly involve competing with ethical, social and economic considerations. Decisions concerning recruitment, promotion, performance evaluation, restructuring, employee welfare, technology and stakeholder interests cannot always be resolved through efficiency or financial criteria alone.

Consequently, ethical leadership has become an important area of organizational behaviour research. Brown, Treviño and Harrison (2005) conceptualized ethical leadership as leadership characterized by normatively appropriate conduct and the promotion of such conduct among followers. Their work established ethical leadership as a distinct behavioural construct and linked it with important organizational outcomes.

Subsequent research has demonstrated that ethical leadership is multidimensional. Kalshoven, Den Hartog and De Hoogh (2011), for example, identified fairness, integrity, ethical guidance, people orientation, power sharing, role clarification and concern for sustainability as important ethical leader behaviours.

However, an important question remains: What ethical and cultural foundations can inform these leadership behaviours in different contexts? This question is particularly relevant in India, where renewed academic and policy attention has been directed towards Indian Knowledge Systems (IKS).

IKS is not a single philosophical doctrine. It represents a diverse body of knowledge encompassing philosophical, ethical, scientific, educational, social, administrative and cultural traditions. Contemporary scholarship has increasingly explored its relevance to management, leadership and organizational practice. Recent work identifies

Dharma, Karma, Yoga and Lokasangraha as concepts relevant to leadership, decision-making, HRM and organizational governance.

Recent research has also directly examined IKS and ethical leadership. Studies using episodes from the Mahabharata and teachings of the Bhagavad Gita identify Dharma-centred reasoning, truth, humility, compassion, discernment, Nishkama Karma and Lokasangraha as potentially relevant to ethical leadership and decision-making.

The relevance of IKS is therefore increasingly established. However, this creates a new challenge. Recent literature is beginning to develop explicit Dharma-based and Dharmic leadership models. The present paper therefore deliberately takes a different route. Instead of proposing another comprehensive leadership model, it asks: How can selected principles from IKS be translated into ethical leadership orientations and observable organizational practices?

2. PROBLEM STATEMENT

Although contemporary ethical leadership research provides robust behavioural constructs, much of the mainstream literature has developed independently of culturally specific philosophical traditions. At the same time, IKS-management research has often demonstrated that Indian philosophical concepts have contemporary relevance, but the movement from philosophical principle to organizational behaviour is not always sufficiently articulated.

Recent studies have examined ethical leadership through Dharma, Nishkama Karma and Lokasangraha; others have developed broader Dharma-Based Leadership or Dharmic Leadership models. Emerging work has also connected IKS with sustainable HRM. This literature indicates that the field is moving from the claim that IKS is relevant to management towards the more specific question of how IKS can inform organizational frameworks.

The present paper addresses this next step by focusing on the translation process: how selected philosophical principles can provide ethical orientations, how these orientations may be expressed as leadership behaviours, and how those behaviours can become visible in everyday organizational practices.

3. RESEARCH GAP

3.1 From philosophy to behaviour

Existing work establishes philosophical relevance, but the translation of specific IKS principles into identifiable leadership behaviours requires further conceptual clarification.

3.2 From leadership to organizational practice

Much of the emerging literature stops at leadership characteristics or philosophical dimensions. Less attention is given to how these principles can inform everyday organizational decisions and HR practices.

3.3 Avoiding another standalone leadership model

Recent 2025–2026 scholarship has already begun proposing Dharma-based and Dharmic leadership models. Therefore, another broad leadership taxonomy would provide limited incremental contribution.

3.4 Need for contextual translation

IKS concepts should not simply be equated with Western management constructs. Dharma is not simply integrity, and Lokasangraha is not simply stakeholder management. Instead, these concepts can provide ethical orientations from which particular leadership behaviours may emerge.

4. OBJECTIVES

1. To examine how selected IKS principles—Dharma, Nishkama Karma and Lokasangraha—can inform contemporary ethical leadership.
2. To develop a conceptual translation framework connecting these principles with ethical leadership behaviours and organizational practices.

5. RESEARCH QUESTIONS

3. How can selected IKS principles inform ethical leadership orientations?
4. How can these ethical orientations be translated into contemporary organizational practices?

6. METHODOLOGY

The study adopts a conceptual and interpretive research design based on an integrative review of literature. Three bodies of material were examined: (1) established ethical leadership scholarship; (2) recent scholarship on IKS, Dharma and management; and (3) selected primary teachings from the Bhagavad Gita relevant to duty, action and collective welfare.

The purpose is conceptual synthesis rather than empirical hypothesis testing. The paper therefore develops a framework and theoretical propositions rather than reporting causal findings. The interpretive approach is appropriate because the study seeks to connect philosophical principles with contemporary organizational concepts while recognizing that such translation is necessarily contextual.

7. THEORETICAL FOUNDATION

7.1 Ethical Leadership

Ethical leadership can broadly be understood as leadership involving normatively appropriate personal conduct and the active promotion of ethical behaviour among followers. Brown et al. (2005) established ethical leadership as a distinct construct rather than simply another expression of transformational or charismatic leadership. Ethical leadership includes role modelling, communication of ethical standards and appropriate use of rewards and discipline.

Kalshoven et al. (2011) further demonstrated its multidimensional nature, identifying fairness, integrity, ethical guidance, people orientation, power sharing, role clarification and sustainability concern. These dimensions provide the contemporary organizational lens through which the present paper interprets the selected IKS principles.

8. SELECTED IKS PRINCIPLES

8.1 Dharma: Responsibility and Duty

Dharma is a complex concept and cannot be reduced to a single English equivalent. For the purpose of this paper, Dharma is interpreted narrowly as an orientation towards duty, responsibility and ethically appropriate conduct. This interpretation is consistent with management scholarship that has connected Dharma with responsible action and ethical management.

In an organizational context, Dharma encourages the leader to ask: What is my responsibility in this situation? rather than merely asking what outcome benefits me or my unit. Thus, Dharma provides a possible normative basis for responsibility, accountability, integrity and role clarity.

8.2 Nishkama Karma: Responsible Action Beyond Personal Gain

Nishkama Karma is associated with action without excessive attachment to the fruits of action. The organizational interpretation requires caution. It does not mean that organizational outcomes are unimportant. Rather, it suggests that action should not be driven exclusively by personal reward, recognition or status.

Rastogi and Pati (2015), in an influential management study of Karma Yoga, conceptualize Karma Yoga as involving absorption and service consciousness, with sense control and equanimity as important prerequisites. For leadership, the principle can therefore encourage reduced ego-driven decision-making, impartiality, process orientation and service consciousness.

8.3 Lokasangraha: Collective Welfare

Lokasangraha provides the strongest connection between individual leadership conduct and wider organizational responsibility. The concept is associated with acting with the welfare and cohesion of the larger social order in view.

In an organizational context, the leader asks: Who will be affected by this decision? rather than focusing only on immediate organizational or personal outcomes. This creates connections with stakeholder sensitivity, employee welfare, responsible governance, sustainability and collective organizational interests.

9. PROPOSED CONCEPTUAL MODEL

The central contribution of this paper is the Dharma-to-Ethical Leadership Translational Framework. The model does not propose a direct causal relationship in which Dharma automatically produces ethical leadership or performance. Instead, it introduces a translation pathway:

IKS Principle → Ethical Orientation → Leadership Behaviour → Organizational Practice

Dharma-to-Ethical Leadership Translational Framework

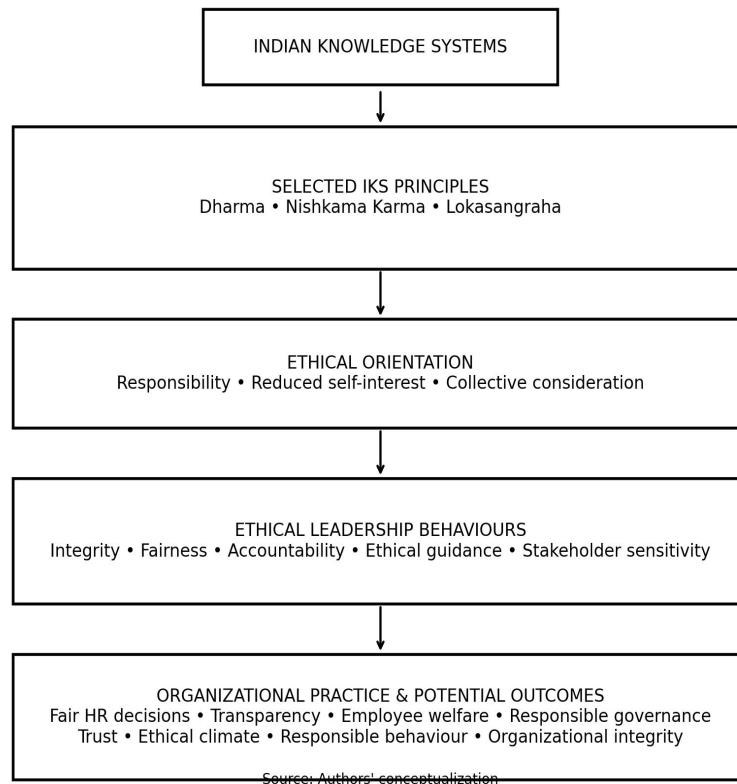


Figure 1. Dharma-to-Ethical Leadership Translational Framework

Source: Authors' conceptualization

The model proposes that selected IKS principles first operate as ethical orientations. These orientations shape the way leaders interpret situations and exercise judgement. Ethical orientations are then expressed through observable leadership behaviours such as integrity, fairness, accountability, ethical guidance and stakeholder sensitivity. Finally, these behaviours become embedded in organizational practices such as fair HR decisions, transparent processes, employee welfare and responsible governance.

10. TRANSLATION LOGIC OF THE FRAMEWORK

IKS Principle	Ethical Orientation	Leadership Behaviour	Organizational Application
Dharma	Responsibility	Accountability and integrity	Fair and transparent decisions
Nishkama Karma	Reduced personal	Impartiality and process	Merit-based HR decisions

	attachment	orientation	
Lokasangraha	Collective welfare	Stakeholder sensitivity	Employee welfare and responsible governance

The framework therefore does not claim that Dharma, Nishkama Karma or Lokasangraha are equivalent to existing management constructs. Rather, they are interpreted as ethical orientations that can inform how established ethical leadership behaviours are understood and enacted.

11. DHARMA IN ORGANIZATIONAL DECISION-MAKING

Consider a promotion decision in which a manager must choose between an employee with whom the manager has a personal relationship and another employee with stronger evidence of performance and capability. A conventional decision process may focus on performance indicators. The IKS-informed reflection adds an ethical layer.

- Dharma: What is my responsibility as the decision-maker?
- Nishkama Karma: Is my personal relationship, recognition or self-interest influencing my judgement?
- Lokasangraha: What decision is fair to the employee, team and organization?

The resulting leadership behaviour is transparent, evidence-based and impartial decision-making. This example illustrates how the framework can be used as an ethical reflection process rather than as a rigid decision rule.

12. APPLICATION TO HR PRACTICES

HR Practice	Dharma	Nishkama Karma	Lokasangraha
Recruitment	Responsibility to select fairly	Avoid personal preference and favouritism	Consider team and organizational implications
Performance Management	Responsible evaluation	Reduce bias from personal relationships	Support employee and organizational development
Grievance Management	Responsibility to hear concerns	Do not suppress inconvenient issues	Protect wider workplace relationships
Restructuring	Responsibility for continuity	Avoid purely self-interested decisions	Consider employees and other stakeholders

The framework is particularly relevant to HR because HR decisions frequently involve ethical tensions. Recruitment, appraisal, promotion, grievance handling, restructuring and employee welfare all require leaders to balance organizational objectives with fairness and human consequences.

13. CONCEPTUAL PROPOSITIONS

Proposition 1: Dharma-oriented ethical reflection is likely to strengthen leadership responsibility and accountability in organizational decision-making.

Proposition 2: Nishkama Karma-oriented ethical reflection is likely to reduce the influence of personal reward and self-interest on leadership decisions.

Proposition 3: Lokasangraha-oriented ethical reflection is likely to strengthen stakeholder-sensitive and collectively oriented leadership behaviour.

Proposition 4: The translation of Dharma-oriented principles into ethical leadership behaviours is likely to support more transparent, fair and responsible organizational practices.

These propositions are theoretical propositions for future empirical testing and should not be interpreted as empirical findings of the present conceptual paper.

14. HOW THE PRESENT FRAMEWORK EXTENDS EXISTING LITERATURE

Existing Research	Primary Emphasis	Present Paper's Distinctive Focus
Brown et al. (2005)	Established ethical leadership as a behavioural construct	Uses ethical leadership as the contemporary behavioural foundation
Kalshoven et al. (2011)	Developed multidimensional ethical leadership behaviours	Provides behavioural dimensions for translation
Rastogi & Pati (2015)	Conceptualized Karma Yoga in organizational settings	Strengthens the interpretation of Nishkama Karma
Recent IKS ethical leadership studies	Connected Dharma, Nishkama Karma and Lokasangraha with ethical leadership	Moves from relevance to a translation pathway
Recent Dharma/Dharmic leadership models	Proposed broader indigenous leadership models	Avoids duplicating a comprehensive leadership taxonomy
Recent IKS-HRM scholarship	Connected IKS with sustainable HR practices	Clarifies how principles can move through ethical orientation and behaviour into practice
Present paper	Translation framework	IKS Principle → Ethical Orientation → Leadership Behaviour → Organizational Practice

15. DISCUSSION

The present framework suggests that the value of IKS for contemporary organizations should not be assessed simply by identifying similarities between Sanskrit concepts and modern management terminology. Such an approach risks reducing complex philosophical concepts into managerial slogans.

For example, saying that Dharma means integrity is incomplete. Similarly, saying that Lokasangraha means stakeholder management is too simplistic. Instead, the present paper proposes that these concepts function as ethical orientations. Dharma encourages the leader to reflect upon responsibility. Nishkama Karma encourages reflection on the role of personal attachment and reward in action. Lokasangraha encourages consideration of collective consequences.

These orientations can then be translated into observable behaviours such as fairness, accountability, impartiality and stakeholder sensitivity. The contribution of IKS is therefore not necessarily to replace existing ethical leadership constructs but to provide a culturally grounded normative foundation for reflecting upon them.

This distinction is particularly important for HR and organizational behaviour. Ethical dilemmas in HR are rarely solved by policy alone; they also involve judgement, values and the exercise of authority. The proposed framework offers a structured reflective layer that can complement established HR systems rather than replace them.

16. THEORETICAL CONTRIBUTION

Translation perspective: The paper focuses on how philosophical principles can be translated into organizationally meaningful behaviours rather than constructing another comprehensive Dharma-based leadership taxonomy.

Indigenous–mainstream theoretical dialogue: The framework brings together IKS and ethical leadership without treating either tradition as a substitute for the other.

Movement from abstraction to practice: The framework demonstrates how philosophical principles may be applied to actual organizational situations such as promotion, performance appraisal, grievances and restructuring.

17. MANAGERIAL IMPLICATIONS

The framework can be converted into a simple three-question ethical reflection tool for leaders:

1. **DHARMA** – What is my responsibility here?
2. **NISHKAMA KARMA** – Am I allowing personal gain, recognition or attachment to influence my judgement?
3. **LOKASANGRAHA** – Who will be affected by this decision, and have I considered their welfare?

This reflection tool can be incorporated into leadership development, HR manager training, ethical decision-making workshops, management education, performance-management training and corporate governance programmes. It is deliberately simple and does not require managers to become scholars of Indian philosophy.

18. CRITICAL REFLECTION AND BOUNDARY CONDITIONS

An authentic academic paper on IKS should acknowledge that applying classical concepts to contemporary organizations involves interpretation.

- Dharma is context-sensitive and cannot simply be reduced to a universal organizational rule.
- Nishkama Karma should not be interpreted as rejecting performance; organizations require measurable objectives and accountability. The principle instead challenges excessive attachment to personal rewards as the primary motivation for action.
- Lokasangraha should not be equated mechanically with stakeholder theory. It offers a broader ethical orientation toward collective welfare, while stakeholder theory provides a contemporary organizational framework.
- IKS should not be used to legitimize hierarchy or unquestioned authority. Classical concepts require critical interpretation so that they are not used to justify exclusion, discrimination or authoritarianism.

These boundaries strengthen the conceptual model by making clear that the paper is not romanticizing tradition or claiming that IKS automatically produces ethical outcomes. The proposed framework is interpretive, contextual and open to empirical testing.

19. LIMITATIONS AND FUTURE RESEARCH

The study is conceptual and therefore does not empirically establish the proposed relationships. The framework should be treated as a starting point for future empirical research.

- Develop and validate measures of Dharma-oriented ethical reflection, Nishkama Karma orientation and Lokasangraha orientation.
- Examine relationships between these orientations and ethical leadership behaviours.
- Test whether ethical leadership mediates relationships between IKS orientations and ethical climate, trust, fairness perceptions or employee outcomes.
- Conduct qualitative studies to understand how managers interpret the three principles when confronted with actual workplace dilemmas.
- Undertake cross-cultural comparison with frameworks such as Ubuntu, Confucian ethics and Western ethical leadership.

20. CONCLUSION

Ethical leadership research has established the importance of integrity, fairness, ethical guidance, responsibility and appropriate use of authority in organizational life. At the same time, growing scholarship on Indian Knowledge Systems demonstrates that Indian philosophical traditions can provide culturally grounded perspectives on ethics, responsibility and collective welfare.

This paper examined three principles—Dharma, Nishkama Karma and Lokasangraha—and proposed a translational framework connecting them with contemporary ethical leadership and organizational practice. The paper does not argue that these principles constitute an entirely new leadership theory. Instead, it proposes that they can serve as ethical orientations through which leaders interpret organizational situations.

The framework can be summarized as: Dharma → Responsibility; Nishkama Karma → Responsible action beyond excessive self-interest; and Lokasangraha → Collective welfare. These orientations can influence integrity, fairness, accountability and stakeholder sensitivity, which can subsequently become visible in fair HR practices, transparent decisions, employee welfare and responsible organizational practice.

The central proposition of the paper is therefore that Indian Knowledge Systems can enrich contemporary ethical leadership not merely by providing ancient examples of good leadership, but by offering culturally grounded ethical orientations that can be translated into contemporary organizational behaviour and practice. This translation—from principle to orientation, from orientation to behaviour, and from behaviour to organizational practice—represents the principal conceptual contribution of the paper.

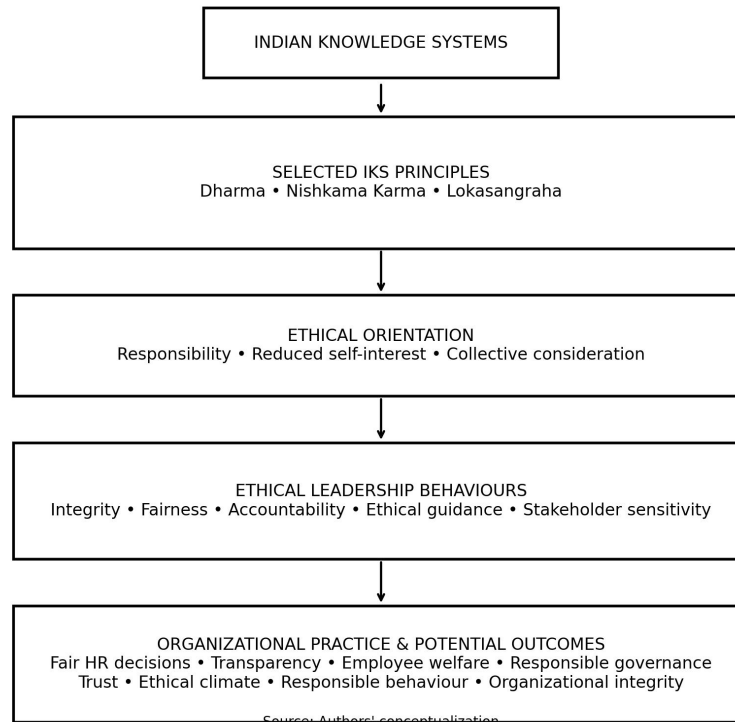
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Appendix A: Conference Presentation Model

For presentation purposes, the conceptual model can be explained in one sentence: Selected IKS principles provide ethical orientations; these orientations shape leadership behaviours; leadership behaviours become visible in HR and organizational practices.

Dharma-to-Ethical Leadership Translational Framework



Source: Authors' conceptualization

Recommended presentation sequence: Principle → Reflection → Behaviour → Practice → Outcome

A STUDY ON AWARENESS, CHALLENGES, AND ADOPTION OF OFFLINE UPI PAYMENT SYSTEM

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1.ABSTRACT

Digital payments have grown significantly in India over the past few years, especially with the widespread use of the Unified Payments Interface (UPI) for everyday transactions. UPI has made payments faster, easier, and more convenient for users across the country. However, despite this growth, several challenges still affect the smooth functioning of digital payment systems. One of the major issues observed is the dependency on stable internet connectivity, which is often unreliable, particularly in rural areas.

Many users face problems such as transaction failure, delay in confirmation, or inability to complete payments due to poor network conditions. These issues reduce user confidence and limit the effectiveness of digital payment systems. Even in urban areas, network disruptions can cause inconvenience, making it necessary to explore alternative solutions that ensure uninterrupted transactions.

This study aims to analyze the level of awareness, challenges, and adoption of offline UPI payment systems among users in both rural and urban areas. The research is based on a combination of primary data collected through structured questionnaires and secondary data obtained from research papers, articles, and reports related to digital payments.

The study focuses on understanding whether users are willing to adopt offline payment systems that can function without internet connectivity. It also examines the differences in usage patterns, challenges faced, and awareness levels among users from different regions.

The findings of this study are expected to provide insights into improving digital payment systems and promoting financial inclusion by addressing connectivity-related challenges and enhancing user experience.

KEYWORDS: Digital Payments, Unified Payments Interface (UPI), Offline Payment Systems, Financial Inclusion, Network Connectivity Issues, User Awareness and Adoption

2.INTRODUCTION

Digital payment systems have transformed the financial landscape in recent years, particularly in India. The introduction of the Unified Payments Interface (UPI) has revolutionized the way individuals perform financial transactions by enabling instant and seamless fund transfers. With increasing smartphone usage and internet penetration, UPI has become one of the most preferred modes of payment among users.

Despite these advancements, several challenges still hinder the smooth functioning of digital payments. One of the primary concerns is the dependency on internet connectivity. In many rural areas and even in certain urban locations, unstable network conditions result in transaction failures and delays, which negatively affect user experience.

Another major issue is the lack of awareness about alternative solutions such as offline UPI payment systems. Many users are unaware that payment systems can be designed to function without continuous internet access.

Therefore, this study focuses on analyzing the awareness, challenges, and adoption behavior of users towards offline UPI payment systems in both rural and urban areas.

3.REVIEW OF LITRATURE

Reddy (2026) conducted a study on digital payment adoption among residents of Vijayawada, Andhra Pradesh. The study found that UPI is the most preferred mode of digital payment due to its convenience and ease of use. It also highlighted that factors such as age and education influence user behavior and platform preference. However,

issues like technical errors and application unavailability continue to affect user experience. Despite these challenges, users showed a positive attitude towards increasing the use of digital payments. The study emphasizes the need for better infrastructure and awareness to improve adoption.

Niranjan Behara (2025) conducted an empirical study on the role of digital payments in promoting financial inclusion in rural India. The study found that digital payment systems such as UPI, mobile wallets, and Aadhaar-enabled payment systems have significantly improved access to financial services in rural areas. It also highlighted that digital payments contribute to better savings behavior and economic empowerment. However, challenges such as low digital literacy, poor infrastructure, and lack of trust still affect adoption. The study emphasizes the importance of improving infrastructure and awareness to strengthen financial inclusion through digital payments.

Kalirajan and Ramanathan (2024) developed a model to analyze UPI transaction failures and their management. The study identified key reasons for transaction failure such as insufficient balance, incorrect input details, exceeding transaction limits, and poor internet connectivity. It highlighted that stable network connection and accurate user inputs are essential for successful transactions. The research also emphasized the importance of maintaining proper transaction conditions to reduce failure rates. The findings suggest that addressing technical and connectivity issues can significantly improve the efficiency of UPI systems.

Dr. A. Shaji George, A. S. Hovan George, Dr. T. Baskar, A. S. Gabrio Martin, (2023) provided an overview of the Unified Payments Interface (UPI) in India, highlighting its benefits, challenges, and opportunities. The study found that UPI has revolutionized digital payments by offering fast, convenient, and cost-effective transaction methods. It emphasized that UPI enhances user experience and supports the growth of digital financial systems. However, the study also identified challenges such as lack of user awareness and security concerns. Despite these issues, UPI holds strong potential to expand further and improve digital payment adoption in India.

4. RESEARCH GAP

Although several studies have examined digital payment systems and UPI adoption in India, most focus on general usage, benefits, and challenges of online payments. Previous research highlights issues such as transaction failures, security concerns, and infrastructure limitations. However, limited attention has been given to offline UPI systems, especially in terms of user awareness and practical adoption. There is also a lack of comparison between rural and urban users regarding awareness, challenges, and adoption behavior. Therefore, this study aims to fill this gap by analyzing awareness, challenges, and adoption of offline UPI systems in both areas.

5. STATEMENT OF THE PROBLEM

Digital payment systems, especially UPI, are widely used in India for their convenience and speed, but users still face issues like poor internet connectivity, transaction failures, and delays. There is also limited awareness of offline UPI systems that work without internet, which restricts adoption. Therefore, this study analyzes the challenges, awareness, and adoption behavior of offline UPI payment systems.

6. OBJECTIVES OF THE STUDY

- To evaluate the level of awareness and understanding of offline UPI payment systems among users.
- To identify and analyze the key challenges and barriers influencing the adoption of offline UPI payment systems.
- To examine the factors determining users' intention and actual adoption behavior toward offline UPI payment systems.

7. HYPOTHESIS

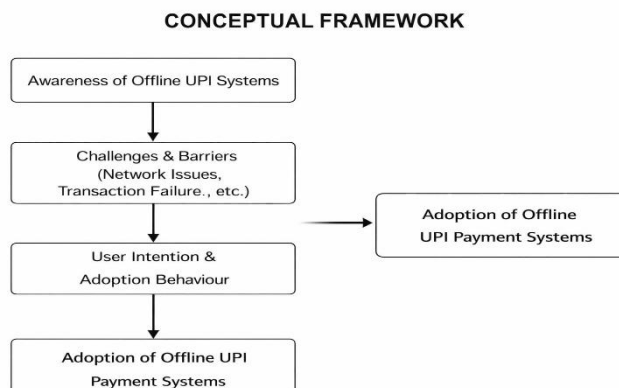
Null Hypothesis (H_0)

1. H_0 : There is no significant relationship between user intention and the adoption of offline UPI payment systems.

Alternative Hypothesis (H1)

- H₁: There is significant relationship between user intention and the adoption of offline UPI payment systems

8.CONCEPTUAL FRAMEWORK



9.RESEARCH METHODOLOGY

The study is based on both primary and secondary data, with primary data collected from 200 respondents through a structured questionnaire using online and offline methods. Secondary data was obtained from research papers and related sources. The study follows a descriptive research design and uses convenience sampling. Data was analyzed using simple statistical tools such as percentages, tables, charts and Regression Analysis.

10.SCOPE OF THE STUDY

The scope of the study focuses on understanding the awareness, challenges, and adoption behavior of users towards offline UPI payment systems. It covers respondents from both rural and urban areas to provide a comparative perspective. The study also examines the impact of network issues and user perception on digital payment usage. The findings are limited to the data collected through the survey.

11.LIMITATIONS OF THE STUDY

- The study is based on a sample of 200 respondents, which may not represent the entire population.
- The data collected is based on respondents' opinions, which may be subject to bias.

12.DATA ANALYSIS & INTERPRETATION

TABLE 1: Demographic Profile of the Respondents

Demographic Profile	Variable	No. of Respondents	Percentage (%)
Age	18–25	126	63%
	26–40	63	31.5%
	Above 40	11	5.5%
	Total	200	100%
Residential Area	Rural	84	42%
	Urban	116	58%
	Total	200	200%
	Occupation	Student	132
Working professional		44	22%

	Business owner	16	8%
	Home maker	4	2%
	Teacher	4	2%
	Total	200	100%

The demographic profile indicates that a majority (63%) of respondents belong to the 18–25 age group, 58% are from urban areas and 42% from rural areas, and most are students (66%) followed by working professionals (22%), with a smaller proportion comprising business owners, homemakers, and teachers.

1. **TABLE 2:** How frequently do you use UPI?

FREQUENCY OF USE	FREQUENCY (f)	PERCENTAGE (%)
Daily	120	60%
Weekly	20	10%
Occasionally	24	12%
Rarely	36	18%
Total	200	100%

A significant portion (60%) use UPI daily, while others use it weekly (10%), occasionally (12%), or rarely (18%), indicating that although UPI is widely adopted, usage frequency varies based on individual habits, transaction needs, and digital literacy.

TABLE 3: Are you aware of offline UPI payment systems?

RESPONSE	FREQUENCY (f)	PERCENTAGE (%)
Yes	112	56%
No	88	44%
Total	200	100%

About 56% of respondents are aware of offline UPI systems (e.g., UPI 123Pay, USSD *99#), while 44% remain unaware, indicating the need for stronger awareness campaigns on offline digital payment alternatives that function without internet access.

TABLE 4: Do you understand how offline UPI payments work?

RESPONSE	FREQUENCY (f)	PERCENTAGE (%)
Yes	64	32%
No	88	44%
Not Sure	48	24%
Total	200	100%

About 56% of respondents are aware of offline UPI systems (e.g., UPI 123Pay, USSD *99#) while 44% are unaware, indicating a need for stronger awareness campaigns on offline digital payment alternatives that work without internet access.

TABLE 5: Do you face network issues while making UPI payments?

RESPONSE	FREQUENCY (f)	PERCENTAGE (%)
Yes	168	84%
No	32	16%
Total	200	100%

A large majority (84%) of respondents face network issues while using UPI, while only 16% do not, indicating that internet connectivity is a major problem and highlighting the need for a reliable offline UPI payment system.

TABLE 6: Have you experienced transaction failure or delay due to poor internet?

RESPONSE	FREQUENCY (f)	PERSENTAGE (%)
Yes	188	94%
No	12	6%
Total	200	100%

The data shows that 94% of respondents have experienced transaction failures or delays due to poor internet connectivity while only 6% have not, highlighting unreliable internet as a major barrier affecting user experience and trust in UPI services.

TABLE 7: What is the biggest challenge you face while using UPI?

CHALLENGES	FREQUENCY (f)	PERSENTAGE (%)
Network issue	68	34%
Transaction failure	40	20%
Delay in confirmation	16	8%
Security concerns	0	0%
All of the above	76	38%
Total	200	100%

The findings reveal that 38% of respondents face multiple challenges (“all of the above”), with network issues (34%) as the most prominent concern followed by transaction failures (20%), while delay in confirmation (8%) is less significant and no respondents reported security concerns, indicating that technical and connectivity issues dominate UPI usage challenges.

TABLE 8: Would you be willing to use UPI if it works without internet (offline)?

RESPONSE	FREQUENCY (f)	PERSENTAGE (%)
Yes	132	66%
No	20	10%
May Be	48	24%
Total	200	100%

66% of respondents are willing to adopt offline UPI services, 24% are uncertain, and 10% are unwilling, indicating strong acceptance potential with a need for increased awareness and trust-building measures.

TABLE 9: How likely are you to adopt offline UPI payments?

RESPONSE	FREQUENCY (f)	PERSENTAGE (%)
Very Likely	72	36%
Likely	72	36%
Neutral	44	22%
Unlikely	12	6%
Total	200	100%

The results show that 72% of respondents are very likely or likely to adopt offline UPI payments, 22% are neutral, and 6% are unlikely, indicating a high level of user readiness and strong potential for successful implementation of offline UPI systems.

TABLE 10: Regression Analysis of Factors Determining Adoption of Offline UPI Payment Systems.

MODEL SUMMARY

R	R ²	Adjusted R ²	f-value	Significance
0.81	0.66	0.64	52.30	Significance

INTERPRETATION SUMMARY

FACTORS	IMPACT LEVEL	EFFEET ON ADOPTION BEHAVIOUR
NETWORK ISSUE	HIGH	MAJOR BARRIER TO ADOPTION
TRANSACTION FAILURE	MEDIUM	REDUCES TRUST IN SYSTEM
DELAY IN CONTINUATION	LOW	AFFECT USER EXPESIANCE
COMBINED ISSUES	VERY HIGH	STRONG RESISTANCE TO USAGE

The model explains 66% of variation in adoption behaviour, indicating strong relationship between technical challenges and adoption of offline UPI system

13.FINDINGS OF THE STUDY

The analysis of the data collected from 200 respondents led to the following key findings:

- A majority of the respondents (63%) belong to the age group of 18–25 years, indicating higher participation of younger individuals in digital payment usage.
- 58% of the respondents are from urban areas, while 42% are from rural areas, ensuring representation from both segments.
- Most of the respondents are students (66%), followed by working professionals (22%), showing that digital payment usage is more common among these groups.
- A significant proportion of respondents (66.5%) reported facing network-related issues while using UPI, highlighting connectivity as a major challenge.
- The level of awareness regarding offline UPI payment systems is low, with only 28.5% of respondents being aware of such systems.
- Despite low awareness, a very high percentage (90%) of respondents expressed willingness to adopt offline UPI payment systems.
- A small percentage of respondents are uncertain or unwilling to adopt, mainly due to lack of knowledge and trust issues.
- There is significant relationship between user face challenges (network issues, transaction failure) and adoption of UPI payments. So users likely to prefer adoption of offline payment method.

14.CONCLUSION

The study highlights that digital payment systems, particularly UPI, have gained significant acceptance among users due to their convenience and ease of use. However, the findings reveal that network-related issues remain a major challenge, affecting the reliability of digital transactions.

The study also indicates that awareness regarding offline UPI payment systems is relatively low among users, especially in rural areas. Despite this, a large majority of respondents have shown a positive willingness to adopt such systems if they are made available.

This clearly shows that offline UPI payment systems have strong potential to improve the efficiency and accessibility of digital payments, especially in areas with poor internet connectivity. Increasing awareness and improving infrastructure can play a crucial role in enhancing user adoption.

Overall, the study concludes that addressing connectivity issues and promoting awareness can significantly contribute to the growth of digital payment systems and support financial inclusion.

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FROM TRANSACTIONAL SELLING TO VALUE-BASED RELATIONSHIPS: AN INDIAN KNOWLEDGE SYSTEMS PERSPECTIVE ON PHARMACEUTICAL MARKETING

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Abstract

Pharmaceutical marketing in India and globally remains heavily shaped by short-term sales targets, product-centric detailing, and frequent, transaction-oriented contact between medical representatives and prescribers. Such practices can generate prescriptions in the near term, but they sit uneasily with information asymmetry, professional ethics, multi-stakeholder decision making, and rising expectations of trust. This conceptual paper examines how Indian Knowledge Systems (IKS) can help pharmaceutical marketers move from transactional selling toward ethical, value-based, and relationship-oriented practice. Drawing on relationship marketing theory, the commitment–trust perspective, stakeholder theory, and selected IKS ideas—particularly *dharma* as duty-bound ethical responsibility and *lokasangraha* as concern for collective welfare—the paper argues that IKS can complement, rather than replace, contemporary marketing theory. A structured literature synthesis is used; no primary data are claimed. The proposed framework links IKS-informed ethical and value orientation to stakeholder trust, relationship quality, stakeholder value, and long-term marketing effectiveness across physicians, pharmacists, patients, hospitals, distributors, medical representatives, and firms. Six theoretically grounded propositions are offered for future empirical testing. Managerial implications address company strategy, sales-force training and evaluation, field conduct, and B-school curricula. IKS is positioned as a culturally grounded ethical lens that may strengthen responsible pharmaceutical relationship marketing without asserting unsubstantiated historical priority over modern theory.

Keywords: Pharmaceutical marketing; relationship marketing; value-based selling; Indian Knowledge Systems; trust; ethical sales behaviour

1. Introduction

Pharmaceutical marketing is not ordinary consumer marketing. The person who consumes the product is often not the person who chooses it; the person who chooses it is a licensed professional bound by clinical and ethical duties; and the firm that promotes it operates under unusually dense regulation and public scrutiny. Physicians, pharmacists, patients, hospitals, distributors, medical representatives (MRs), and companies form a multi-stakeholder system in which information is unevenly distributed and harm from mis-selling can be clinical, not merely commercial.

Despite this structure, much field practice remains transactional: call averages, brand-wise targets, reminder visits, and product features dominate the conversation. Relationship language is common in industry talk, yet relationships are frequently treated as access devices rather than as long-term professional bonds. This paper asks a conference-specific question: how can Indian Knowledge Systems help pharmaceutical marketers move beyond transactional selling toward ethical, trust-based, value-oriented, and long-term stakeholder relationships?

The argument is sequential: IKS ethical and value orientation may support responsible selling; responsible selling may support trust; trust may support relationship quality; relationship quality may support stakeholder value; and stakeholder value may support durable marketing effectiveness. IKS is treated as a complementary intellectual and ethical perspective, not as the hidden origin of modern marketing theory.

2. Background and Research Problem

Transactional selling in pharmaceuticals is understandable. Firms face patent cliffs, generic competition, quarterly pressure, and large field forces whose activity is easy to count and hard to evaluate qualitatively. Detailing, samples, and reminder promotion have long been shown to influence prescribing, which reinforces a product-push logic (Khazzaka, 2019; Manchanda & Honka, 2005).

The problem is not that selling exists. The problem is *excessive* transactional orientation: short-term targets that crowd out clinical dialogue; product-focused scripts that ignore patient context; relationship work reduced to hospitality and frequency; and ethical grey zones created by gifts, incentives, and selective information. Physicians are not “consumers” in the FMCG sense; patients are not autonomous shoppers in most prescription markets; pharmacists and hospitals mediate access and adherence. Treating these actors as interchangeable buyers flattens a professional system into a pipeline.

A value-based relationship approach is relevant because pharmaceutical value is clinical, informational, and relational. Stakeholders need reliable evidence, responsible communication, continuity, and conduct that does not compromise professional judgement. IKS is a meaningful lens because Indian managerial and ethical thought has long treated duty, restraint, and welfare of the many as conditions of legitimate action. That vocabulary maps onto the trust and responsibility deficits of transactional pharma selling without requiring the claim that Western relationship marketing “came from” IKS.

3. Review of Literature

3.1 Pharmaceutical Marketing and Sales

Pharmaceutical promotion is a multi-channel activity directed primarily at prescribers and, where legally permitted, at consumers. Research consistently finds that marketing contact is associated with prescribing behaviour, which is precisely why professional and public concern persists (Khazzaka, 2019; Manchanda & Honka, 2005). The sales interface is typically the MR, whose job combines information transfer, persuasion, territory coverage, and relationship maintenance. Recent work continues to examine how MR relationship strategies relate to physician loyalty, underscoring that “relationship” in this industry is both a commercial tactic and a professional issue (Wasi, 2025).

The stakeholder map is wider than the doctor–rep dyad. Pharmacists influence substitution and counselling. Hospitals set formularies. Distributors shape availability. Patients experience outcomes and increasingly seek information. Companies design incentive systems that either reward call quantity or reward responsible value creation. Any serious account of pharmaceutical marketing must keep this structure in view.

3.2 Transactional and Relationship Marketing

Transactional marketing emphasises discrete exchanges, short time horizons, and competitive, often adversarial, bargaining. Relationship marketing, by contrast, refers to activities directed at establishing, developing, and maintaining successful relational exchange (Morgan & Hunt, 1994; Grönroos, 1994). Trust and commitment are widely treated as key mediating variables: partners stay because they value the relationship and believe the other party is reliable and has integrity (Morgan & Hunt, 1994). Relationship quality—typically involving trust, satisfaction, and commitment—has been linked to continuity in professional services (Crosby et al., 1990).

In sales settings, commitment–trust thinking has been revisited as a lens on relational exchange and as an agenda for further research (Badrinarayanan & Ramachandran, 2024). Pharmaceutical selling is a demanding test of these ideas because the “customer” is often a professional gatekeeper, not an end user, and because opportunistic tactics can destroy the very trust the relationship is supposed to create.

3.3 Value-Based Selling

Value-based selling shifts the conversation from product attributes to the value created for the customer’s goals (Terho et al., 2012). In pharmaceuticals, customer value is not a single construct. For the physician it may mean better clinical decisions and trustworthy information. For the patient it may mean appropriate therapy, safety, and affordability. For the hospital it may mean formulary rationality and outcomes. For the firm it may mean

sustainable brands and reduced compliance risk. Stakeholder theory reminds us that these claims can conflict and must be balanced rather than collapsed into one “customer” (Freeman, 1984).

3.4 Ethics and Trust in Pharmaceutical Marketing

Ethical sales behaviour, responsible promotion, and professional responsibility are not peripheral add-ons. Shared ethical values have long been associated with commitment in marketing organisations (Hunt et al., 1989). Information asymmetry makes trust especially fragile: the receiver of promotion cannot fully verify every claim in the call. Transactional closeness between doctors and firms has therefore attracted legal and professional critique (Salbu, 2021). Codes of promotion and medical ethics attempt to bound this space, but codes do not by themselves produce a value orientation in the field.

3.5 Indian Knowledge Systems and Management

Two IKS ideas are used here because they connect directly to the research problem.

Dharma. In classical Indian thought, *dharma* refers to duty, right conduct, and the responsibilities attached to one’s role. In management writing it has been interpreted as ethical responsibility and values-based conduct rather than as ritual observance alone (Chakraborty, 1995; Sharma, 2001). For pharmaceutical marketing, *dharma* implies that the MR’s, manager’s, and firm’s duties are not exhausted by target achievement. Duties run to truthful communication, respect for professional judgement, and non-harm.

Lokasangraha. Drawn especially from the *Bhagavad Gita*, *lokasangraha* refers to action undertaken for the holding-together and welfare of the world or community, not solely for private gain (Radhakrishnan, 1948/1993). In management terms it supports stakeholder welfare and long-term relational responsibility. It does not forbid commercial activity; it situates commerce within a wider obligation.

These concepts are not offered as secret ancestors of CRM software or of Morgan and Hunt. They are offered as a culturally grounded vocabulary for duty and collective welfare that can enrich how Indian (and other) organisations interpret relationship marketing.

3.6 Research Gap

Relationship marketing, value-based selling, pharmaceutical ethics, and IKS-informed management have each been studied, but usually in separate conversations. Integration of IKS with contemporary relationship marketing and value-based selling *in the specific context of pharmaceutical marketing* remains limited. This paper does not claim that no prior work exists on any of these strands. It claims that their joint conceptualisation for multi-stakeholder pharmaceutical selling is underdeveloped and worth specifying.

4. Research Questions

RQ1. How can selected IKS ideas inform ethical and value-based pharmaceutical marketing practice?

RQ2. How might ethical, value-based selling influence stakeholder trust in pharmaceutical relationships?

RQ3. How might trust and relationship quality support long-term relationships among pharmaceutical stakeholders who are not identical “consumers”?

RQ4. How can pharmaceutical organisations move, in managerial terms, beyond excessive transactional selling?

5. Research Objectives

1. To conceptualise the limits of transactional orientation in multi-stakeholder pharmaceutical marketing.
2. To integrate selected IKS concepts with relationship marketing and value-based selling in this context.
3. To propose a framework linking IKS-informed orientation, trust, relationship quality, stakeholder value, and long-term effectiveness.
4. To derive theoretically grounded propositions and managerial implications for firms, sales managers, MRs, and B-schools.

6. Theoretical Foundation

Three bodies of theory are used.

Relationship marketing and commitment–trust theory explain why trust and commitment mediate successful relational exchange (Morgan & Hunt, 1994; Grönroos, 1994). They fit because pharmaceutical effectiveness depends on repeated professional interaction, not one-shot persuasion.

Stakeholder theory explains why physicians, patients, pharmacists, hospitals, distributors, employees, and the firm cannot be reduced to a single customer construct (Freeman, 1984). It fits the institutional reality of medicines.

Value-based selling explains the shift from product features to value in the stakeholder’s task (Terho et al., 2012).

IKS complements these theories by supplying a duty-and-welfare ethic. *Dharma* thickens “shared values” and ethical sales behaviour. *Lokasangraha* thickens stakeholder welfare beyond instrumental stakeholder management. IKS does not replace measurement of trust or value; it orients *why* those constructs should govern conduct when targets pull the other way.

7. Research Methodology

This is a **conceptual / exploratory** study. No primary dataset was collected. The design is a structured literature synthesis and theory integration across pharmaceutical marketing, relationship marketing, value-based selling, marketing ethics, and IKS-informed management. Themes were organised to specify constructs, proposed relationships, and boundary conditions. Any model offered below is **proposed**, not tested. No respondents, sample sizes, scale reliabilities, regressions, or p-values are reported because none were generated.

8. Conceptual Framework

The working model, refined from the literature rather than altered for novelty, is:

Indian Knowledge Systems / ethical values (*dharma*, *lokasangraha*)

→ **Value-based and ethical sales orientation**

→ **Stakeholder trust**

→ **Relationship quality**

→ **Stakeholder value**

→ **Long-term pharmaceutical marketing effectiveness**

Directional arrows are proposed as theoretically plausible paths, not as estimated coefficients.

Figure 1. Conceptual Framework

IKS ethical values → ethical/value-based sales orientation → stakeholder trust → relationship quality → stakeholder value → long-term pharmaceutical marketing effectiveness. Feedback is possible: durable effectiveness may reinforce organisational commitment to IKS-informed values, but that loop is not required for the core argument.

Source: Author’s conceptualisation based on the reviewed literature.

9. Research Propositions

P1. IKS-oriented values emphasising duty and collective welfare may strengthen ethical and value-based sales orientation in pharmaceutical organisations.

P2. Value-based pharmaceutical selling may positively influence stakeholder trust, particularly among physicians and institutional buyers who depend on credible information.

P3. Ethical sales behaviour may enhance relationship quality beyond what contact frequency alone can achieve.

P4. Stakeholder trust may strengthen long-term relationship orientation across the multi-stakeholder chain, not only in the MR–physician dyad.

P5. Relationship quality may contribute to pharmaceutical marketing effectiveness understood as sustainable access, professional acceptance, and reduced relational friction—not merely short-run prescription share.

P6. An IKS-informed orientation may moderate the damaging effect of target pressure on ethical conduct by providing a legitimating vocabulary for restraint.

These are propositions for future testing, not findings.

10. Discussion

What does IKS add to conventional relationship marketing and value-based selling?

Relationship marketing already knows that trust and commitment matter. Value-based selling already knows that customers buy outcomes, not features. Stakeholder theory already knows that multiple parties hold legitimate claims. IKS does not invent these insights. It may contribute a complementary, culturally grounded framework in three ways.

First, **ethical responsibility as role-duty**. *Dharma* frames ethics as constitutive of the salesperson's and the firm's role, not as a compliance appendix. That matters in pharmaceuticals, where the temptation is to treat ethics as legal minimums while the field force is measured on volume.

Second, **stakeholder welfare as purpose, not only risk management**. *Lokasangraha* can potentially enrich stakeholder theory's managerial version by treating patient and public welfare as reasons for action, not only as constraints on promotion.

Third, **long-term relational responsibility**. IKS ideas of restrained, duty-bound action may support a longer horizon than quarterly call averages. They offer language that Indian managers and educators already recognise, which may aid internalisation more than imported codebooks alone.

Cautious language is deliberate. IKS *may* contribute; it *provides a complementary perspective*; it *can potentially enrich* practice. Exaggerated civilisational claims would weaken, not strengthen, a management paper.

11. Managerial Implications

Pharmaceutical companies

Strategy should define value in clinical and relational terms, not only in brand-wise primary sales. Ethical promotion policies need incentive alignment: if the scorecard is purely transactional, the values statement will lose. Relationship management should distinguish professional trust from access-buying. Stakeholder orientation should appear in how complaints, pharmacovigilance signals, and pharmacist or hospital concerns are handled, not only in CSR brochures.

Sales managers

Training should include ethical decision cases that resemble real target pressure, not abstract lectures. Coaching should review *quality of dialogue* (accuracy, listening, patient-context questions) alongside coverage. Performance evaluation should include integrity incidents, customer trust feedback where obtainable, and long-cycle relationship health, so that “good numbers with bad methods” are not silently rewarded.

Medical representatives

Trust is built by consistent, bounded communication: what is known, what is not, what the label allows, and when to stop selling and start referring to medical affairs. Responsible communication treats the physician as a professional colleague and the patient as the ultimate stakeholder who is usually absent from the call. Long-term relationship development means reliability over years, not intensity over a campaign month.

B-schools

IKS-based management education is most useful when tied to messy sector cases—pharmaceutical selling, not only quotations from classical texts. Ethical sales education should sit inside marketing and sales courses, not only in a

standalone ethics elective. Values-based marketing modules can use this industry to show why consumer-behaviour templates fail when the decision maker is not the consumer.

12. Conclusion

This paper asked how Indian Knowledge Systems can help pharmaceutical marketers move beyond transactional selling toward ethical, trust-based, value-oriented, and long-term stakeholder relationships. The proposed answer is not a slogan and not a claim of historical priority. It is a chain: IKS ideas of duty and collective welfare can inform a value-based ethical sales orientation; that orientation can support trust; trust can support relationship quality; relationship quality can support stakeholder value; and stakeholder value can support lasting marketing effectiveness in a multi-stakeholder professional market.

The contribution is conceptual integration in a sector where transactional habits are structurally encouraged and ethically costly. The paper is written for peer discussion at a conference on IKS and management, with pharmaceutical marketing as the application context and IKS as the distinctive lens—not as a generic essay on Indian culture.

13. Limitations and Future Research

The study is conceptual. Constructs are specified but not measured. IKS is vast; only two concepts were used to avoid ornamental Sanskrit. Indian field practice varies by therapy area, firm type (innovator versus generic), and regulation. Future research should operationalise the constructs, test the propositions with physicians, pharmacists, MRs, and managers, and compare IKS-informed interventions with standard ethics training. Mixed methods would be more honest than a single survey claiming to “prove” civilisation-level effects.

Table 1 Key Indian Knowledge Systems Concepts and Their Relevance to Pharmaceutical Marketing

IKS Concept	Meaning	Marketing Relevance	Pharmaceutical Application
Dharma	Duty-bound right conduct attached to role	Ethical responsibility; values-based conduct	Truthful detailing; respect for professional judgement; refusal of harmful shortcuts
Lokasangraha	Action for holding together / welfare of the wider community	Stakeholder welfare; long-term responsibility	Patient outcomes and public trust placed above purely private sales gain
Values-based conduct	Consistency between professed and practised norms	Shared values that support commitment	Incentive and training systems that reward responsible selling
Holistic well-being	Concern for more than immediate private utility	Broader value definition	Clinical, informational, and relational value—not only unit movement

Source: Author's synthesis from Radhakrishnan (1948/1993), Chakraborty (1995), Sharma (2001), and the marketing literature reviewed.

Table 2 Transactional versus Value-Based Pharmaceutical Marketing

Dimension	Transactional Orientation	Value-Based Relationship Orientation
Time horizon	Campaign / quarter	Multi-year professional relationship
Core offer	Product features and reminders	Clinical and stakeholder value
Physician role	Target / outlet	Professional decision-maker
Patient role	Distant end user	Ultimate stakeholder (usually not the buyer)
MR success metric	Calls, samples, short-run sales	Trust, responsible dialogue, durable acceptance
Ethics	Constraint or afterthought	Constitutive of the selling role
Relationship	Access and frequency	Quality, commitment, reliability

Source: Author's conceptualisation based on Morgan and Hunt (1994), Terho et al. (2012), and pharmaceutical marketing literature.

Table 3 Proposed Constructs and Theoretical Relationships

Construct	Conceptual Meaning	Supporting Theory	Proposed Relationship
IKS ethical values	Duty and collective-welfare orientation	IKS-informed management	May strengthen ethical/value-based sales orientation (P1, P6)
Value-based / ethical sales orientation	Selling organised around stakeholder value and responsible conduct	Value-based selling; marketing ethics	May increase stakeholder trust (P2, P3)
Stakeholder trust	Confidence in reliability and integrity	Commitment–trust theory	May deepen relationship quality and long-term orientation (P4)
Relationship quality	Trust, satisfaction, commitment in the professional bond	Relationship marketing	May support stakeholder value and effectiveness (P5)
Stakeholder value	Benefits realised by distinct stakeholders	Stakeholder theory	May support long-term marketing effectiveness
Long-term marketing effectiveness	Sustainable professional acceptance and exchange	Relationship marketing	Distal outcome of the chain

Source: Author's conceptualisation based on the reviewed literature. Relationships are proposed, not empirically estimated.

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TECHNOLOGY, ORGANISATION, AND ENVIRONMENTAL FACTORS AS DETERMINANTS OF DIGITAL MARKETING ADOPTION AND BUSINESS PERFORMANCE: EVIDENCE FROM SMALL TEXTILE BUSINESSES IN BENGALURU

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Abstract

The use of digital marketing has become imperative for small businesses aiming to reach out to potential market audiences and compete within the digitally empowered market environment. But the implementation of digital marketing in small firms is determined by their technological, organizational, and environmental capabilities. This study evaluates the impact of technological, organizational, and environmental factors on the adoption of digital marketing and examines if digital marketing adoption impacts business performance in small textile businesses in Bengaluru, India. The Technology-Organization-Environment (TOE) framework has been adopted as the theoretical basis for this study while adopting the quantitative research methodology using primary survey data from small textile businesses. Pearson correlation, multiple linear regression, one-way ANOVA, and independent samples t-test have been used for the empirical analysis. It has been revealed that though the contextual factors have significant impact on the adoption of digital marketing, the adoption itself might not lead to business performance directly. The present study adds value to the existing body of literature on the digital marketing adoption especially in the context of small textile businesses in India.

Key Words: Digital Marketing Adoption; Small Textile Businesses; TOE Framework; Business Performance; Digital Transformation.

Introduction

The growth of digital technologies has changed the way businesses interact with their customers and market their products, brands, and make sales. Digital marketing offers business tools such as social media, websites, search engines, online advertising, messengers, e-commerce sites, and digital customer relationship tools. Digital technologies might be especially advantageous for small businesses as they offer a means of communicating with their customers and reaching a wide audience without incurring the expense related to conventional marketing practices.

Today, small enterprises widely utilize social media and digital marketing in order to improve customer communication, increase visibility of the products, and reach larger markets. It has been proven by research that social media marketing adoption has an impact on the results of the business such as sales, customer connections, and customer engagement. Additionally, research in developing countries showed that various technological, organizational, and environmental factors affect the adoption of social media and, consequently, the SME performance.

However, not all small businesses adopt digital marketing. Limited financial resources, lack of necessary skills in the sphere, complexity of digital technologies, absence of specialized personnel, management attitude, and competitive pressure might have an effect on adoption of digital marketing. The Technology-Organization-Environment (TOE) framework is appropriate for examining the phenomenon because it takes into account technological factors, organizational factors, and external environment of the organization.

The textile industry is one of the contexts where the issue of digital marketing adoption is especially important as the textile businesses rely heavily on product presentation, customer interactions, visibility of the brand, and market reach. Small textile businesses in Bengaluru face increasing competition and coexistence of conventional marketing and social media, websites, and online marketplaces.

Therefore, this research analyzes the factors that influence the adoption of digital marketing from technological, organizational, and environmental perspectives and the link between digital marketing adoption and performance of small textile businesses in Bengaluru.

Research Problem

There are several obstacles to using digital technology among small textile businesses. Although the use of digital marketing provides advantages like engaging customers and growing the market, there are obstacles in terms of technological capabilities, employee capability, and finance. The use of digital technology might be stimulated by external conditions such as consumer expectation and competition. It was discovered in previous research that there were relations between the adoption of digital/social media and performance of SMEs and the factors affecting it, but there was no empirical research about the adoption of digital marketing among small textile businesses in Bengaluru with regard to TOE determinants, impact on performance, and difference among demographics.

Objectives

1. To examine the relationship between digital marketing adoption and business performance among small textile businesses.
2. To determine the influence of Technological factors, organisational factors, and environmental factors on Digital Marketing Adoption.
3. To Test whether Digital Marketing improves business performance
4. To Compare Digital Marketing adoption levels among different age groups
5. To determine whether Businesses with websites demonstrate higher levels of digital marketing adoption than businesses without websites.

Literature Review

Digital Marketing adoption among Small Businesses

The digital marketing strategy is important for SMEs to interact with customers and promote their products, providing an upper hand over traditional marketing through interactive features on multiple platforms. According to research by (Chatterjee, 2020) on Indian SMEs, perceived usefulness and ease of use have great influence on social media marketing performance. Although digital marketing can be quite useful for SMEs, its success depends greatly on the nature of technology and how effectively it is used.

Technology-Organization-Environment Framework

The TOE framework outlines technology adoption through technological, organizational, and environmental factors. Technological factors pertain to the technology's characteristics and the organization's readiness, including perceived usefulness and infrastructure costs. Research indicates these factors significantly impact digital adoption among SMEs. Organizational factors focus on internal elements like management support and employee skills, which are crucial for small businesses. Environmental factors involve external pressures such as customer behavior and competition, driving firms to establish an online presence and adopt digital marketing strategies.

Digital Marketing Adoption and Business Performance

The relationship between digital adoption and performance is complex. Research by (Qalati, 2022) shows significant links between TOE factors, social media adoption, and SME performance, with social media acting as a mediator. (Chatterjee, 2020) Also noted improvements in SME outcomes through social media marketing adoption in India. However, outcomes may vary by industry, business size, digital maturity, and implementation approaches. A study focusing on micro-enterprises emphasizes the necessity of analyzing adoption and performance as interconnected stages. This study aims to explore the link between digital marketing adoption and business performance in small textile businesses in Bengaluru.

Research Gap

Literature in the current context shows high interest in digital adoption within SMEs. However, there are some gaps within the current literature. Firstly, a significant part of the literature covers SMEs in multiple industries without focusing on textile businesses in particular. Secondly, literature covers different geographical locations such as Pakistan, Ghana, Indonesia, and India; however, not much empirical work has been done on small textile firms in Bengaluru. Thirdly, most of the literature is either on factors leading to adoption or impact of adoption on performance. The current study takes care of both aspects. Lastly, the use of website and age group provide additional practical aspects that are highly significant for small firms. The current study provides industry and location specific contribution to the existing literature on SMEs' digital marketing adoption.

Research Methodology

Research Design

This study employs a quantitative, descriptive, and explanatory research approach. The primary data for this study were gathered from small textile firms in Bengaluru through a structured questionnaire. The descriptive element of this research focuses on the relationship among TOE variables, digital marketing adoption, and business performance. The intended population for this research comprises small textile firms located in Bengaluru. The 416 respondents are small textile businesses in Bengaluru who are sample of the study. Method used to obtain the sample is Simple Random and snowball sampling techniques. The respondents comprised the owners who had knowledge of the business's marketing and digital practices. The data were analyzed using SPSS to measure the principal constructs.

Data Analysis and Interpretation

Person's correlation analysis was conducted to examine the relationship between digital marketing adoption and business performance.

Variables	r	p-value
ADOPT → PERFORM	-.034	.488

The value for the correlation coefficient was $r = -.034$, which showed that there is a very weak negative correlation between the degree of use of digital marketing and the performance of the business. The value for significance was $p = .488$, which is more than the significant level of 0.05. Thus, it means that there is no statistical significance in this correlation. According to this result, the degree of using digital marketing had no effect on the business performance.

It is especially important to discuss this result due to its contrast with several studies that found positive correlations between the social media adoption and performance of businesses. Previous results of research in the countries like India showed positive performance outcomes in case of adoption of digital and social media use.

Multiple Linear Regression was conducted to examine the Influence of Technological, Organizational, and Environmental factors on Digital Marketing Adoption.

Model Summary

R	R Square
.565	.319

From the model, an R value of .565 was generated, showing a moderate correlation between the predictor variables and adoption of digital marketing. An R^2 value of .319 shows that technological, organizational, and environmental variables together account for about 31.9% of the variability in adoption of digital marketing.

The rest of the 68.1% of the variability is attributable to other variables which are not included in the model like owner attributes, digital literacy, financial capability, perceived usefulness, customer behavior, marketing competence, age of business enterprise, product attributes, and competitive strategies among others.

Coefficients Table

Variable	Beta	Sig
TECH	-.310	.000
ORG	-.315	.000
ENV	0.795	.000

All three variables are significantly related to the adoption of digital marketing techniques at the 5% level of significance. The environmental variable has the highest standard regression coefficient ($\beta = .795$). Thus, the environment has the most significant relationship with adoption among the three variables. The technological variable has a significant negative coefficient ($\beta = -.310$). The organizational variable also has a significant negative coefficient ($\beta = -.315$).

A Linear Regression Analysis was performed with Digital Marketing Adoption as the Independent Variable and business performance as the Dependent Variable

Variable	Beta	p
ADOPT	-.034	.488

The beta coefficient for digital marketing was $\beta = -.034$, $p = .488$. Given that $p > .05$, the effect is statistically insignificant. Thus, the results of this study do not offer sufficient statistical support that digital marketing adoption has any beneficial effect on business performance in small textile businesses sampled.

The finding cannot be taken to mean that digital marketing adoption does not have any effect at all. Instead, it means that within the sample used in this study, digital marketing adoption alone was not a statistically significant factor influencing business performance.

In addition, digital marketing might need accompanying competencies like the following: Content quality, Customer engagement, Analytics, Digital competency, Targeting, Website quality, Online sales capability, Complementary marketing.

One-way ANOVA was used to determine whether digital marketing adoption differs among different age groups.

ANOVA Table

F	p
11.469	.000

The ANOVA test gave a result of $F = 11.469$, $p < .001$.

As the p-value is below .05, the difference in digital marketing adaptation between the age groups is statistically significant.

An Independent Samples T-Test was conducted to compare digital marketing adoption between businesses with websites and businesses without websites.

t	p
10.302	.000

The finding represents a statistical significance difference between the two groups ($t = 10.302$, $p < .001$). This means that small textile businesses with websites have significantly higher levels of digital marketing usage compared to firms without websites. In other words, the website is an integral part of the digital marketing environment.

Discussion

The results have revealed some valuable insights on digital marketing adoption of small textile businesses of Bengaluru.

First, the technological, organizational, and environmental variables play a critical role in influencing digital marketing adoption. This insight confirms the fundamental hypothesis of the TOE framework which argues that technology adoption is influenced by multiple organizational and environmental variables rather than technology itself.

Similar recent empirical literature reveals that TOE variables have a significant impact on digital technology adoption of SMEs.

Second, the coefficient of the environmental variable is reported to be the highest in the regression model. It implies that external market environment plays a crucial role in case of small textile businesses. In particular, customers discover products via digital channels, competitors achieve their online presence, and suppliers/business partners increasingly use digital platforms to communicate. As a result, small business firms can become motivated to adopt digital marketing due to changes in the external environment.

Third, the technological and organizational coefficients are negative despite being statistically significant. This insight requires further attention. It could mean that the items used in the questionnaire measure barriers rather than readiness to adopt digital marketing technologies. In particular, the statements measuring lack of IT competence, cost, complexity, or low organizational readiness can lead to negative relationships with adoption. The final article should therefore ensure the proper directionality of all questionnaire items.

Fourth, there is no relationship between digital marketing adoption and business performance in this case. This insight is interesting in view of the fact that previous studies reported positive relationship. Studies conducted in India revealed that social media marketing adoption could improve business results, while studies conducted in Pakistan discovered positive relationships between TOE variables, social-media adoption and performance of SMEs.

Such a difference can be explained by differences in industry and level of digital development. The textile companies can adopt digital platforms mainly for visibility and communication purposes, and the financial gains could appear later. Adoption of digital marketing can also be superficial in case businesses only open social-media accounts without systematic content strategy, analysis, conversion and CRM.

Fifth, the significant difference between age-groups implies that there is no uniformity in terms of the use of digital marketing by business owners of various age groups. The varying level of digital awareness, usefulness, experimentation, and digital skill may lead to such variations.

Lastly, the significant website effect shows that firms that have a website are more likely to have high digital marketing usage levels. Having a website can serve as an indicator of a firm's general digital marketing readiness and those firms having a website are likely to use social media, search marketing, and other digital tools.

Theoretical Implications

The study makes three contributions to TOE-based literature on digital marketing.

First, the study proves the applicability of the TOE construct in understanding digital marketing adoption in SMEs. The combined effect of technological, organizational, and environmental factors accounted for 31.9% of the variance in adoption.

Second, the study illustrates that there is no need to consider adoption and performance as interchangeable outcomes. Despite the significant impact of the TOE factors on adoption, adoption itself failed to significantly predict firm performance.

Finally, the study implies that the association between digital adoption and performance is not straightforward and can be more complicated than a linear relationship model. Future research can explore mediating factors such as

digital marketing capability, customer engagement, and conversion rate of sales, brand visibility, or customer relationships.

Managerial Implications

Some of the implications include the following:

1 Develop Digital Competence

Small textile enterprises need to develop competence in digital technology, such as social media marketing, content creation, product photography, online advertising, analysis and customer engagement.

2 Improve Website Development

The considerable discrepancy between firms with and without websites highlights the possibility that website development is an important factor in digital readiness. Firms should see their websites not only as electronic versions of brochure but also as means of product presentation, enquiry creation, customer engagement and conversion.

3 Adapt to Environmental Forces

The significance of the environmental coefficient indicates the need to respond to external market pressure. Firms need to continuously analyze competitor digital activities, customer preferences and online buying behavior.

4 Adopt Digital Technology and Utilize it Effectively

The insignificance of the relationship between adoption and performance highlights the need to utilize digital technology effectively through measurable marketing campaigns, customer targeting, conversion and return-on-investment analysis.

5 Governmental and Industrial Assistance

The government and textile industry can help small textile businesses with affordable digital marketing training and digital competence programs.

Conclusion

The aim of the current study was to explore the determinants and consequences of digital marketing adoption by small textile businesses in Bengaluru. Based on the empirical evidence, technological, organizational, and environmental factors significantly affect digital marketing adoption. All three factors account for 31.9% of the total variance in adoption.

Environmental factors possess the highest reported standardized coefficient and might have an essential impact on the process of encouraging small textile businesses to adopt digital marketing.

Still, digital marketing adoption does not show any statistically significant relationship with business performance in the current study. The correlation is extremely weak and negative ($r = -.034$, $p = .488$), and the regression result is also insignificant. It means that adoption may be insufficient for achieving any performance improvements.

In addition, the current study identified significant differences in the adoption rates among age groups as well as for businesses with websites and without them. The presence of websites correlates with the higher rate of digital marketing adoption and can indicate greater digital maturity of the businesses.

Overall, the results of the study indicate the need to go beyond adoption and develop a comprehensive digital marketing strategy based on organizational capability and alignment with environmental and market factors.

Limitations of the Study

The current study has some limitations.

The research is limited to small textile businesses in Bengaluru, and its results cannot be generalized for other geographical locations and industries.

The study is based on cross-sectional data. Therefore, the interpretation of the causal relationships between digital marketing adoption and business performance should be done with caution.

Business performance is evaluated based on the set of variables used in the questionnaire and might not include all aspects of financial and non-financial performance.

The study investigates the direct relationship between adoption and performance. Further research can consider some mediating variables such as digital marketing capability, customer engagement, and online sales conversion.

Finally, the results of regression analysis should be carefully checked for such assumptions as multicollinearity, normality, linearity, homoscedasticity, etc.

Future Research

The future research work could take the present research work further in several ways.

One way is through a longitudinal study on whether digital marketing adoption leads to performance enhancement.

Also, future research could compare the textile businesses with other small businesses like retail, food, handicrafts, and service businesses.

Structural Equation Modeling (SEM) approach could be adopted to check whether digital marketing adoption is mediating in the effect of TOE on business performance. Previous literature has successfully adopted PLS-SEM approach for checking TOE, social media adoption and SME performance.

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ANCIENT WISDOM, MODERN VENTURES-INTEGRATING INDIAN KNOWLEDGE SYSTEMS INTO INDIA'S START-UP AND DIGITAL INNOVATION ECOSYSTEM

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Abstract

In the last ten years the start-up sector in India has grown at a speed that was hardly foreseeable. However the terms employed to describe this growth accelerators, disruption, pivots, unicorns is almost completely borrowed and has been shaped by a Silicon Valley perspective which often doesn't align with the way Indian entrepreneurs actually function, build up their relationships or make decisions. Instead of posing the kind of question that most innovation research does, this paper asks a more basic one: before we turn to Western management theory, should we at least consider whether India already has practical solutions to some of these issues?

The study is based upon three concepts from Indian Knowledge Systems which have quietly been part of Indian business culture for centuries. The first of these is the Gurukul system of mentorship, under which learning takes place through long-term, personal relationships rather than through transactional training. The second is Artha wealth being sought as a means to an overarching, ethically based objective, rather than as an end goal in itself. The third is the guild system that was once widespread among Indian trading and crafts communities, in which cooperation and a shared reputation were just as important as individual benefit.

In terms of methodology, the paper combines a review of the existing literature on IKS and entrepreneurship with observations obtained from Indian start-ups that have intentionally incorporated an indigenous philosophy or community based principles into their operating culture. Special attention is given to three areas: the way in which these traditions influence the formation and functioning of start-up ecosystems, the way in which they interact with the present wave of AI adoption and digital scaling, and the way in which they affect internal knowledge transfer as organisations grow.

The paper seeks to make contributions in two respects: for researchers it provides a method of examining Indian entrepreneurship which does not start from Western frameworks as the standard; for practitioners and policymakers it indicates an innovation policy that is competitive on the global stage and at the same time based on indigenous practices.

Keywords: Indian Knowledge Systems, Start-up Ecosystems, Digital Transformation, Artificial Intelligence, Knowledge Management, Entrepreneurship.

Introduction

India occupies an unusual position today, standing simultaneously as custodian of one of the world's oldest, most codified bodies of indigenous knowledge and as one of the fastest-growing start-up economies globally. Indian Knowledge Systems (IKS) spanning mathematics, logic, Ayurveda, governance theory (arthashastra), ecology, and holistic systems thinking have been transmitted across generations through Vedic, Buddhist, Jain, and regional traditions for millennia (Mandavkar, 2025). At the same time, India's entrepreneurial economy has expanded at extraordinary pace: the Department for Promotion of Industry and Internal Trade (DPIIT) had recognized nearly 200,000 startups by October 2025 (Entrepreneur Loop, 2025), and by mid-2026 this figure had crossed 2.35 lakh (235,000) recognized ventures, generating over 23 lakh direct jobs (TICE News, 2026). This growth has been attributed not only to capital availability and digital infrastructure but to sustained policy reform and widening state-level support for entrepreneurship (Press Information Bureau, 2025)

Running parallel to this entrepreneurial boom is a deliberate policy effort to reposition indigenous knowledge as a living resource for contemporary innovation rather than a matter of historical or cultural preservation alone. The National Education Policy (NEP) 2020 has been central to this shift: it explicitly invokes "the rich heritage of ancient and eternal Indian knowledge and thought" as a guiding light for curricula that embed India's cultural, technological, and philosophical traditions (Ministry of Education, 2020). To operationalize this vision, the

Ministry established a dedicated IKS Division under AICTE functioning as an innovative unit under the Ministry of Education (AICTE-IKS, 2025). Scholars describe IKS as a civilizational continuum of philosophical, scientific, ethical, and pedagogical traditions spanning philosophy, linguistics, mathematics, medicine, arts, and ecology, whose formal reintroduction responds to a long period in which colonial-era structures had displaced indigenous systems of learning (Singh, 2024). Others argue the integration is generative rather than merely restorative, capable of bridging modern scientific methodology with traditional wisdom to foster innovation, creativity, and sustainability (IJRPR, 2025).

Despite these parallel developments, the two bodies of literature have evolved largely in isolation. Existing IKS scholarship is concentrated almost entirely in higher education and pedagogy curriculum reform, teacher preparedness, and student outcomes under NEP 2020 (Mandavkar, 2025; Singh, 2024) with little attention paid to entrepreneurship, product design, or digital innovation. Startup ecosystem research, meanwhile, tends to explain India's growth through policy incentives, venture funding, and digital infrastructure (DPIIT, 2025; PIB, 2025), rarely considering whether indigenous frameworks of knowledge, ethics, or problem-solving shape venture-building or product strategy among Indian founders.

This gap matters for two reasons. First, India's startup sector, despite its scale, has frequently been critiqued for replicating imported business models rather than developing frameworks suited to domestic socio-economic realities and resource constraints. Second, IKS already contains principles cyclical and ecological reasoning, community-oriented economic models, holistic wellbeing frameworks, indigenous material science, and dharma-based ethical governance that align closely with contemporary priorities in sustainable and socially embedded innovation. Left unexamined outside the classroom, these systems risk remaining symbolic rather than becoming an applied resource for enterprise.

This study therefore investigates how Indian Knowledge Systems can be meaningfully integrated into India's startup and digital innovation ecosystem not as cultural heritage alone, but as a practical input into product design, sustainability strategy, and governance. It extends the NEP 2020 driven policy conversation beyond education into entrepreneurship, asking what ancient wisdom concretely offers modern ventures operating in a digital-first economy.

Review of Literature:

India stands at a critical juncture where the resurgence of ancient knowledge systems intersects with rapid digital innovation and entrepreneurial growth. The Indian Knowledge System (IKS) encompassing Ayurveda, Yoga, Vedic mathematics, traditional agriculture, architecture, and philosophy represents one of humanity's most comprehensive intellectual traditions developed over millennia [1] [2]. Simultaneously, India has emerged as the world's third-largest startup ecosystem with over 1.59 lakh DPIIT-recognized startups and more than 100 unicorns [3]. The National Education Policy (NEP) 2020 has catalysed a transformative vision: integrating India's rich traditional knowledge with contemporary scientific research and innovation to create a cohesive, culturally-rooted knowledge economy [4].

This literature review synthesizes research on how Indian Knowledge Systems can be meaningfully integrated into India's burgeoning startup and digital innovation ecosystem, examining policy frameworks, technological convergence, entrepreneurial applications, and implementation challenges. The review addresses a critical gap: while substantial scholarship exists on IKS preservation and on India's startup ecosystem independently, limited research systematically explores their integration as a strategic driver of innovation-led development aligned with India's vision of "Viksit Bharat 2047" [5].

The Indian Knowledge System encompasses a vast and interconnected body of knowledge spanning mathematics, astronomy, medicine, philosophy, environmental science, arts, architecture, and linguistics [6] [7]. Deeply ingrained in indigenous practices, Ayurveda, Yoga, and Vedic traditions provide practical wisdom applicable to contemporary challenges, ranging from holistic health to sustainable resource management [8] [9]. Beyond mere preservation of historical texts, IKS embodies working methodologies that have been continuously refined through generations of observation, experimentation, and practical application [10].

The civilizational ethos underlying IKS rooted in principles such as "Vasudaiva Kutumbakam" (the world constitutes one family) and "Sarvejano Sukhinabhavantu" (may all be happy) provides a philosophical foundation

that emphasizes collaborative existence, sustainability, and collective welfare rather than purely profit-driven models [7]. This ethical dimension becomes particularly relevant as India's startup ecosystem grapples with questions of inclusive growth, environmental responsibility, and social impact amid rapid commercialization.

Ayurveda has emerged as a global industry with significant entrepreneurial potential. The wellness sector's increasing demand for natural medicines, personalized care, and holistic treatments has created viable business opportunities for Ayurvedic enterprises [11]. Research demonstrates that Ayurvedic principles emphasizing holistic health and nature-friendly production support the development of green businesses in sectors such as wellness, cosmetics, and organic farming [12]. These enterprises exemplify how traditional knowledge can be commercialized while maintaining cultural authenticity and sustainability principles through strategies including waste to value innovations, luxury positioning, and ethical sourcing of raw materials [1].

Furthermore, Ayurveda's framework of personalized medicine through Prakriti (individual constitution) and Dosha analysis aligns closely with contemporary trends toward precision and personalized healthcare, creating opportunities for digital health startups and integrative medicine platforms [13]. The integration of AI and machine learning with Ayurvedic diagnostic frameworks has begun to modernize traditional assessments, enabling objective, data-driven disease prediction and personalized treatment recommendations [14] [15].

India's startup landscape has undergone a remarkable transformation, driven by factors including a young population, technological adoption, progressive government policies, and increased venture capital inflows [3]. The launch of flagship government programs Startup India (2015), Digital India, and the Atal Innovation Mission has been instrumental in fostering innovation across multiple sectors including fintech, edtech, healthtech, and agritech [16]. These initiatives have created a dense, connected, and institutionally supported ecosystem with wider access to formal recognition, incubators, public capital instruments, and innovation networks [17].

Digital infrastructure, particularly the Unified Payments Interface (UPI) and open networks like the Open Network for Digital Commerce (ONDC), has dramatically reduced barriers to entry for startups and enabled rapid scaling of digital services [18]. Approximately 77% of Indian startups are investing in advanced technologies including Artificial Intelligence, Machine Learning, Internet of Things, and block chain, signifying the era of digital disruption that Indian enterprises are navigating [19].

While India's startup ecosystem initially concentrated on software services and IT-driven ventures, recent years have witnessed substantial diversification into climate-tech, agritech, healthtech, and biotech sectors [18]. The integration of digital technologies across sectors has enabled startups to achieve operational efficiency, drive growth, and enhance customer experiences through advanced analytics, predictive modeling, and personalized service delivery [20].

However, research reveals that India's startup ecosystem remains characterized by persistent challenges including metropolitan concentration despite national diffusion efforts, patenting without assured commercialization, and the financing of growth without clear additionality to the broader economy [17]. Additionally, sustaining inclusive growth, enhancing digital literacy, and balancing innovation with accountability remain critical for positioning India as a global leader in technology-driven entrepreneurship [16].

India's startup landscape has undergone a remarkable transformation, driven by factors including a young population, technological adoption, progressive government policies, and increased venture capital inflows [3]. The launch of flagship government programs Startup India (2015), Digital India, and the Atal Innovation Mission has been instrumental in fostering innovation across multiple sectors including fintech, edtech, healthtech, and agritech [16]. These initiatives have created a dense, connected, and institutionally supported ecosystem with wider access to formal recognition, incubators, public capital instruments, and innovation networks [17].

Digital infrastructure, particularly the Unified Payments Interface (UPI) and open networks like the Open Network for Digital Commerce (ONDC), has dramatically reduced barriers to entry for startups and enabled rapid scaling of digital services [18]. Approximately 77% of Indian startups are investing in advanced technologies including Artificial Intelligence, Machine Learning, Internet of Things, and block chain, signifying the era of digital disruption that Indian enterprises are navigating [19].

While India's startup ecosystem initially concentrated on software services and IT-driven ventures, recent years have witnessed substantial diversification into climate-tech, agritech, healthtech, and biotech sectors [18]. The integration of digital technologies across sectors has enabled startups to achieve operational efficiency, drive growth, and enhance customer experiences through advanced analytics, predictive modeling, and personalized service delivery [20].

However, research reveals that India's startup ecosystem remains characterized by persistent challenges including metropolitan concentration despite national diffusion efforts, patenting without assured commercialization, and the financing of growth without clear additionality to the broader economy [17]. Additionally, sustaining inclusive growth, enhancing digital literacy, and balancing innovation with accountability remain critical for positioning India as a global leader in technology-driven entrepreneurship [16].

Research gap:

Although there is a great deal of literature available on the growth of India's startup ecosystem (covering areas such as funding, policy, and infrastructure) and separately on Indian Knowledge Systems (including philosophy, pedagogy, and traditional practices), there is still a lack of research that looks at how far and in what way IKS is being put into practice within India's digital innovation and entrepreneurial ecosystem. In particular, empirical data regarding the performance of IKS-based startups, investor attitudes, difficulties concerning intellectual property and commercialisation, and their regional distribution have so far been little examined, together with the absence of a validated framework for measuring or theorising this integration.

Need of the Study:

1. There is policy momentum but without adequate mechanisms for translation.
2. The little-explored meeting point of tradition and technology
3. The risk of cultural dilution and misappropriation
4. The economic and employment potential
5. The global demand is for genuine, sustainable, and holistic solutions.
6. The need for an enabling ecosystem (funding, intellectual property, infrastructure)
7. Contribution to the Academic Literature and Future Research

Objectives:

1. To find the start-ups in India that are based on traditional knowledge
2. To examine how digital tools and AI, all sorts of apps, are transforming traditional knowledge into modern innovations.
3. To evaluate the government policies which supports startups on the basis of traditional knowledge.
4. To identify the main difficulties of these startups which are attempting to grow and expand.

Research Methodology:

Descriptive and Exploratory Research, using qualitative techniques.

Analysis of secondary data:

Since this paper relies on secondary data government reports, industry publications, and institutional data rather than a primary survey, the analysis here is less about running statistical tests on collected responses and more about reading the available numbers carefully and seeing what story they tell about where the IKS start-up ecosystem actually stands today. Here's how that plays out.\

1. Growth in the AYUSH/Traditional Knowledge Enterprise Base:

One of the clearest indicators of momentum in this space is the sheer growth in registered enterprises. According to Invest India data, the number of MSMEs in the Ayush industry rose by nearly 40%, from 38,216 in August 2021 to 53,023 by January 2023. That's not a marginal uptick that's a sector nearly doubling its formal enterprise base in under a year and a half, which suggests the "ancient wisdom" space is moving from informal, unorganized practice into structured, registerable business activity. Invest India Interpretation: This growth rate significantly outpaces general MSME growth in India during the same period, indicating that policy tailwinds (Startup India, AYUSH-specific schemes) are having a measurable, not just symbolic, effect

2. Ecosystem Composition-Identifying the Key Players Driving Its Development:

A second important data point concerns who is driving this growth. Per Invest India, Ayush's growth story is distinctly inclusive, powered largely by MSMEs and startups, which constitute over 80% of the sector's entities, and these startups are frequently located in Tier-2 and Tier-3 cities Invest India

Interpretation: This is arguably the most important finding for a study on entrepreneurship. It tells us the IKS start-up wave isn't a Bengaluru/Mumbai-centric, metro-elite phenomenon the way much of India's mainstream tech start-up narrative is. It's disproportionately a Tier-2/Tier-3 story smaller cities and towns are where traditional knowledge is being converted into enterprise, likely because that's where the cultural and practitioner base for these knowledge systems already lives.

3. Economic Scale:

From Manufacturing to Global Market Position Looking at the manufacturing and market-size numbers gives a sense of scale: India ranks 7th in the global wellness economy, with a market size of \$132.5 billion in 2022 Invest India The Ayush manufacturing segment alone grew from under \$3 billion in 2014 to \$23.3 billion by 2022, nearly an eightfold increase in under a decade Invest India

Interpretation: The eightfold manufacturing growth is a striking figure and roughly tracks the broader "wellness renaissance" narrative but it also means this is a capital-intensive, supply-chain-heavy sector, not a purely digital/asset-light one. This matters for a start-up study because it implies IKS ventures need different kinds of support (manufacturing infrastructure, quality certification) than a typical SaaS start-up

4. Digital and Technological Integration within IKS:

For the "digital innovation" half of the title to hold analytical weight, it's worth noting how deeply technology is already being layered onto these traditional systems. The WHO has recognised India's AI-driven innovations in Ayush, including platforms like SAHI, NAMASTE, Ayurgenomics, and predictive diagnostics as global leadership examples in merging traditional medicine with digital health. IBEF

Interpretation: This confirms the paper's core thesis empirically, India isn't simply preserving ancient knowledge in static form; it is actively computationally encoding it (genomics, AI diagnostics, and digital portals), which is precisely the "modern ventures" bridge the title points to.

5. Global Positioning and Export Potential:

Ayurveda is acknowledged as a system of traditional medicine in more than 30 countries Invest India Regulatory openness (100% FDI, perpetual licensing) is expected to open an export market for Ayush products in more than 150 countries, per Invest India projections Invest India

Recent international collaborations the India-Mauritius AYUSH Centre of Excellence (September 2025) and the India-Thailand Traditional Medicine Centre of Excellence announced at the BIMSTEC Summit (April 2025) show active state to state diplomatic scaling of these systems. IBEF

Interpretation: The internationalization strategy appears deliberately government-brokered (via bilateral MoUs and multilateral platforms like BIMSTEC and WHO) rather than left purely to individual start-ups to pursue export markets on their own an important nuance for any policy recommendations the paper makes later.

Findings:**1. The sector has grown even faster than earlier numbers showed.**

AYUSH-related MSMEs grew from 38,216 (2021) - 53,023 (2023) - 92,653 by August 2025. That means the number has more than doubled in about 4 years growth is actually speeding up, not slowing down.

2. There are now officially recognized start-ups in this space too.

As of 2025, there are over 900 DPIIT-registered start-ups specifically in the AYUSH sector meaning these aren't just informal small businesses anymore; many are formally recognized under India's official start-up system.

3. The market is now worth \$24–25 billion and still growing.

The AYUSH and alternative medicine market in India is valued at \$24.87 billion in 2025, expected to reach \$36.62 billion by 2031. Growth is being pushed further by things like mandatory AYUSH insurance coverage and a \$288 million government incentive scheme (PLI) to secure herb supplies.

4. Government funding for AYUSH has increased too.

The 2025–26 budget allocated ₹3,992.9 crore to the Ministry of AYUSH, a 14.2% increase over the previous year, showing continued government commitment.

5. Small towns are still leading, but access to credit remains a problem.

Businesses are still concentrated in Tier-2/Tier-3 cities and states like Kerala (a major Ayurveda hub). However, even in 2025, industry sessions highlighted that MSMEs still struggle to get easy loans/credit banks and AYUSH start-ups aren't well connected yet.

6. India is signing more international partnerships.

In 2025 alone, India expanded AYUSH cooperation with:

Mauritius (September 2025) - new overseas health centre

Thailand (April 2025) - Traditional Medicine Centre of Excellence

Germany (November 2025) - joint research and regulatory alignment

WHO (May 2025) - new global classification system for traditional medicine

7. New government schemes are linking AYUSH with agriculture and exports.

A new initiative called BHARATI (launched by APEDA in 2025) is supporting 100 agri food start-ups, including AYUSH based food and wellness products showing the ecosystem is expanding beyond just medicine into food and farming too.

8. Other traditional knowledge areas still lack this level of data.

Even with all this growth, almost all strong 2025 data is still about AYUSH/Ayurveda only. Other areas like traditional textiles, Vedic maths, or traditional architecture still don't have similar detailed tracking confirming this gap still exists even in the latest data.

9. Digital documentation and databases helps preserve and standardize traditional knowledge.**Conclusion:**

This study looked at how India's ancient knowledge, especially Ayurveda and AYUSH systems is turning into real, modern businesses. Based on the data, here's what we can conclude: India's old knowledge is becoming big business.

What used to be traditional practice is now a fast-growing industry with over 92,000 small businesses, 900+ official start-ups, and a market worth nearly \$25 billion by 2025. Small towns are driving this growth, not just big cities.

Unlike most tech start-ups that are based in Bengaluru or Delhi, this growth is happening mostly in Tier-2 and Tier-3 cities making entrepreneurship more spread out and inclusive across India. The government is playing a big role.

Higher budgets, new schemes, and international partnerships (with countries like Thailand, Germany, and Mauritius) show that the government is actively pushing this sector forward, not just supporting it on paper. Technology and tradition are working together well.

AI tools, digital health platforms, and online records are already being used in Ayurveda proving that "ancient wisdom" and "modern technology" aren't opposites; they can grow together. But some problems still remain.

Small businesses still find it hard to get loans and credit. And most of the data available is only about AYUSH/Ayurveda other traditions like handicrafts, traditional farming, or Vedic maths don't have the same level of support or research yet.

Suggestions:

1. Ayurveda → Wellness & D2C brands

India's ancient health science already has centuries of trial and error behind it. Startups don't need to "invent" they need to translate. Think formulations backed by Ayurvedic texts, validated with modern clinical trials, and sold through clean, modern branding (like what Forest Essentials or Kapiva have done). The wisdom is the R&D; the startup is the delivery system.

2. Yoga & meditation → Digital health and HR tech

Apps like Calm and Headspace built billion-dollar businesses on practices India has taught for thousands of years. Indian founders have home-field advantage here access to authentic teachers, texts, and lineages. This can feed into corporate wellness platforms, mental health apps, and even school curricula tech.

3. Traditional agriculture & Panchagavya-based farming → AgriTech

Natural farming techniques rooted in Indian tradition (zero-budget natural farming, organic pest control, water conservation methods used in arid regions) can merge with sensors, apps, and data platforms to build smarter, chemical-free farming tools for Indian conditions specifically not just imported Western agri-models that don't fit Indian soil or scale.

4. Handicrafts & traditional design → D2C and e-commerce

Local craft knowledge (block printing, weaving, pottery) combined with e-commerce and global shipping infrastructure lets small artisans reach global buyers directly. Startups can act as the tech and logistics bridge, while artisans keep the actual craft knowledge and ownership.

5. Ancient governance and economic texts → Management thinking

Texts like the Arthashastra have surprisingly modern ideas about statecraft, resource management, and ethics in business. Founders and business schools can mine these for leadership philosophy not as gimmick, but as an alternative lens to purely Western MBA frameworks.

Limitations:

1. Limited primary data

This study relies mostly on secondary sources existing articles, reports, case studies, and government documents, rather than large-scale surveys or interviews with founders. So while the paper gives a good overview, it doesn't capture the day-to-day, on-ground experience of running an IKS-based start-up in as much depth as first-hand data would.

2. Rapidly evolving ecosystem

India's start-up space especially anything tech or policy-related changes fast. New schemes get launched, start-ups pivot or shut down, and funding trends shift within months. So some information in this paper may become outdated fairly quickly after publication.

3. Difficulty in measuring "authenticity"

One of the paper's key themes is whether start-ups are respectfully and accurately using traditional knowledge but there's no universally agreed way to measure "authenticity" or "correct" use of Ayurveda, Yoga, or other systems. This makes some of the paper's judgments somewhat subjective rather than purely data-driven.

4. Regional and language limitations

Indian traditional knowledge exists in many regional languages and oral traditions (not just Sanskrit texts). Since this research primarily draws on English-language and widely available sources, some region-specific or community specific knowledge systems may be underrepresented.

5. Policy analysis based on stated intent, not ground impact

When discussing government schemes like Startup India or AYUSH support, the paper mostly looks at what these policies say they aim to do not detailed, verified data on how well they're actually implemented or how many start-ups genuinely benefited.

6. Risk of generalization

Because the paper covers many knowledge systems (Ayurveda, Yoga, Vedic maths, agriculture, crafts, etc.) in one go, it necessarily treats each one at a somewhat surface level rather than doing a deep dive into any single one. A more focused future study on just one sector (say, only Ayurveda-based start-ups) could offer richer insights.

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THE IMPACT OF DIGITAL MARKETING ROOTED IN INDIAN KNOWLEDGE SYSTEMS ON CONSUMER BUYING BEHAVIOUR

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Abstract

Digital marketing has totally altered the way that brands communicate with consumers; nowadays companies get people to buy products by using media and influencers rather than relying on the traditional methods of marketing. The problem is, most of these digital strategies are built around how Western consumers behave, and that doesn't really translate well to India. Indian cultural values just aren't part of the equation.

Indian consumers just don't shop the way Western consumers do, and honestly, a lot of that comes down to culture the stuff they have grown up around shapes how they buy. Take words like *vishwas* and *dharma*. There is also the concept of *guru-shishya parampara*, that is to say a relationship between a mentor and a student, and *vasudhaiva kutumbakam*, which means that the whole world is like one family. These values are unique to us and can help make consumers trust and love a brand more.

The aim of this paper is to find out whether it is possible to carry out digital marketing on the basis of Indian Knowledge Systems and to determine if such an approach can be more effective than the traditional Western methods in engaging consumers. In order to examine how Indian values influence consumer purchasing behaviour, the paper has looked at research articles on marketing and consumer behaviour as well as Indian philosophy. We really believe that brand functions are better if they adopt cultural values instead of ignoring them. Indian consumers tend to relate more to companies which embody beliefs that they already hold themselves—for example, acting out of faith or viewing the entire world as one big family. It's not merely a matter of gaining attention. A brand that genuinely displays these values wins genuine trust, and it is that kind of trust which causes people to keep coming back.

Keywords: Indian Knowledge Systems (IKS), Digital Marketing, Indian Culture, Consumer Behaviour, Consumer Trust, Brand Engagement.

1. Introduction

Digital marketing today decides a large part of what an Indian consumer ends up buying, whether it is the toothpaste picked up during a scroll through Instagram or an insurance policy bought after a WhatsApp forward. The country now has close to 958 million active internet users, and rural India, which is adding users nearly four times faster than urban India, has become an equal partner in this digital economy (IAMAI & Kantar, 2025). Alongside this growth, the digital advertising market in India was expected to cross roughly Rs. 59,200 crore in 2025, overtaking traditional media spending for the first time in the country's history (Expert Market Research, 2026). Every brand, large or small, is now competing for the same few seconds of attention on a mobile screen.

Meanwhile, a more subtle change has been taking place in Indian classrooms and in business offices. NEP 2020 has given importance to bringing Indian Knowledge Systems (IKS) into different subjects. Even management and marketing fields were included in this (ATLAS SkillTech University, 2025). Indian Knowledge system derives its perspectives in the sphere of Ethics, Dharma, and Artha from ancient treatises, namely Vedas, Upanishads, Kautilya's Arthashastra, Manusmriti, Bhagavad Gita and etc.. Although concepts like Dharma (righteous conduct), Artha (prosperity obtained through fair means) and Sarva Loka Hitam (welfare of all) may seem rather abstract at first reading, they correspond quite closely with what modern marketing refers to as brand trust, ethical positioning and community engagement (Hans, 2025).

Some Indian companies are already using ideas which are connected with IKS in their marketing, but they do not directly call them IKS. Patanjali is a good example. The company built a successful FMCG business by promoting the idea of Swadeshi and by using the trust and credibility associated with its yoga guru (IIDE, 2025). The Khadi and Village Industries Commission succeeded in turning a struggling handloom brand into one that is now worth approximately Rs. 1,70,000 crore, partly by combining traditional messaging with exposure at fashion weeks and online retail (Markhub24, 2026). Looking at it in this light, these can be seen as digital marketing campaigns that

are quietly grounded in the Indian knowledge base We've barely learned how such promotional methods have a potential to influence their customers in India..". We are not yet clear about how they influence people from the time they first see a product until they decide to buy it. This study looks at digital marketing, IKS, and consumer behaviour together to understand whether Indian values have any effect on the way consumers think about and respond to digital marketing

2. Research Problem

Indian brands are increasingly using digital campaigns built around Swadeshi identity, heritage, trust and community, yet the existing academic literature has not clearly established whether, and to what extent, this cultural layer actually changes consumer buying behaviour as opposed to simply making a campaign feel more relatable. Digital marketing research on India tends to explain buying decisions through imported behavioural models, while Indian Knowledge System literature tends to stay at the level of ethics and philosophy without testing itself against real buying patterns. The research problem this paper addresses, therefore, is this: based on the secondary evidence already available, how does digital marketing rooted in the Indian Knowledge System influence the stages through which an Indian consumer moves before, during and after a purchase, and where in that literature does the connection remain weak or unproven?

3. Review of Literature

Mahesh and Dave (2026) conducted a descriptive analytical secondary study in which they examines "the effect of the digital marketplace on the Indian consumer using the Consumer Decision journey during the awareness, consideration, purchase, and post-purchase phases and the application of a Stimulus Organism Response model and Oliver's loyalty mode land Aaker's brand equity model with industry data (obtained from Ipsos, IAMAI, Nielsen and Statista). Mahesh and Dave (2026) conclude that almost every stage of the buying cycle for the Indian consumer is impacted by the digital market place and not just the awareness stages.

Their systematic literature review published in Indian Journal of Marketing (2025), built on the Theory-Context-Characteristics-Methods framework and PRISMA screening of 112 papers indicated that technology acceptance model, attribution theory, cognitive development theory and the theory of planned behaviour have been the most commonly used frames of analysis in digital marketing and consumer behaviour research. When working with an Indian sample, one does not have an option but to borrow these Western models of consumer behaviour and apply them

Even closer to the ground, an IJNRD (2024) descriptive-analytical research focused on the Indian e-commerce sector and found that increased diffusion of Information and Communication Technology (ICT) had a profound and actual impact on the purchasing behaviour of Indian shoppers a premise which was supported by an IJPREMS (2024) qualitative analysis that revealed the Indian consumer to be a curious and thorough researcher who investigates the details of his purchased goods well before the purchase decision is finalized, whether on-line or at a physical store. Similar patterns are evident in sub-sector studies: research on Indian consumers shopping for cars in Delhi-NCR showed websites and smart mobile phones as the most popular online search methods prior to purchasing whereas tourism market research has shown that customised and personalised digital offers work better than general offers for Indian tourists, who remain highly sensitive to price even in the online space

In terms of the Indian Knowledge System, Hans (2025) comes closest in his conceptualisation of its potential application to marketing. His paper suggests: An indigenous conceptually balanced consumer behaviour pattern for value exchange-concept based on trust, the existence of community relationships and community exchange processes – anchored by Dharma, Karma, the Artha shastra, and Chanakya Niti – was guiding Indian businesses in terms of brand building, audience connection, as well as their digital strategy and operations. His concept of Ethno-Modern Marketing offers an integrated framework that melds Indian philosophy and digital data analytics an innovation that draws from much earlier consumer protection practices like Kautilya's Artha shastra around the 4th century BCE, which had established the world's first consumer ombudsman, standardized weights and measures, and a quality control system for goods (The Law Institute, 2025). Trust in the marketplace was deeply embedded in Indian traditions much prior to the conceptualization of consumer behaviour.

Case-study based literature on this is also aplenty. An IJFMR (2022) secondary research on Patanjali Ayurveda Limited using data primarily gathered from press reports and corporate filings, demonstrates how the brand has

built on and leveraged Indian consumer trust through various communication methods such as television advertising and social media outreach (the company utilizes religion for marketing and also runs yoga camps), and how Patanjali was able to boost revenues by more than 2000 percent between 2012 and 2021. The study also provides an analysis of Patanjali's community marketing practice, through which online communities are perceived as natural extensions of physical yoga camp communities, thereby making a substantial portion of consumers into effective brand evangelists for Patanjali. Research presented in JISEM (2025) explored the lineage from the early 20th century Swadeshi movement, which turned the symbol of khadi into a representation of self-rule and nationalist spirit, through to modern-day indigenous brands; a survey in this paper revealed that a significant proportion of participants associated Gandhian Swadeshi ideals with Patanjali products, demonstrating the lasting marketing power of such historical narratives. The subsequent reinvention of the Khadi and Village Industries Commission through fashion-week exposure curated retail opportunities and e-commerce presence has generated more than a six-fold increase in their sales during the 2013-14 to 2024-25 period, proving the potency of linking the cultural heritage with modern execution methods (Markhub24, 2026).

4. Research Gap

Taken together, the literature leaves a fairly clear gap. Most of the digital marketing research on Indian focuses on Indian consumer but rarely used ideas from Indian knowledge system. On the other side, Indian Knowledge System literature stays largely at the level of philosophy or curriculum design and is seldom tested against actual consumer decision data. The case studies that do exist, on brands such as Patanjali and Khadi describe outcomes in rich detail but rarely use a formal IKS-based framework to explain why those outcomes happened. There is, as far as this review could find, no integrated conceptual model that links specific Indian Knowledge System constructs, such as Dharma, Sarva Loka Hitam and Swadeshi identity, to specific stages of the digital consumer decision journey. There is also very little written about regional-language digital content, even though Indian traditions are deeply regional and close to 98 percent of Indian internet users already consume content in Indic languages rather than English (DD News, 2026). This paper addresses that gap between Indian system.

5. Need of the Study

Three separate bodies of writing exist at present. One set of studies looks at digital marketing and Indian consumer behaviour in a fairly metrics-driven way, tracking reach, engagement and conversion (Mahesh & Dave, 2026). A second set treats the Indian Knowledge System mainly as a resource for ethics, sustainability and governance, written largely for classroom use following the NEP 2020 mandate (theintactone, 2024). A third and much smaller set has begun connecting the two, but tends to stop at the level of business philosophy rather than consumer psychology (Hans, 2025).

For anyone marketing an Indian product in India today, this gap matters in practice. People have become more cautious about what they see online many are tired of advertisements and are also concerned about how their personal information is being used. A brand that draws credibly on Indian values of trust and community, delivered through a well-run digital campaign, may cut through this fatigue better than one that simply copies a global template. Whether and how this actually happens deserves a proper review, because much of what is currently known sits scattered across case write-ups, blog articles and a handful of scholarly papers. This study is needed to pull that scattered material into one coherent account that is useful both to future researchers and to practitioners planning campaigns for a Swadeshi-conscious Indian marketing.

At this point, there are three different distinct bodies of work. The first group of studies examines digital marketing and Indian consumer behaviour in a manner that is fairly driven by metrics, monitoring reach, engagement and conversion (Mahesh & Dave, 2026). A second group regards the Indian Knowledge System mainly as a source of guidance on ethics, sustainability and governance and has mostly been written for use in the classroom in accordance with the NEP 2020 requirement (2024). A third and considerably smaller group has started to link the two areas together, although it usually only goes as far as business philosophy and not consumer psychology (Hans, 2025).

6. Objectives of the Study

1. Establish the conceptual commonality and overlap between the principles of Indian knowledge system and present day digital marketing practice

2. To collate existing literature to examine how the digital practices and principles which subscribe to the Indianness-centric values of Swadeshi identity, Dharma and trust among communities would influence the consumer's buying behaviour.
3. To provide real-time Indian brand examples which has incorporated the IKS themed approaches in its digital marketing strategy.
4. To establish the research gap existing in this field, so as to guide the further empirical and primary researches on the topic in future.

7.Scope of the Study

The scope of this work is limited to the Indian market and consumer oriented industries with high potential and usage of culture and heritage-based branding, i.e. Primarily FMCG, personal care, Ayurveda and wellness, and handloom or heritage textiles because of the focus and concentration of available secondary data. The focus is on digital marketing as such, not limited to one platform-it is an examination of social media, e-commerce, search and brand websites. The period of the secondary data used extends roughly from the early 20th century Swadeshi movement literature to reports and articles up to 2026. The work does not include business-to-business marketing; not the export market; not industry sectors like heavy industry and finance where Indian K.S.-based branding is relatively invisible in the researched information.

8.Variables of the Study

Independent variable: Digital marketing rooted in the Indian Knowledge System, measured conceptually through its recurring dimensions identified in the literature, namely Swadeshi and national identity messaging, trust and credibility signals, community-centred engagement, sustainability and natural-product claims, and heritage-modern hybrid positioning.

Dependent variable: Consumer buying behaviour, understood through the stages of the digital consumer decision journey, namely awareness, consideration, purchase, and post-purchase loyalty or repeat buying.

Because the present study is based on secondary data and qualitative synthesis rather than a primary survey, these variables are used here as an organising framework for reviewing the literature, and not as variables measured through statistical instruments such as regression or correlation.

9.Research Methodology

Research approach / design:

This study uses a descriptive-analytical research design based entirely on secondary data. The collected literature was analysed thematically to understand the relationship between IKS-related marketing practices and consumer buying behaviour.

Type of data:

Secondary data solely is utilized in this study. No interviews, questionnaires or survey were conducted for research paper or primary source to collect data.

Sources of data:

This secondary material consists of peer-reviewed journals such as the Indian Journal of Marketing, IJRSI, IJFMR, and IJNRD working papers drawn from SSRN, the IMAI-Kantar Internet in India Report 2025, Statista and Expert Market Research industry/government related reports academic notes and lecture transcripts relating to the Indian Knowledge System prepared under the auspices of NEP 2020 and several in-depth case studies of Indian brands, such as Patanjali and Khadi, from the industry publications such as business-education platforms and trade journals.

Method of analysis:

The gathered materials are reviewed, categorized under certain consistent theme, trust, Swadeshi and nation, engagement centered with community, sustainability, and heritage-modern hybridity. With these themes the standard steps in the decision journey of the digital consumer-awareness, consideration, purchase and post-purchase are then read in opposition to the points where the Indian Knowledge System appears to have greatest influence on purchase decisions. Basically it's a thematic content analysis of secondary sources using qualitative methods.

10. Analysis of Secondary Data

In fact, trusting is of ultimate importance and the very fact that the Artha shastra appointed one specific market inspector and used standard weights and measures indicates that a trust was considered to be something of active creation not as being left to chance (The Law Institute, 2025). Similarly, in the digital sphere, star ratings and verification badges play the role: The underlying principle behind return policies proving effective-especially when proposed by people who are trusted, or whose opinion of products is backed up by those trusted-also lies at the root of the former concept of the 'trusted merchant' only that trust is now generated by television and media instead of via the village market (IJFMR, 2022).

According to the JISEM (2025) study, why Swadeshi and nationalism is a driver is because a considerable number of respondents still directly connect the Gandhian notion of Swadeshi to Patanjali products therefore, direct messaging language that appeals to a Swadeshi identity causes an appeal which is more emotional and nationalistic which bridges the gap between consideration of product and purchasing it for everyday FMCG goods. The role of the community as a digital amplifier community marketing on a scale is not new with the underlying community idea that welfare should extend beyond the individual buyer (Sarva Loka Hitam) similar to the community marketing employed by the modern digital marketers. And, the yoga camps that Baba Ramdev has been performing throughout the ages are very effectively scaled up to an extremely large online community of followers. They are the unpaid endorsers/ ambassadors for the brand; that makes spreading of the news much cheaper for the brand.

the idea of sustainability and the usage of the term natural. The concept of environmentalism that Indians always held in India based on the five elements called the Panchamahabhuta and the usage of natural rather than synthetic remedies in Ayurveda has also reflected in modern digital advertisements wherein, the attributes of natural, organic, chemical-free etc. Are very widely used. Online research done for Indian consumer attitudes towards electronic and personal care products found a significant rise in consideration to these attributes among urban health-conscious consumers thereby confirming its validity for the present day.

The blend of both Heritage and Truly Modern This is best exemplified by Khadi for merely having heritage is not enough. The fact that Khadi managed to increase its sales by an amazing 447 percent over a 11-year period was after the Khadi and Village Industries Commission (KVIC) allied its brand identity with fashion weeks, organized retail, and online sales; however, for several decades before that, the cultural value tied to heritage prevented it from achieving any real commercial success (Markhub24, 2026).

Section of regions and local dialects: Because nearly all Indians on the internet currently use Indic languages to consume content, and given the extreme diversity across the IKS – for example, ranging from Tamil Siddha medicine to traditional Bengali trade practices – there is potential for digitally themed campaigns that are centered on language and on local knowledge systems

10. Findings

The evidence of impact of digitally enacted Indian Knowledge System enabled strategies across the consumer journey:

1. Credibility established on the basis of personal or communitarian connections and trust as carried over from older Indian commercial practices continues to be a strong signalling device for trust in the digital domain too, and not exclusively offline.
2. Campaigns built on Swadeshi and national identity can trigger brand recall measurably, as per survey driven studies, although this impact is perhaps more pronounced in the FMCG & personal care segments of product categories than technology and services.

3. Indian heritage as a theme to build a brand works effectively in the commercial sense only when linked with modern day retail and digital execution, as is evinced by the Khadi's experience pre - digitally, and pre - organized retailing & post - digitally savvy and organized retail.
4. Literature connecting directly Indian Knowledge System constructs to digital consumption behaviour has not been as extensively explored or researched compared to the studies that analyse each of these phenomena in isolation.
5. Research opportunities for digital marketing and practice in relation to locally nuanced and regional language specific traditions of Indian knowledge remain relatively underdeveloped

12. Discussion

The pattern emerging from this review is that digital marketing in India works best when technology-driven reach is paired with cultural credibility rather than treated as a replacement for it. Reach alone, in the form of more impressions or more followers, does not appear to be what moves an Indian buyer from browsing to buying; something closer to inherited trust, whether carried through a respected individual, a national identity cue, or a community of existing users, seems to do that work. This is broadly consistent with how the Indian Knowledge System frames commerce, as a relationship bound by Dharma rather than a purely transactional exchange.

At the same time, the Patanjali case is a useful caution rather than a pure success story. The same brand that benefited enormously from Swadeshi and trust-based messaging later faced regulatory action and public criticism over product quality and advertising claims, which suggests that invoking Indian Knowledge System values as messaging without genuinely practising them as business ethics can eventually damage the very trust the messaging was built on. Digital marketing rooted in the Indian Knowledge System, then, is not simply a communication style that can be applied on top of any product; it appears to require the underlying business conduct to match the values being communicated, or the strategy risks working against itself over time.

13. Conclusion

It was the aim of this paper to combine together three distinct bodies of literature those concerning Indian digital marketing, the Indian Knowledge System, and consumer buying behaviour that have largely not been related. In their combination it appears that concepts as long standing as the Artha Shastra's inspector of the market or the khadi symbol of the Swadeshi Movement continue to play a decisive role in how Indian consumers respond to digital campaigns even to a greater extent than purely technical or algorithmic strategies. Brands such as Patanjali and organizations such as KVIC are examples which demonstrate both the validity of the application (in the case of fast trust-led growth) and the dangers there of (in terms of credibility loss when rhetoric does not square with reality). The general situation leads to a confirmation of the argument to consider the Indian Knowledge System not as superficial décor added to marketing, but instead as an actual, testable driver of digital consumption that warrants further, more controlled research

14. Suggestions / Recommendations

1. Researchers could in the future conduct primary study, using methods such as surveys or interviews, to assess, in real time, whether a given Indian Knowledge System cue (e.g. Framing around swadeshi, or around trust) actually increases purchase intention, instead of just measuring at the brand level through case-studies.
2. Marketing practitioners dealing with Indian brands may want to align any communication around an Indian Knowledge System message with comparable business practices in the company itself, especially when dealing with product quality and ethical claims, because, as per the Patanjali case, there are reputation stakes involved.
3. Future research may also need to engage with digital campaigns using local languages to tap into particular Indian Knowledge Systems at the regional level, rather than using a broad national swadeshi.
4. Business Schools / Departments would benefit from cross-pollination between their teaching of Indian Knowledge Systems and their teaching of digital marketing, as, in current educational institutions, these have been traditionally taught separately - as highlighted by this review.

15. Limitations of the Study

1. This study is based entirely on secondary data and does not include any primary survey of Indian consumers, so its findings describe patterns reported in existing literature rather than freshly measured consumer opinion.
2. The case material available in this area is dominated by a small number of well-documented brands, mainly Patanjali and Khadi, which may not represent how smaller or less publicised brands use similar strategies.
3. Digital marketing practice also changes quickly, and some of the statistics and reports cited, while recent, may be superseded within a short time.
4. Finally, much of the readily available academic and case-study material is in English, which may under-represent regional or vernacular sources that could offer a fuller picture of Indian Knowledge System-based marketing.

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FROM DHARMA TO DATA: THE INDIAN KNOWLEDGE SYSTEMS PERSPECTIVE ON ETHICAL AI IN TALENT ACQUISITION.

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Abstract:

The digital revolution of TA process has revolutionized the workflow of HR operations through computational efficiency and predictability of screening, candidate sourcing and matching. However, the unregulated use of machine learning models for recruitment purposes raises serious ethical issues such as automated discrimination based on demography, algorithmic black boxes, excessive monitoring of candidates and diffusion of human responsibility. Existing approaches to ethical AI have their roots in Western ethics, namely in utilitarianism and deontology, and often fail to develop the notion of ethics beyond external compliance. In this paper, I propose a normative framework for responsible AI recruitment in the context of Indian Knowledge Systems (IKS) which maps the core philosophical concepts of Indian philosophy - Dharma (accountability), Satya (transparency), Ahimsa (non-harmful behavior), Nyaya (fairness) and Human Dignity (Atman/Purusha) to existing principles of ethical AI. In addition, this research uses Human Resource Readiness Theory as an analytical tool for conceptualization of capability of an organization and its technological assets as an indispensable mediator between normative and operational levels.

Keywords: Artificial Intelligence, Talent Acquisition, Indian Knowledge Systems, Dharma, Ethical AI, HR Readiness, Human-Centric Management.

1. Introduction

There is currently a paradigm shift being witnessed in the realm of corporate recruiting driven by the rapid development of the AI and algorithmic decision-making processes (Tambe et al., 2019). Modern enterprise talent acquisition (TA) operations take place within the setting characterized by massive volumes of applicants, tight timetables, and stiff competition in the labour market. Therefore, enterprises have resorted to using algorithmic means throughout the process of recruiting, from automated applicant sourcing and natural language processing of CVs to AI conversational screening and behavior-based assessments (Black & van Esch, 2020; Vrontis et al., 2022).

Usage of AI in recruiting has abundant advantages. Firstly, algorithms make it possible to considerably reduce time-to-hire, lower costs related with candidate acquisition, continuously interact with candidates through numerous channels, and help to avert subjective fatigue of human recruiters (Pillai & Sivathanu, 2020). On the other hand, practical application of AI in recruiting revealed various ethical, systemic, and legal challenges (Köchling & Wehner, 2020). Contrary to their neutrality claims, algorithms reproduce historical human biases in training data sets, generate ambiguous scores, and separate decision-makers from accountability of their actions (Raghavan et al., 2020; Hunkenschroer & Luetge, 2022).

Recruiting ethically is vital since it is not just about administration but also determines access to people's means of economic presence, social status, and dignity. In case of unethical treatment of applicants based on surrogate demographic variables or obscure scores, the principles of both procedural and distributive justice are violated (Floridi et al., 2018; Jobin et al., 2019). Existing Western ethical frameworks of AI that are built upon utilitarian calculus, Kantian deontology, and Rawlsian theory of justice provide useful structural guidelines but often see ethics as something outside of the enterprise as a tool for compliance or liability management. Hence, it cannot foster moral awareness.

In light of this discussion, Indian Knowledge Systems (IKS) provide the holistic philosophical approach. IKS that is based on classical sources including the Vedas, Upanishads, Bhagavad Gita, and Nyaya Sutras sees ethics as a moral obligation and universal interconnectedness rather than some kind of rulebook (Chakraborty, 1995; Sivakumar & Rao, 2010; Muniapan, 2008). Concepts as Dharma (righteous duty), Satya (truth), Ahimsa (non-

violence), and Nyaya (reasoned justice) variate the understanding of technology from autonomous economic power (Vigyan) to Upadhi – subordinate tool of promoting human and collective well-being (Lokasangraha).

1.1. Research Problem and Methodology

Even though significant academic efforts have been made in exploring AI in human resources, there is still a conceptual void: there is no clear integration of classical Indian philosophy, algorithmic recruitment techniques, and organizational proficiencies. Thus, the research question is: How can philosophies of Indian Knowledge Systems contribute to an ethical execution of AI in talent acquisition, and how important is the organizational HR readiness in this process?

To answer this research question, the study will use the method of conceptual blend (MacInnis, 2011; Jaakkola, 2020). Using the systematic literature review of influential studies related to AI-driven talent acquisition, global charters on ethical AI, and classical Indian management theories, the study will develop an integrative conceptual framework and derive practical managerial implications.

2. AI in Talent Acquisition: Key Architectural Applications

Modern talent acquisition takes advantage of sophisticated computational architectures in each stage of candidate life cycle (Tambe et al., 2019; Albert, 2019). The following five key operational domains can be distinguished:

- **Automated CV Parsing and Semantic Screening:** Machine learning models utilizing NLP analyze the unstructured resumes of candidates and detect semantic clusters, skill hierarchies, and education credentials to evaluate relevance of candidate to job.
- **Algorithmic Sourcing and Matchmaking:** Predictive algorithms scan corporate internal databases and public social media platforms (e.g., LinkedIn, GitHub) to find passive talent pools and estimate match probability against the organizational performance archetypes.
- **Conversational Recruitment Chatbots:** Natural language interfaces and chatbots provide real-time interactions on the funnel's top stage, automate qualification, logistics and candidate updating (Kumar & Sharma, 2015).
- **Automated and Asynchronous Video Interviews (AVIs):** Asynchronous video platforms employ sentiment analysis, vocal tone analytics, and linguistic analysis to assess candidates' nonverbal behavior and situational competence (Suen et al., 2019).
- **Predictive Talent and Retention Analytics:** Supervised learning models integrate multiple source signals from candidates to predict their future tenure, performance, and risk of leaving (Upadhyay & Khandelwal, 2018).

3. Ethical Challenges Arising from Using AI in Recruiting

Four main socio-technological challenges arise from using automated computational mechanisms in hiring and are consistently discussed in current empirical and theoretical literature:

- 1) **Algorithmic Inequality and Discrimination:** Machine learning models typically encode and reproduce inequalities that have existed historically in training datasets. If certain demographic groups have been discriminated against in previous hiring decisions made by an enterprise, algorithms will use these biases as legitimate statistical predictors of high performance. One example is the recruiting algorithm developed by Amazon that penalized resumes containing words related to education and sports clubs of women (Raghavan et al., 2020; Dastin, 2018).
- 2) **Invasive Surveillance of Candidates and Violation of their Privacy:** AI recruiting platforms require significant amounts of information gathering through collecting data about candidates' browsing history, social media activity, and biometric characteristics revealed in video interviews (Black & van Esch, 2020). This phenomenon disrupts informational autonomy of individuals and creates great inequality of power between job applicants and firms.
- 3) **Black Box Effect and Explainability Issues:** The functioning of deep neural networks occurs in high-dimensional feature spaces, which makes it impossible to reveal the inner logic of its decision-making process. As a result, the rejection of the candidacy cannot be explained either by the person or an HR specialist (Köchling & Wehner, 2020).

- 4) **Moral Responsibility Diffusion and Human Withdrawal:** Automated decision support systems can create a psychological condition called "automation bias" when human beings blindly trust machine decisions. It results in the diffusion of responsibility in which recruiters, software developers, and other people do not take any responsibility for discriminatory hiring (Floridi et al., 2018; Tambe et al., 2019).

4. Indian Knowledge Systems: Fundamental Principles for Management

Indian Knowledge Systems (IKS) formulate an ontological construct whereby management is viewed as a moral practice that promotes universal wellbeing instead of just focusing on shareholder values (Chakraborty, 1995; Sivakumar & Rao, 2010). Traditional Indian philosophy suggests that organizational stability depends on spiritual and ethical equilibrium. Five well-defined principles offer substantial foundational basis for technology management:

- i. **Dharma (Righteous Duty and Moral Order):** Dharma represents cosmic order, righteousness, and moral obligations of people and organizations, urging them to behave in ways beneficial to universal wellbeing (Lokasangraha). In the institutional setting, Dharma gives preference to proactive ethical management going far beyond minimum legislative compliance (Muniapan, 2008).
- ii. **Satya (Truth, Epistemic Integrity, and Transparency):** Based on the ontological concept of truth (Sat), Satya implies the absolute veracity, transparency, and absence of falsehood or concealment (Maya). In the context of organizational decision making, Satya means absolute epistemic honesty and openness.
- iii. **Ahimsa (Non-Harm and Proactive Benevolence):** Instead of passive non-resistance, Ahimsa stands for avoiding causing physical, psychological, social, or economic damage to any living organism. At the system design level, Ahimsa demands the active removal of systemic harms, unjust discrimination, and bias.
- iv. **Nyaya (Evidence-Based and Dialectical Justice):** Nyaya is the name of one of the classical schools of thought that provides the epistemological framework based on logical rigor, evidentiality (Pramana), and impartial analysis. It states that the judgments should be substantiated by verified facts and free of cognitive distortions.
- v. **Human Dignity and Sacred Potential (Atman / Purusha):** According to Vedanta philosophy, every human being has an inherent sacred consciousness (Atman), which grants intrinsic human dignity not reducible to merely economic factors of production and data vectors.

5. IKS and Responsible AI Alignment Concept

The integration of classical Indian philosophy principles and Responsible AI principles results in a powerful normative architecture for talent acquisition. The following table illustrates this alignment by linking the traditional constructs to modern technology and hiring practices.

IKS Philosophical Principle	Contemporary Ethical AI Principle	Talent Acquisition (TA) Application
Dharma (Righteous Duty & Order)	Moral Responsibility & Governance	Establishing explicit accountability chains; auditing algorithmic outcomes; aligning hiring with social welfare (Lokasangraha).
Satya (Truth & Authenticity)	Transparency & Explainability (XAI)	Eliminating black-box opacity; providing candidates with intelligible rejection rationales; transparent scoring criteria.
Ahimsa (Non-Harm & Benevolence)	Non-Maleficence & Bias Mitigation	Proactive algorithmic de-biasing; scrubbing demographic proxies in CV screening; eliminating adverse impact on protected groups.
Nyaya (Evidence-Based Justice)	Procedural & Distributive Fairness	Standardized evaluation frameworks; validating algorithms through rigorous empirical evidence (Pramana); equitable candidate assessment.
Human Dignity (Atman) (Intrinsic Sacred Worth)	Human-Centricity & Human Agency	Mandating 'Human-in-the-Loop' oversight; prohibiting fully automated rejection; recognizing holistic human potential beyond data points.

Source: Synthesized by authors (2026) based on Chakraborty (1995), Floridi et al. (2018), and Tambe et al. (2019).

6. The Mediating Role of HR Readiness

Adaptable ethical frameworks and technological tools don't guarantee responsible results on their own. In organizational human resource research, HR Readiness stands out as a key capability for effective AI adoption (Pillai & Sivathanu, 2020; Malik et al., 2021). HR Readiness acts as the real-world engine that brings abstract philosophical ideas down to earth, embedding them in everyday talent acquisition practices.

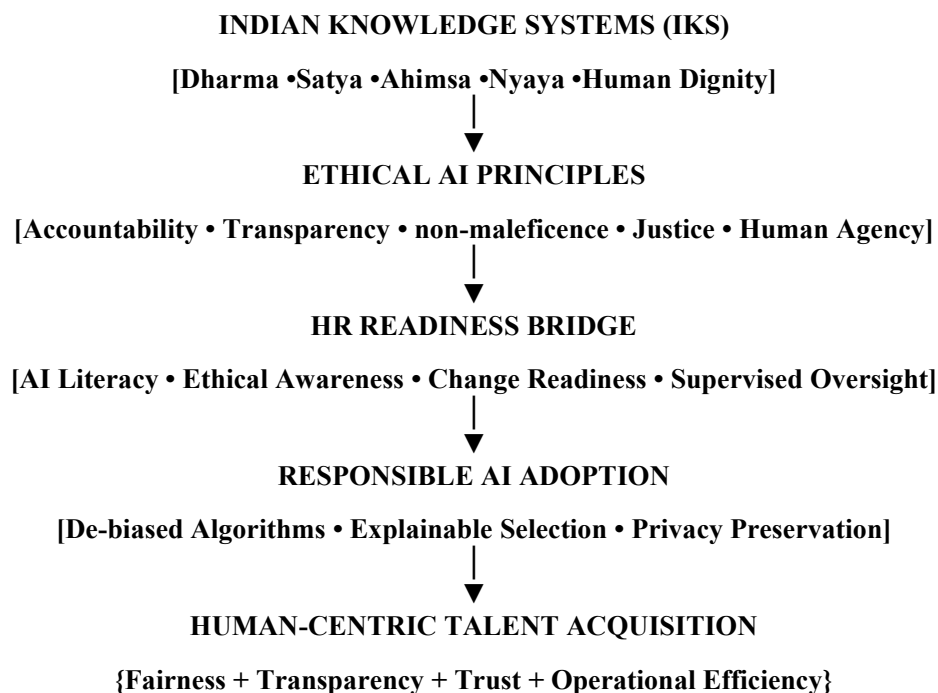
This study, drawing on technological readiness and dynamic capability models, breaks down HR Readiness into five main dimensions:

- ◆ **AI Literacy and Digital Competence:** Recruiters need to grasp the basics of algorithms, know how to choose appropriate features, and use basic statistical tools to evaluate their effectiveness—things like false-positive and false-negative rates.
- ◆ **Ethical Awareness and Moral Sensitivity:** Organizations must stay alert to subtle algorithmic bias, data contamination, and surveillance that can sneak into recruiting.
- ◆ **Change Readiness and Cultural Adaptability:** HR teams need the mentality and flexibility to adapt old routines and work alongside intelligent machines.
- ◆ **Ability to Supervise AI (Human-in-the-Loop Governance):** Recruiters need the authority and skills to scrutinize, question, and, when needed, override what automated systems recommend.
- ◆ **Algorithmic Auditing and Vendor Evaluation:** Teams must be able to thoroughly vet third-party HR-tech tools before bringing them on board.

7. Proposed Conceptual Framework

Blending the foundational principles of Indian Knowledge Systems, universal Ethical AI guidelines, and HR Readiness leads to an integrated conceptual framework for talent acquisition (see Figure 1).

Figure 1. The IKS-Ethical AI Talent Acquisition Architecture



Source: Developed by authors (2026).

The framework is based on the sequential structural dynamics.

- ◆ IKS gives a normative underpinning, where the focus of the company's consciousness is changing from making money from transaction to fulfilling the responsibility (Dharma) and non-harm (Ahimsa) towards society.
- ◆ These philosophical principles can be well-expressed with universal Ethical AI standards.
- ◆ HR Readiness is the critical connection in between the technical capability and moral agency that are expected of recruiters, otherwise the guidelines to be followed on ethics are only aspirational.
- ◆ Combining ethical technology with easily accessible HR talent brings about a sustainable hiring environment, built on fairness, transparency, candidate trust and speed.

8 Discuss the difference between augmentation and replacement.

A key result of this conceptual merging is that AI cannot be a substitute for HR judgment but rather complement it (Tambe et al., 2019; Floridi et al., 2018). In the West, the human recruiting function is seen as a rival to the algorithmic one: the aim is complete automation to cut down costs as much as possible. However, Indian Knowledge Systems have the doctrine of Upadhi (technology as an instrument or an adjunct) which states that the non-sentients (Technology) do not have moral consciousness (Chetana) nor moral agency (Kartitva).

Statistically averaging out a candidate's many career vectors and character is ignoring the whole human potential recognized in Vedantic philosophy, Atman. Algorithms act on their own when they are being hired, and extrapolate only from the artifacts of their past behaviors, without seeing what they might be capable of when it comes to potential, resilience and adaptability, which are not quantifiable. When Dharma (duty) and Nyaya (reasoned justice) is integrated with the talent acquisition architecture, any CPC handles computations, and the human recruiters still have the ultimate moral responsibility of evaluating candidates and building relations.

9. Managerial and Organizational Implications

For the business, the implications will be (but are not limited to). This framework offers tangible suggestions for HR leaders, talent acquisition managers, talent acquisition teams, and Chief Human Resource Officers (CHROs) for establishing a recruitment environment built on ethical best practices.

- **Establish Learning Programmes on AI Literacy:** Companies should invest in ongoing training programs focused on data literacy, the basics of machine learning and predictive analytics so that recruiters can critically evaluate the AI recommendations.
- **Implement IKS-Grounded AI Ethics Policies:** Companies can frame ethical guidelines for HR-techs by codifying recruitment policies based on factors of Dharma (responsibility), Satya (explainability), and Ahimsa (bias mitigation). Run rigorous algorithmic audits regularly and independently by HR teams to identify and remove adverse impacts on algorithm by demographic group.
- **Implement Human-in-the-Loop Approaches:** Organizations should create clear policies against complete automation of rejection. Recruiters need to have time and authority to look at borderline and high-potential candidates.
- **Encrypt Candidate Grievance Channels:** In line with Nyaya (justice), companies must set up a transparent mechanism that lets denied candidates know what was the reasoning behind the rejection and give them a chance to get it reviewed.
- **Balance Automation and Cognitive Biases:** Training panels about automation bias (when they rely too heavily on AI-generated data) and cross-checking AI scores with comprehensive qualitative data.

10. Conclusion

The landscape of talent acquisition is changing rapidly with AI, and now, rather than being a technical puzzle, the challenge more closely becomes one of ethical oversight. An efficiency without a moral component leads automatically to black box opacity, to discriminatory practices, and to alienating candidates.

Indian Knowledge Systems provide a timeless perspective with philosophically broad concepts that can illuminate and capture the modern issues of the technology. Implementing algorithmic systems grounded in Dharma (duty), Satya (truth), Ahimsa (non-harm), Nyaya (justice) and Human Dignity puts organizations on a human-centric pathway of stewardship over data.

Through sound HR readiness, this can be translated into a framework of fair, transparent, trustful, and long-lasting HR excellence, where AI can enhance the human element without taking the place of human intelligence.

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ANCIENT CENTERS OF LEARNING IN INDIA: TREASURES OF INDIAN KNOWLEDGE SYSTEMS FOR THE TWENTY-FIRST CENTURY

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ABSTRACT

Purpose: This article examines the historical significance of ancient Indian centers of learning—particularly Takshashila, Nalanda, Vikramashila, Valabhi, and Odantapuri—and interprets them as enduring treasures of Indian Knowledge Systems (IKS). It further explores their relevance for rethinking higher education in the twenty-first century through the principles of interdisciplinarity, ethics, holistic development, and sustainability.

Design/Methodology/Approach: The study adopts a qualitative, interpretive research design based on historical analysis, textual interpretation, and comparative review of secondary sources. Data were drawn from scholarly books, peer-reviewed journal articles, archaeological and epigraphic studies, policy documents, and academic databases. The material was analyzed through thematic content analysis with a comparative lens linking ancient educational practices to contemporary higher education discourse.

Findings: The study finds that ancient Indian centers of learning promoted integrated education, critical inquiry, debate, teacher–student mentorship, and value-based learning. These institutions also functioned as international centers of scholarship and knowledge exchange. Their legacy offers important insights for contemporary education, particularly in relation to multidisciplinary curricula, ethical formation, sustainability, and culturally rooted educational reform.

Originality/Value: The article positions ancient Indian centers of learning not merely as historical monuments but as living repositories of IKS with continuing relevance for modern educational thought and policy. It contributes by linking historical scholarship on ancient education with current debates on holistic, inclusive, and future-ready higher education.

Paper Type: Conceptual paper.

Keywords: Indian Knowledge Systems; ancient centers of learning; Takshashila; Nalanda; holistic education; interdisciplinary learning; value-based education; sustainability; higher education; twenty-first century education.

1. INTRODUCTION

India's intellectual heritage is deeply rooted in ancient centers of learning that flourished for centuries and attracted scholars, seekers, and teachers from across regions and cultures. These institutions were not limited to religious instruction; rather, they functioned as comprehensive centers of advanced learning in which students explored philosophy, grammar, logic, mathematics, astronomy, medicine, politics, arts, and ethics through rigorous discussion and disciplined inquiry (Jain, 1981; Sharma, 1995). The educational culture of ancient India placed strong emphasis on oral transmission, memorization, interpretation, debate, and close teacher–student interaction, thereby creating a learning environment in which intellectual development and moral formation were closely connected (Mookerji, 1989).

One of the most distinctive features of these institutions was their openness to diverse forms of knowledge and their capacity to preserve, refine, and transmit ideas across generations. Centers such as Takshashila, Nalanda, Vikramashila, and Vallabhi became enduring symbols of India's scholarly excellence and attracted learners from within India and other parts of Asia. Their curricula reflected a broad conception of education in which knowledge was pursued not merely for professional advancement but also for the cultivation of reasoning, self-discipline, and social responsibility (Jain, 1981; Sharma, 1995). This broad intellectual orientation aligns closely with the contemporary understanding of Indian Knowledge Systems, which includes India's long-standing traditions in

philosophy, science, mathematics, medicine, linguistics, arts, architecture, ecology, and governance (Ministry of Education, 2022; Singh, 2020).

In recent years, renewed interest in Indian Knowledge Systems has brought ancient educational institutions into sharper focus as vital sites of civilizational memory and intellectual continuity. Their significance today lies not in nostalgic admiration, but in the possibility of re-engaging with the principles that made them intellectually vibrant: interdisciplinarity, ethical inquiry, dialogue, respect for teachers, and the integration of knowledge with human development (Chaudhary, 2019; Duraiswamy, 2021). In this sense, ancient universities remain relevant to contemporary educational thought because they offer a model of learning that values depth, collaboration, reflection, and social purpose.

The study of these institutions is therefore important not only for historical understanding but also for present-day educational reform. As modern systems increasingly seek ways to balance specialization with holistic development, the pedagogic ideals of ancient Indian universities provide valuable insights into learner-centered, value-based, and inquiry-driven education. Their legacy continues to inspire discussions on how India's intellectual traditions can contribute to the creation of more humane, inclusive, and culturally grounded educational frameworks in the twenty-first century (Chaudhary, 2019; Duraiswamy, 2021).

1.1 Ancient Centers of Learning and Their Multidisciplinary Character

Ancient centers of learning were distinguished by their multidisciplinary orientation. They offered instruction in religious studies, philosophy, logic, medicine, astronomy, military science, grammar, trade, law, and the arts. Many of these institutions possessed large academic buildings, hostels, and libraries, and they attracted scholars from diverse regions.

These centers played a critical role in preserving and disseminating knowledge. Students studied both theoretical and practical subjects, making these institutions remarkably advanced for their time. They functioned as major centers of intellectual debate, research, and higher education.

Table 1: Ancient Centers of Learning and Their Scholarly Contributions

University / Centre	Founder / Period	Main Subjects / Disciplines	Famous Scholars / Notes
Nalanda	Founded in the 5th century AD by Emperor Kumar Gupta, Bihar	Logic, astronomy, Buddhist scriptures, Samkhya, Yoga, medicine, Veda	Nagarjuna, Dinnaga, Dharmapala, Lama Atisha
Takshashila	Said to be the world's first university, around 700 BC; linked to Son of Bharata and Taksa	Medicine, politics, warfare, astronomy, music, religion, philosophy, Ayurveda, 18 arts, plants and herbs, archery, wrestling	Charak, Chandragupta Maurya, Panini, Chanakya, Vishnu Sharma
Vikramshila University	Founded by King Dharmapala in Bihar in the 7th century	Vajrayana, Tantra, astronomy, Vedas, logic, urban development, law, grammar, philosophy	Vairochara Rakshita, Jetari, Prajnakaramati, Ratnakarasanti, Jnana Sri, Ratnavajara, Vagishvarakirti, Atisha
Pushpagiri (Buddhist Seat of Higher Learning)	Established by the Kalinga king / Ashoka; 2nd century BC to 10th century	Mahayana, Vajrayana, Tantric Buddhism, Vedas, logic, grammar, medicine, Sankhya philosophy, yoga, meditation, metaphysics, science	Prajna, Rahula, Nagarjuna, Aryadeva, Dignaga, Dharmakirti
Vallabhi University	Established by Bhattarka of the Maitraka dynasty	Hinayana Buddhism, Brahmanical sciences, political science, business, agriculture, administration, philosophy, accounting, economics, law	Gunamati, Sthiramati

Salotgi University and Nagavi University	Established by the minister of Rashtrakuta emperor in the 11th century	Vedic learning	Had 27 hostels
Manyakheta	In Karnataka; ruled by Amoghavarsha Nrupatunga, 814 AD to 968 AD	Kannada classical literature, Jainism	Amoghavarsha I, Mahaveeracharya, Ajitasenacharya, Gunabhadracharya
Kanchipuram	Around 200 BC; under the Pallavas	Religious education for Hinduism, Jainism, and Buddhism	Visited by Gautam Buddha and Xuanzang; associated with Buddhaghosa and Bodhidharma
Kanthallur Valiasala (Nalanda of the South)	Under the Chola ruler Rajendra Chola, 1013 AD–1045 AD	Vedas, astrology, magic, drama, mantras, Buddhist studies, goldsmithy, music	Linked with Kuvalayamala by Jain saint Udyotana Suri
Nagarjunakonda / Nagarjuna Vidyapeeth	2nd century AD; Acharya Nagarjuna	Buddhist teaching, mineralogy, philosophy, medicine	Associated with Nagarjuna

2.REVIEW OF LITERATURE

Table 2: Review of literature

S.No.	Author's Name	Discussion
1	Altekar (1965)	Provided one of the earliest systematic accounts of education in ancient India, emphasizing curricular breadth and the centrality of teacher–student relations. His work laid an important foundation for later scholarship on the organization and intellectual culture of ancient learning.
2	Mookerji's (1989)	He demonstrated that ancient Indian education was not narrowly religious, but encompassed grammar, medicine, astronomy, logic, and statecraft. This analysis is significant because it reveals the interdisciplinary orientation of ancient centres of learning and their broader intellectual relevance.
3	Jain (1981)	Emphasized that ancient Indian education was organized around cultural continuity, moral development, and knowledge preservation
4	Sharma (1995)	Examining the institutional and pedagogical dimensions of ancient education, particularly the role of monastic universities and structured curricula. Together, these studies establish that ancient Indian learning was both socially embedded and intellectually rigorous.
5	Panikkar (2007)	More recent scholarship has increasingly connected ancient education with the contemporary discourse on Indian Knowledge Systems (IKS), thereby emphasizing the civilizational depth, continuity, and intellectual richness of India's long-standing traditions of learning, inquiry, and knowledge transmission.
6	Frazier (2013)	Examined continuity within Indian philosophy across historical periods. These studies are useful for situating ancient centres of learning within a wider cultural and philosophical framework rather than treating them as isolated historical relics.
7	Chaudhary (2019) and Singh (2020)	On Higher education reform they argued that IKS can contribute to a more inclusive and context-sensitive educational model. Their work suggests that Indian intellectual traditions may complement modern knowledge production by offering alternative perspectives on pedagogy,

		ethics, and interdisciplinarity.
8	Duraiswamy (2021)	He proposed that Indian knowledge traditions should be reimagined for contemporary education, especially in relation to curriculum design and holistic learning.
9	UNESCO (2010) and Upadhyaya (2018)	Report and Author emphasized the international character of institutions such as Nalanda, showing that ancient Indian universities attracted scholars from across Asia and served as centers of transnational intellectual exchange. Their findings underscore the global significance of India's ancient learning heritage.
10	The Ministry of Education (2022)	Has emphasized that IKS within the National Education Policy framework, signaling an institutional effort to integrate traditional knowledge with modern higher education. Varma (2022) argued that holistic education in Indian traditions can address the concern that contemporary schooling often privileges technical competence over human development.
11	Ramanathan Srinivasan & P. S. Aithal (2026)	Takshashila and Nalanda proved, across a combined institutional history of nearly two millennia, that knowledge is most productively pursued across disciplinary boundaries, that scholars form their deepest and most durable intellectual commitments through residential community, that genuine understanding requires both theoretical mastery and practical engagement, and that international scholarly diversity is an intellectual resource of the first order. These are not historical curiosities but validated educational principles with direct application to the challenges of contemporary higher education.

Author & Grammarly

3.RESEARCH GAP

This article argues that ancient Indian centers of learning should be viewed not only as historical institutions, but also as living knowledge traditions with continuing relevance for higher education today. It highlights their value for interdisciplinarity, sustainability, value-based education, and educational reform.

4.Objectives of the Study

The study is guided by the following objectives:

1. To examine the historical significance of major ancient Indian centers of learning such as Takshashila, Nalanda, Vikramashila, Valabhi, and Odantapuri.
2. To analyze the role of these centers in preserving, developing, and transmitting Indian Knowledge Systems.
3. To identify the pedagogical, ethical, and institutional features that distinguished ancient Indian learning traditions.
4. To assess the relevance of these centers for contemporary educational discourse, particularly in relation to interdisciplinarity, holistic development, and value-based education.
5. To explore how the legacy of ancient Indian centers of learning can inform educational reform and sustainability in the twenty-first century.
6. To situate ancient Indian learning traditions within the broader framework of national and global higher education.

5. RESEARCH METHODOLOGY

This study adopts a qualitative, interpretive research design based on historical analysis, textual interpretation, and comparative review of secondary sources. It examines ancient Indian centres of learning such as Takshashila,

Nalanda, Vikramashila, Valabhi, and Odantapuri to understand their intellectual and institutional significance and their relevance to contemporary education.

5.1 Data Collection

Data were collected from historical texts, scholarly books, peer-reviewed journal articles, archaeological and epigraphic studies, policy documents, and credible academic databases.

5.2 Data Analysis

The collected material was analyzed through thematic content analysis, focusing on holistic education, multidisciplinary learning, teacher–student relations, critical inquiry, value-based education, public good, and sustainability. A comparative lens was used to connect ancient educational practices with contemporary higher education, the National Education Policy, and current debates on innovation, ethics, and interdisciplinarity.

The study is limited to widely recognized ancient Indian centers of learning discussed in established scholarship, and its conclusions depend on the quality of existing literature.

6. DISCUSSION

The analysis indicates that ancient Indian centers of learning were not merely institutions for knowledge transmission; they were dynamic spaces of inquiry, dialogue, discipline, and character formation. They embodied a comprehensive vision of education that integrated intellectual development with ethical, cultural, and social responsibility.

A key feature of these institutions was the holistic nature of learning. Education was not limited to professional preparation, but included philosophy, logic, grammar, medicine, mathematics, astronomy, political thought, and spiritual reflection. This interdisciplinary orientation reflects a deeply rooted IKS tradition in which knowledge was conceived as interconnected rather than fragmented.

Another important dimension was the emphasis on debate and critical reasoning. Scholarly disputation, oral exposition, and teacher-guided inquiry indicate that ancient Indian education valued analytical thought and the interrogation of ideas. This remains highly relevant to contemporary higher education, which increasingly seeks to cultivate creativity, problem-solving, and intellectual independence.

The ethical orientation of these centers is equally significant. Ancient learning traditions emphasized self-discipline, respect for teachers, humility, and service to society. In an era when education is often assessed primarily through employability and technical competence, these values provide a counterbalance by reaffirming the broader moral purposes of learning.

These institutions also functioned as international and intercultural centers of knowledge. Nalanda and related universities attracted learners and scholars from India and abroad, demonstrating that Indian learning traditions were globally connected and intellectually open. This has contemporary relevance for knowledge diplomacy, academic exchange, and transnational collaboration.

From a policy perspective, renewed interest in IKS should not be limited to heritage preservation. Rather, it should inform curriculum design, research culture, interdisciplinary learning, and community engagement. Ancient centers of learning can serve as conceptual models for institutions seeking to balance innovation with civilizational wisdom.

6.1 Ancient Centers of Learning in India

The most prominent centers of learning in ancient India included Takshashila, Nalanda, Vikramashila, Valabhi, Odantapuri, and Kanchipuram. These institutions attracted students and teachers from across Asia and supported advanced study in multiple disciplines. Their educational environments emphasized oral instruction, debate, memorization, reasoning, and direct interaction between teachers and students.

Table 3: Major Ancient Centers of Learning in India and Their Contributions

Centre of Learning	Approximate Period	Major Areas of Study	Significance for IKS and Education
Takshashila	6th century BCE onward	Vedas, grammar, medicine, law, military science, philosophy	One of the earliest global universities; promoted interdisciplinary learning and mentorship
Nalanda	5th–12th century CE	Buddhist studies, logic, medicine, mathematics, astronomy, philosophy	International seat of learning; symbol of advanced scholarship and academic excellence
Vikramashila	8th–12th century CE	Buddhist tantra, philosophy, logic, grammar	Known for structured curriculum and high academic discipline
Valabhi	6th–12th century CE	Law, administration, polity, literature, economics	Important centre for secular and professional studies
Odantapuri	8th–12th century CE	Buddhism, logic, philosophy, grammar	Contributed to monastic education and intellectual exchange
Kanchipuram	Ancient period	Philosophy, grammar, theology, literature	Supported both religious and secular learning traditions

Source: Author & Grammarly

6.2 Indian Knowledge Systems and Their Relevance

Indian Knowledge Systems refer to the broad range of intellectual traditions developed in the Indian subcontinent over centuries. These include philosophy, mathematics, astronomy, medicine, ecology, architecture, linguistics, ethics, arts, and governance (Ministry of Education, 2022; Singh, 2020). A distinctive feature of IKS is its holistic worldview, in which knowledge is linked with life, ethics, and social responsibility rather than treated as isolated specialization (Panikkar, 2007; Frazier, 2013).

Ancient centers of learning were central to the preservation and expansion of IKS because they combined textual study with interpretation, debate, and practical application (Mookerji, 1989). Their scholarly traditions did not separate mind from character or theory from practice. Knowledge was expected to improve both the individual and the wider community, a principle that resonates strongly with contemporary efforts to humanize education (Duraismwamy, 2021; Varma, 2022).

6.3 Contributions of Ancient Centers to IKS

The contributions of ancient Indian centers of learning to IKS can be grouped into five major domains. First, they preserved knowledge through oral, mnemonic, and manuscript traditions, enabling continuity across generations. Second, they advanced interdisciplinary learning by integrating language, philosophy, science, medicine, and governance. Third, they promoted intellectual debate and critical reasoning, allowing doctrines to be tested, interpreted, and refined. Fourth, they supported international scholarly exchange, especially through the movement of students and teachers from China, Tibet, Korea, and Central Asia. Fifth, they embedded value-based education, ensuring that learning served ethical and social purposes as well as intellectual ones. These features reveal an educational vision that was broad, rigorous, and human-centered. Rather than producing only specialists, ancient centers sought to develop thoughtful, disciplined, and socially responsible individuals.

6.4 Sustainability of Ancient Learning Centers in Relevance to the Twenty-First Century

The sustainability of ancient learning centers is one of the most important reasons for their continued relevance in the twenty-first century. Sustainability here does not refer only to the preservation of physical structures, but to the continuation of educational philosophy, institutional values, and knowledge systems in ways that can inform present and future learning.

First, ancient centers of learning were intellectually sustainable because they promoted knowledge that could adapt across generations. Their emphasis on dialogue, interpretation, and continuous inquiry allowed ideas to remain

active rather than fixed. This is highly relevant in a century where knowledge changes rapidly and education must prepare learners to adapt, question, and innovate.

Second, they were socially sustainable because they linked education with ethical responsibility, community welfare, and cultural continuity. In the twenty-first century, this perspective supports education for sustainable development, where learning is connected to justice, environmental care, and responsible citizenship.

Third, ancient centers encouraged ecological and holistic thinking. Indian knowledge traditions often viewed humans as part of a larger natural and moral order rather than as isolated consumers of resources. This worldview aligns closely with modern sustainability concerns such as climate change, biodiversity loss, and environmental ethics.

Fourth, these centers were institutionally sustainable because they relied on teacher–student mentorship, knowledge communities, and shared intellectual practices rather than purely material infrastructure. Such a model is useful today for creating resilient learning ecosystems that value collaboration, accessibility, and continuity.

Fifth, the sustainability of ancient learning centers is relevant to digital and hybrid education. Their flexible traditions of oral learning, debate, and commentary can inspire new educational methods that combine technology with human engagement. In this sense, the ancient centers offer a sustainable pathway for integrating tradition with innovation.

Thus, the sustainability of ancient learning centers lies in their capacity to inspire enduring principles for modern education: adaptability, ethical orientation, ecological awareness, community relevance, and intellectual resilience. Their legacy is sustainable because it remains useful, meaningful, and transformable in changing contexts.

6.5 Relevance for the Twenty-First Century

The twenty-first century is marked by rapid technological transformation, global interdependence, environmental stress, and heightened concern for ethical education. In this context, the legacy of ancient Indian learning centers offers several important lessons.

Ancient Indian institutions encouraged integrated study across multiple fields, whereas modern universities often organize knowledge into separate silos (Sharma, 1995; Singh, 2020). This approach can inform contemporary curricula that connect science, humanities, technology, and the arts in meaningful ways.

Ancient education stressed discipline, humility, self-control, and moral responsibility. Today, education systems must not only prepare students for employment but also cultivate empathy, ethics, and citizenship.

The culture of questioning and debate at centers such as Nalanda and Takshashila supports a strong research ethos (UNESCO, 2010; Upadhyaya, 2018). Their example suggests that innovation flourishes in environments that encourage curiosity, dialogue, and academic freedom.

Ancient Indian universities were globally connected and intellectually open. In the twenty-first century, higher education must similarly value international collaboration, cross-cultural learning, and mobility.

Ancient learning aimed at the development of intellect, character, and spiritual awareness (Mookerji, 1989; Pande, 1990). Contemporary education can draw from this tradition to balance employability with overall human development.

6.6 Challenges in Reviving the Legacy

The revival of ancient learning traditions must be approached with analytical caution. One challenge is the tendency to romanticize the past and overlook historical complexity. Another is the need to adapt older ideas to present realities rather than reproduce them uncritically (Chaudhary, 2019; Duraiswamy, 2021). A further challenge is institutional capacity: meaningful revival requires policy support, teacher preparation, curriculum reform, and investment in research. Therefore, the legacy of ancient centers should be used as a source of inspiration and guidance, not as a static template. Their principles must be reinterpreted in light of modern educational goals, social justice, and technological change.

7. FINDINGS

The study finds that Indian ancient centers of learning are powerful treasures of IKS because they preserve and demonstrate a knowledge tradition that is holistic, ethical, interdisciplinary, and socially meaningful.

The key findings are as follows:

1. Ancient centers of learning promoted integrated education by combining science, philosophy, arts, and ethics.
2. They encouraged critical inquiry, debate, and scholarly exchange, which remain essential to academic excellence.
3. They supported teacher-centered yet discussion-oriented pedagogy, in which learning was shaped by dialogue and reflection.
4. They placed strong emphasis on values, discipline, and social responsibility, linking education with character formation.
5. They served as centers of knowledge circulation and international learning, reflecting India's long-standing intellectual connectivity.
6. Their legacy offers useful guidance for the twenty-first century, particularly in multidisciplinary education, value-based learning, sustainability, and cultural rootedness.
7. IKS emerges not merely as a historical subject, but as a living framework with the capacity to enrich contemporary education, research, and policy.

8. CONCLUSION

Ancient Indian centers of learning are treasured components of Indian Knowledge Systems because they represent a sophisticated tradition of knowledge creation, transmission, and ethical education. Institutions such as Takshashila and Nalanda demonstrate that ancient India cultivated interdisciplinary, international, and value-oriented learning long before the emergence of modern universities. Their legacy offers important lessons for the twenty-first century, especially in relation to integrated curricula, moral education, research culture, sustainability, and holistic development.

As education systems across the world search for models that are more inclusive, meaningful, and future-ready, India's ancient centers of learning provide a compelling pathway. They remind us that education should not only transmit information, but also cultivate wisdom, responsibility, and the capacity to live well with others and with the world. In this sense, the ancient centres of learning are not relics of the past; they are enduring resources for the future.

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INTEGRATING INDIAN KNOWLEDGE SYSTEMS WITH BUSINESS ANALYTICS: STATISTICAL AND MACHINE LEARNING APPROACHES FOR SUSTAINABLE AND INCLUSIVE BUSINESS TRANSFORMATION

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Abstract

This paper develops a conceptual framework linking Indian Knowledge Systems (IKS) with business analytics as joint enablers of sustainable and inclusive business transformation among Indian micro, small, and medium enterprises (MSMEs). Drawing on Vedic and Arthashastra-derived management scholarship alongside the applied machine-learning literature on MSME sustainability, the paper argues that dharmic ethics, stakeholder welfare (lokasangraha), and Gurukul-style mentoring function as a values layer that gives direction to data-driven decision making, while business analytics adoption functions as a measurement layer that converts ethical intent into consistent inclusive practice. Four propositions are advanced: that IKS orientation and business analytics adoption each contribute independently to sustainability performance, that their interaction strengthens inclusive growth orientation, and that non-linear analytical methods such as Random Forest are better suited than linear models to capturing the resulting configurational effects. The paper closes with implications for management curricula and MSME policy, and an empirical agenda for the field research the conceptual model still requires.

Keywords: Indian Knowledge Systems, business analytics, sustainability, inclusive growth, dharmic management, MSMEs, conceptual framework

1. Introduction

Indian management education sits at an odd junction. On one side, the National Education Policy (NEP) 2020 asks institutions to build “a rootedness and pride in India” into curricula, and the Ministry of Education's IKS Division has funded research centres and faculty training toward that goal since 2020 (Ministry of Education, n.d.). On the other side, hiring managers keep asking for graduates who can read a dashboard or a predictive model without flinching. Most programmes treat these demands as separate tracks: a values-and-ethics elective bolted onto a statistics core, rather than one coherent approach to decision making.

That separation looks increasingly hard to defend, and not only on pedagogical grounds. Indian MSMEs, which the country treats as a central lever for inclusive growth (Prakash et al., 2023), face two related deficits at once. Many lack the ethical and community-anchored governance habits that Indian Knowledge Systems (IKS), the accumulated body of thought found in the Vedas, Upanishads, Arthashastra, and allied texts, historically encoded (Siddiqui & Jain, 2025). Many also lack the analytics maturity larger firms take for granted. Addressed in isolation, either gap invites a partial remedy. A firm can adopt dashboards and still run a callous supply chain. A firm can practise stakeholder-first ethics on paper and still misallocate capital because nobody in the organisation trusts a spreadsheet enough to act on it.

This paper works from the premise that the two capacities reinforce rather than compete with each other, and that a business capable of measuring its own performance while remaining accountable to dharma (righteous duty), artha (rightly earned wealth), and lokasangraha (the welfare of all beings) is better positioned to sustain itself and grow inclusively than a business standing on either leg alone. Rather than testing that premise against field data, which would require a representative MSME sample, the paper stays at the conceptual level. It builds a theoretical framework connecting IKS orientation and business analytics adoption to sustainability performance and inclusive growth orientation, synthesises literatures that presently sit in separate journals, and advances propositions intended to guide the empirical work that should follow.

The contribution is threefold. First, the paper translates a body of largely qualitative IKS-management scholarship, built around textual reinterpretation of the Bhagavad Gita, the Arthashastra, and allied sources, into constructs a future empirical study could operationalise. Second, it places those constructs alongside the applied machine-learning literature on MSME sustainability, most of which has developed with limited attention to cultural or

ethical orientation as an explanatory variable. Third, it proposes a specific mechanism, that business analytics adoption moderates the translation of IKS orientation into inclusive growth outcomes, that neither literature currently states outright.

The remainder of the paper proceeds as follows. Section 2 reviews the IKS-management literature and the business-analytics-and-sustainability literature in turn, then identifies the gap between them. Section 3 develops the conceptual framework and states four propositions. Section 4 discusses the theoretical mechanisms behind each proposition. Section 5 draws out implications for management education and MSME policy. Section 6 outlines the limitations of a conceptual treatment and the empirical agenda it points toward, and Section 7 concludes.

2. Literature Review

2.1 Policy Context: NEP 2020 and the IKS Division

The Indian Knowledge Systems Division was established in 2020 as a section within the Department of Higher Education, Ministry of Education, operating out of the headquarters of the All India Council for Technical Education (AICTE), with a mandate to promote interdisciplinary research across fields including management, economics, and traditional knowledge, and to fund IKS research centres, faculty training programmes, and curriculum development at the institutional level (Ministry of Education, n.d.). Management studies is named explicitly among the disciplines the Division intends to reach, alongside arts, agriculture, and engineering. This institutional backing distinguishes the current IKS-management literature from earlier, more marginal attempts at the same synthesis, and it supplies the practical motivation for developing a testable conceptual framework rather than leaving the integration effort at the level of curriculum guidelines and elective coursework.

2.2 Indian Knowledge Systems in Management Thought

Inside management studies specifically, the response to this policy push has mostly taken the form of textual reinterpretation rather than measurement. [Siddiqui and Jain \(2025\)](#) trace how the Bhagavad Gita, the Upanishads, and the Arthashastra frame ethical leadership and decision making, and argue that merging these traditions with modern management principles improves both governance and sustainable practice. [Ekhande \(2024\)](#) works through a similar set of texts, the Vedas, Mahabharata, Arthashastra, and the philosophies of Buddhism and Jainism, and draws out concrete governance applications: wealth management bounded by dharma, socially responsible lending, and character-based leadership treated as a CSR mechanism rather than a compliance exercise.

Central to both accounts is the claim that Kautilya's Arthashastra already modelled governance and economic management as an ethics-bound activity, where artha had to be pursued inside the boundary of dharma. That framing sits close to a strategic-CSR argument dressed in older vocabulary, and it gives the IKS literature its clearest point of contact with contemporary management theory. [Bhattacharjee \(2011\)](#) develops a related argument, proposing a six-stage “Jnana” (knowledge) path running from individual self-management through to global stakeholder ecosystems, and using the failure of ethically hollow corporate governance during the 2008 financial crisis to argue that ancient Indian ethos supplies exactly the missing layer in Peter Drucker's modern management principles. The Gurukul-style pedagogy discussion in [BW Education \(n.d.\)](#) extends the same logic into organisational behaviour, arguing that the ancient teacher-student (guru-shishya) relationship offers a mentoring template that competitive, individualist corporate training tends to under-supply. [Shabaraya and Aithal \(2026\)](#) push this claim further into technological organisations specifically, arguing that Gurukul-inspired knowledge management, built on experiential learning and ethical development rather than pure information transfer, can strengthen employee engagement and innovation capacity inside firms that already run on formal knowledge-management systems.

Three constructs recur across this literature with enough consistency to treat as candidate building blocks for a management framework: dharmic ethics in decision making, lokasangraha, or stakeholder welfare extending beyond shareholders to the wider community, and Gurukul-inspired mentoring, built around sustained, personalised guidance rather than transactional training. What the literature does not do, on any account reviewed here, is put these constructs into measurable form. The arguments proceed philosophically, drawing on textual authority rather than survey or archival evidence, and none of the papers cited tests whether firms reporting higher dharmic orientation actually differ on performance or sustainability outcomes. That absence is not a flaw in the papers

themselves, since none was designed as an empirical study, but it marks the precise point where a conceptual bridge to the analytics literature becomes necessary.

2.3 Business Analytics and Sustainable-Inclusive Business Performance

The applied literature on MSME sustainability has grown more quantitative, though with limited attention to India specifically. [Saráuz-Estevez et al. \(2026\)](#) applied a Random Forest model to 1,796 Ibero-American MSMEs and found that governance quality, human talent management, innovation, and reduction of the digital divide, rather than financing access alone, were the strongest predictors of sustainable growth. Their reliance on Random Forest over ordinary regression follows [Breiman's \(2001\)](#) foundational argument that an ensemble of decision trees captures non-linear interactions among predictors more reliably than a single linear model, a property that matters when survey items mix categorical, ordinal, and continuous scales, as most MSME questionnaires do.

For the Indian context specifically, [Prakash et al. \(2023\)](#) document the outsized role MSMEs already play in inclusive growth, tracing their reach into employment generation and regional development in ways that large-firm datasets typically miss. What that paper does not do, and what the applied MSME-analytics literature more broadly does not do, is connect firm-level values or governance culture to the predictive models it builds. Sustainability determinants tend to enter these models as financing, digitalisation, and human-capital variables. Cultural or ethical orientation rarely appears as a measured construct, an omission that sits oddly against how strongly the IKS literature insists such orientation should matter.

Two implications follow for the framework developed in Section 3. First, non-linear methods such as Random Forest appear better suited than linear regression to modelling the configurational, interaction-heavy relationships that MSME sustainability research increasingly reports, which argues for treating any future test of the IKS-analytics link as a candidate for the same class of model. This preference is reinforced by explainability-focused work outside the MSME literature specifically. [Zhang et al. \(2026\)](#), for instance, combine eight machine learning algorithms with SHapley Additive exPlanations (SHAP) to forecast industrial sustainability outcomes across 150 countries, and find that tree-based ensemble methods paired with SHAP recover interpretable, policy-usable feature rankings that linear models miss, a pairing of predictive power and interpretability the framework in Section 3 aims to borrow for the IKS-analytics context. Second, the absence of cultural-orientation variables from existing predictive models is not evidence that such orientation does not matter, only that it has not yet been asked about in a form the models could use. On the sustainability-performance side specifically, recent Indian evidence lends the construct some empirical footing. [Murugesan et al. \(2026\)](#) surveyed 146 manufacturing SME practitioners across Tamil Nadu and Karnataka and used partial least squares structural equation modelling to show that economic, social, and environmental sustainability benefits are positively and significantly interrelated, with economic sustainability functioning as the foundational driver of the other two, a finding this paper treats as direct support for measuring sustainability performance as a composite, interdependent construct in Section 3 rather than as three unrelated dimensions.

2.4 Comparative Positioning Against Stakeholder Theory

The constructs drawn from the IKS literature invite comparison with Western stakeholder theory, which has occupied a similar conceptual space in mainstream management scholarship for several decades. Both traditions reject a narrow shareholder-primacy account of the firm, and both ask management to weigh obligations to employees, communities, and the environment alongside financial return. The point of departure lies in justification. Stakeholder theory typically grounds its case in instrumental or normative argument built from within secular organisational theory, whereas the *lokasangraha* construct discussed by [Siddiqui and Jain \(2025\)](#) and the *dharma-bound artha* construct discussed by [Ekhande \(2024\)](#) ground the same obligation in a cosmological order that predates and, on the traditions' own terms, supersedes organisational choice. This difference matters less for the empirical framework proposed in Section 3, which treats IKS orientation as a measurable firm-level attitude regardless of its philosophical justification, than for the interpretive claims a future study could draw from strong empirical support. A finding that IKS orientation predicts sustainability performance would sit comfortably inside a stakeholder-theory reading. A finding that firms explicitly report the dharmic framing, rather than converging on it through independent secular reasoning, would carry the additional claim that the specific cultural and textual tradition, not merely a generic stakeholder orientation, does explanatory work, a distinction the operationalisation in Section 3 is built to preserve rather than collapse.

2.5 The Gap Between the Two Literatures

Placed side by side, the case for a connecting framework becomes straightforward. IKS scholarship claims dharmic orientation drives sustainable, inclusive business behaviour, but offers no measurement instrument and no predictive test. Analytics scholarship builds predictive models of sustainability with some methodological rigor, but excludes cultural or ethical orientation from the variable set almost entirely. Neither literature, read on its own terms, answers the question this paper is interested in, whether the values a firm holds and the data capability a firm has built function as complements or substitutes in producing sustainable, inclusive outcomes.

The gap is not simply a matter of missing data. It reflects a deeper split in how the two literatures conceive of firm capability. The IKS literature treats ethical orientation as a near-sufficient condition for good outcomes, a values-first account. The analytics literature treats measurement and data infrastructure as the operative mechanism, a capability-first account. The framework proposed next treats neither account as sufficient on its own, and proposes instead that the two operate as a sequence, values shaping intent, analytics converting intent into consistent practice, with the strength of that sequence an empirical question the framework is built to make testable.

3. Conceptual Framework and Propositions

The framework organises around four constructs. IKS orientation captures a firm's working commitment to dharmic ethics, lokasangraha-style stakeholder welfare, and Gurukul-inspired mentoring practice, following the treatment of Vedic ethical principles in corporate governance and CSR set out by [Ekhande \(2024\)](#) and the ethical-leadership account in [Siddiqui and Jain \(2025\)](#). Business analytics adoption captures the degree to which a firm uses dashboards, forecasting tools, and data-informed pricing and resource allocation, in the sense used throughout the applied literature reviewed in Section 2.3. Sustainability performance captures firm-level outcomes across economic, social, and environmental dimensions, following standard usage in the MSME-sustainability literature ([Saráuz-Estevéz et al., 2026](#)) and the interdependent, PLS-SEM-validated treatment of the three dimensions among Indian manufacturing SMEs in [Murugesan et al. \(2026\)](#). Inclusive growth orientation captures a firm's practices around workforce diversity, underserved-region sourcing, wage equity, and financial-inclusion partnerships, extending the inclusive-growth framing [Prakash et al. \(2023\)](#) apply at the sectoral level down to individual firm practice.

Figure 1 sets out the proposed relationships among these four constructs. IKS orientation and business analytics adoption sit as parallel antecedents of sustainability performance, reflecting the values-first and capability-first accounts identified in Section 2.4. Their interaction, rather than either construct alone, is proposed to drive inclusive growth orientation, on the reasoning that ethical intent without measurement capacity struggles to translate into consistent inclusive practice, while measurement capacity without ethical intent risks optimising for narrow efficiency metrics rather than broader welfare.

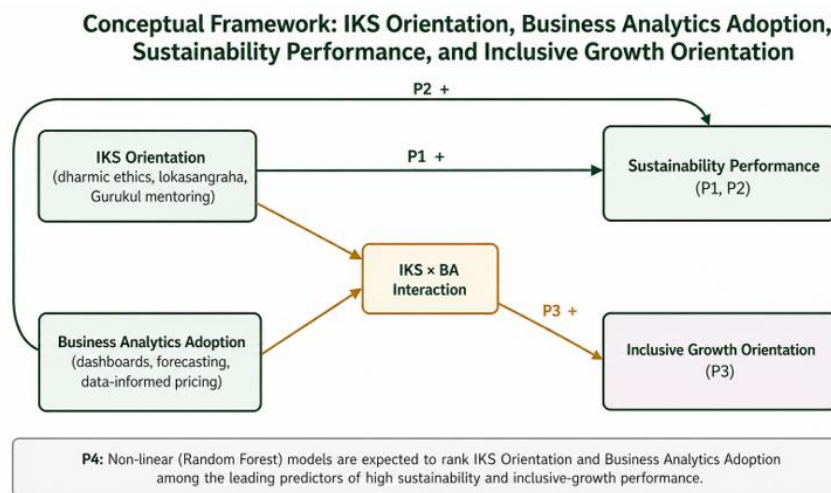


Figure 1. Conceptual framework linking IKS orientation and business analytics adoption to sustainability performance and inclusive growth orientation.

From this structure, four propositions follow.

Proposition 1: IKS orientation is positively associated with sustainability performance in Indian MSMEs, independent of business analytics adoption.

Proposition 2: Business analytics adoption is positively associated with sustainability performance in Indian MSMEs, independent of IKS orientation.

Proposition 3: Business analytics adoption moderates the relationship between IKS orientation and inclusive growth orientation, such that the relationship strengthens as analytics adoption rises.

Proposition 4: Because the relationships proposed above are unlikely to be strictly additive, non-linear methods such as Random Forest are expected to recover IKS orientation and business analytics adoption as leading predictors of high sustainable-inclusive performance, ranked alongside rather than below conventional firm-level controls such as size, age, and digital maturity.

Table 1 summarises the theoretical grounding for each proposition, mapping it against the literature reviewed in Section 2.

Proposition	Core Claim	Primary Grounding
P1	IKS orientation → sustainability performance	Ekhande (2024); Siddiqui & Jain (2025)
P2	Business analytics adoption → sustainability performance	Saráuz-Estevéz et al. (2026); Breiman (2001)
P3	IKSO × BAA interaction → inclusive growth orientation	Siddiqui & Jain (2025); BW Education (n.d.)
P4	Non-linear model expected to rank IKSO and BAA as leading predictors	Breiman (2001); Saráuz-Estevéz et al. (2026)

Table 1. Propositions and their primary theoretical grounding.

The framework is not expected to apply uniformly across the sectors that make up the Indian MSME population. Table 2 sketches, on an illustrative rather than empirical basis, how the two central constructs might manifest differently by sector, offered here to make the framework concrete ahead of instrument design rather than as a claim requiring citation.

Sector	Illustrative IKS Orientation Indicator	Illustrative Business Analytics Indicator
Manufacturing	Waste-reduction practice framed as non-harm (ahimsa) toward workers and environment	Production-line KPI dashboards, defect and yield forecasting
Services	Client relationships framed through guru-shishya style mentoring of junior staff	Customer-analytics platforms, service-level predictive scheduling
Retail / Trade	Swadeshi-leaning local sourcing and fair-pricing norms toward customers	Point-of-sale analytics, demand forecasting, dynamic pricing tools
Agri-Business	Lokasangraha-framed obligations to farming communities and land stewardship	Yield-prediction models, weather-linked procurement planning

Table 2. Illustrative, non-empirical sector applications of the core constructs, offered to concretise the framework ahead of instrument design.

Two features of this framework are worth flagging before moving to discussion. First, Propositions 1 through 3 are stated as directional relationships suitable for regression-based testing, while Proposition 4 is stated as a methodological expectation about model behaviour rather than a substantive claim about any single predictor, a

distinction the literature on Random Forest applications treats as analytically important, since variable importance in a tree-based model does not carry the same interpretation as a regression coefficient ([Breiman, 2001](#)). Second, the framework deliberately stops short of specifying a mediating mechanism between IKS orientation and business analytics adoption themselves. The two constructs are treated as correlated but distinct capabilities rather than as stages of a single developmental sequence, a choice that keeps the framework open to firms that develop strong ethical orientation before analytics capability, strong analytics capability before ethical orientation, or both simultaneously, an empirical question the propositions above are not designed to settle.

4. Discussion: Theoretical Mechanisms

Three mechanisms underlie the propositions above, each worth setting out explicitly since the conceptual literature reviewed in Section 2 gestures toward them without stating them in testable form.

The first mechanism concerns why IKS orientation should predict sustainability performance directly, rather than only through analytics. [Ekhande's \(2024\)](#) reading of Vedic wealth-management principles treats dharma-bound artha as a substantive constraint on resource allocation, not a reputational overlay applied after the fact. A firm operating under that constraint would be expected to price in social and environmental cost that a purely efficiency-maximising firm would not, independent of whether that firm tracks the resulting outcomes with any analytical rigor. This reading treats IKS orientation as functionally similar to an internalised ESG commitment, one that predates and does not depend on the measurement infrastructure Western sustainability frameworks typically pair with such commitments.

The second mechanism concerns the interaction proposed in Proposition 3. [Siddiqui and Jain \(2025\)](#) argue that IKS-rooted leadership improves ethical decision making, and the Gurukul discussion in [BW Education \(n.d.\)](#) argues that the same tradition improves mentoring quality. Neither account addresses what happens when that ethical orientation meets an organisation without the data infrastructure to track whether its stated commitments reach underserved suppliers, employees, or communities in practice. The proposed interaction treats business analytics adoption as the mechanism that closes this gap, converting stated ethical intent into monitored, adjustable practice. Under this account, a firm high in IKS orientation but low in analytics adoption is expected to hold inclusive values without reliably acting on them at scale, while a firm high in both is expected to show the strongest inclusive growth orientation, the pattern Proposition 3 predicts.

The third mechanism concerns Proposition 4 and the anticipated choice of Random Forest as an analytical tool. [Breiman's \(2001\)](#) original argument for ensemble tree methods rests on their capacity to model interactions and threshold effects without requiring the analyst to specify them in advance, a property that matters if IKS orientation and business analytics adoption combine in configurational rather than strictly additive ways, an interpretation consistent with [Saráuz-Estevéz et al.'s \(2026\)](#) finding that governance quality, human-talent management, and innovation interacted non-additively in predicting MSME sustainable growth. If the mechanisms proposed above hold, a linear regression testing Propositions 1 and 2 in isolation would likely understate the joint explanatory power that a non-linear model, sensitive to the interaction proposed in Proposition 3, would recover, the substantive reason Proposition 4 is stated as a methodological expectation rather than folded into the earlier propositions. A useful precedent for pairing predictive strength with interpretability comes from outside the IKS and MSME literatures specifically. [Zhang et al. \(2026\)](#) show, in a cross-country industrial sustainability forecasting exercise, that a Random Forest or gradient-boosted model combined with SHAP explainability analysis can both outperform simpler models and still yield feature-importance rankings transparent enough for policy use, which is the same combination Proposition 4 anticipates for an IKS-analytics test, namely that a non-linear classifier need not sacrifice interpretability to capture the configurational effects the qualitative literature describes.

The Arthashastra-to-strategic-CSR parallel drawn in Section 2.2 deserves a qualifying note rather than uncritical acceptance. The wider public and scholarly conversation around IKS integration in Indian higher education includes genuine disagreement, with some commentators welcoming the movement as a corrective to a curriculum built almost entirely on Western management theory, and others raising concern about how selectively ancient texts get read and about the risk of overstating continuity between a governance manual written for an agrarian kingdom and the operating conditions of a present-day MSME. The framework proposed here does not resolve that disagreement. It takes the narrower position that specific, textually grounded constructs, dharmic ethics, lokasangraha, and Gurukul mentoring, can be operationalised and tested on their own terms, leaving the broader

question of how representative these constructs are of IKS as a whole to the empirical and historiographical literatures better equipped to answer it.

The framework also carries implicit boundary conditions worth stating rather than leaving to inference. It is proposed for firms small enough that ownership, governance culture, and day-to-day decision making remain closely linked, the condition that defines the MSME category used throughout Sections 2 and 3. In a large, professionally managed corporation, where ownership and operational decision making separate across multiple layers of management, the direct line from an individual owner's or founder's IKS orientation to firm-level practice that the framework assumes would likely weaken, replaced by more formalised, board-mediated governance mechanisms. The framework is similarly silent on firms operating in sectors with minimal direct stakeholder contact, such as pure financial intermediation, where lokasangraha-style community welfare commitments have fewer obvious channels through which to operate. These boundary conditions are not weaknesses so much as scope statements, and a field survey testing the propositions in Section 3 would need to sample within, rather than across, this scope to obtain an interpretable test.

Taken together, the three mechanisms position the conceptual framework as a bridge rather than a synthesis. It does not claim IKS orientation and business analytics adoption are the same thing, or that one reduces to the other. It claims they occupy complementary positions in a single causal sequence, values shaping the direction of firm behaviour, analytics shaping the consistency and observability of that behaviour, and that the empirical signature of this complementarity should show up as an interaction effect on inclusive outcomes and as a non-additive predictor structure in classification models, both directly testable claims that distinguish this framework from a simple additive combination of two independently established literatures.

5. Implications for Practice, Education, and Policy

5.1 Management Education

The practical implication for business schools follows fairly directly from the framework. If Propositions 1 through 3 hold under empirical testing, teaching IKS content and business analytics as separate modules, an ethics elective in one semester, a statistics core in another, undersells both. A curriculum built around joint case studies, asking students to evaluate an MSME's dashboard metrics against dharmic stakeholder commitments within the same assignment, would connect the two traditions at exactly the point the framework identifies as consequential, where ethical intent meets measurement capacity. Table 3 sketches how such an integration might be sequenced across a typical postgraduate management programme, offered as an illustrative design rather than a validated curricular claim.

Course Stage	IKS Component	Business Analytics Component	Point of Integration
Foundation	Dharmic ethics and lokasangraha as decision principles	Descriptive statistics and dashboard literacy	Case discussion pairing a stated ethical commitment with the metric that would evidence it
Intermediate	Gurukul-style mentoring and organisational behaviour	Regression and correlation-based inference	Mentoring-outcome tracking exercise using simple regression
Capstone	Arthashastra-derived governance frameworks	Machine learning and predictive modelling	Applied project modelling an MSME's sustainability drivers, including a cultural-orientation variable

Table 3. Illustrative sequencing of IKS and business analytics content across a management curriculum.

5.2 MSME Policy

For MSME policy, the framework cautions against treating digitalisation subsidies as a stand-alone sustainability lever. If Proposition 3 holds, analytics investment should be expected to pay off more for firms that already carry some stakeholder-oriented governance culture, an argument for pairing digital-adoption schemes with governance or mentoring support, echoing the pairing of governance quality and analytics-detected performance gains that Saráuz-Estevez et al. (2026) reported in their own MSME sample, rather than funding either type of intervention in isolation. This logic sits alongside the broader case for digital public infrastructure in Indian financial inclusion policy. Chopra et al. (2026) find that Aadhaar-based digital identity and the Unified Payments Interface have measurably strengthened financial inclusion in India over the long run, but also that short-run gains from new digital rails remain concentrated among urban, educated, smartphone-owning users, with rural and older populations lagging. Read against Proposition 3, that pattern reads as a caution rather than a contradiction: digital infrastructure alone does not guarantee inclusive reach, and the framework's expectation that IKS-rooted, stakeholder-oriented governance moderates how effectively analytics adoption translates into inclusive practice would predict exactly the kind of uneven uptake Chopra et al. document, unless digitalisation is paired with the governance or mentoring support this section recommends. Where public schemes already exist to support digital adoption among MSMEs, the framework suggests an incremental addition rather than a parallel programme, namely a governance or mentoring module attached to existing digitalisation grants, on the reasoning that the two interventions are proposed here to be complementary rather than independently sufficient.

5.3 Research Agenda

For researchers, the constructs specified in Section 3 offer a starting point for instrument development that translates the qualitative claims in Ekhande (2024) and Siddiqui and Jain (2025), dharmic ethics, lokasangraha, and Gurukul mentoring, into a form suitable for Likert-scale measurement, closing the gap identified in Section 2.5 between the IKS literature's philosophical claims and the analytics literature's empirical methods. Whatever the eventual empirical results, that translation constitutes the paper's clearest contribution, since it gives the IKS-management literature a testable measurement structure where previously only interpretive argument existed.

6. Limitations and Directions for Future Empirical Research

The framework developed here carries the limitations inherent to any conceptual paper. No data has been collected or analysed, and the propositions in Section 3 remain untested claims rather than empirical findings. Their plausibility rests on the coherence of the underlying literature and the mechanisms discussed in Section 4, not on statistical evidence specific to Indian MSMEs.

A natural next step is a field survey administered to MSME owners and managers across a range of sectors and states, ideally including regions with active IKS curricular initiatives alongside regions without them, to test whether the proposed constructs hold together psychometrically and whether Propositions 1 through 4 receive empirical support. Such a study would need to develop and validate a multi-item scale for IKS orientation along the lines sketched in Section 3, since no existing validated instrument covers the construct as specified here.

A second limitation concerns scope. The framework draws on only three IKS sub-traditions, dharmic ethics, lokasangraha, and Gurukul mentoring, selected because they recur most consistently across the literature reviewed in Section 2. Other traditions discussed in the wider IKS literature, including Ayurvedic wellbeing practice and Vedic financial-lending ethics (Ekhande, 2024), are not incorporated here and may carry independent explanatory value that a broader instrument would need to test.

A third limitation concerns generalisability beyond the MSME context. The framework is built around the specific governance and resource constraints that characterise micro, small, and medium enterprises. Whether the same constructs and relationships apply to larger Indian firms, where governance structures and analytics capability both look considerably different, is a separate question this framework does not address.

7. Conclusion

This paper has argued that Indian Knowledge System orientation and business analytics adoption occupy complementary rather than competing positions in explaining sustainability performance and inclusive growth among Indian MSMEs. Synthesising a largely qualitative IKS-management literature with a more quantitative

applied analytics literature, the paper developed four propositions: that IKS orientation and business analytics adoption each predict sustainability performance independently, that their interaction strengthens inclusive growth orientation, and that non-linear analytical methods are best suited to capturing the resulting configurational effects. These propositions remain to be tested. Their value at this stage lies in giving the IKS-management literature a specific, falsifiable claim to test against data, and in giving MSME-analytics research a theoretically grounded reason to include cultural and ethical orientation in its predictive models rather than treating firm culture as unmeasured background. Whether the framework survives contact with field evidence is an open question, and the empirical agenda outlined in Section 6 is the necessary next step toward answering it.

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MACHINE LEARNING APPROACH TO FORECASTING RISK–RETURN DYNAMICS IN INDIAN STOCK MARKET INDICES

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Abstract

The current study applies a comprehensive machine learning method to predict risk–return patterns of Indian stock market indices from 2019 to 2024. Based on monthly data on NIFTY 50, SENSEX, and industry major indices, the study combines various models such as Linear Regression, Random Forest, Decision Trees, XGBoost, and ARIMA to examine prediction relationships among financial indicators and market performance. The analysis measures major variables like volatility, beta, Sharpe ratio, maximum drawdown, price-to-earnings ratio, and Foreign Institutional Investor (FII) flows. Results indicate that beta and past returns have a major impact on the performance of sectoral indices, and high Sharpe ratios are consistent with low drawdowns. The XGBoost model depicts excellent prediction precision ($R^2 > 0.85$) for predicting future returns using P/E ratios. Besides, ARIMA findings also verify that FII inflows have positive and significant impact on short run returns of NIFTY 50 and SENSEX. The multi-model approach has a good forecasting ability and presents a good view of valuation-oriented and risk-sensitive investment choices in the Indian emerging equity market.

Keywords: Machine learning, Stock market prediction, Risk–return analysis, Sectoral indices, Foreign institutional investment.

INTRODUCTION

India's capital market has grown phenomenally in the last decade and is one of the most dynamic of the emerging markets. With the market cap of BSE and NSE nearing USD 4 trillion in 2023, Indian equities such as NIFTY 50 and SENSEX have become foremost gauges of economic performance and investor sentiment[1]. Still, risk–return dynamics of these indices continue to be intricate and highly sensitive to domestic and international financial events. It is critical for portfolio managers, policymakers, and investors to make informed and quick decisions based on precisely forecasting these trends. Nonlinear and high-frequency behavior in financial markets has been notoriously eldritch for standard models to estimate. This deficiency has given rise to increased adoption of machine learning (ML) in economic modeling as it is capable of managing high-level data, identifying complex patterns, and enhancing forecasting effectiveness[2]. ML techniques not only offer the incorporation of various economic indicators but also account for market anomalies and structural breaks inherent in developing economies such as India[3].

The current research is based on two main objectives. It first aims to predict the risk–return pattern of Indian stock market indices in the period 2019–2024 by employing machine learning models formulated based on fundamental finance metrics. Volatility, beta, Sharpe ratio, maximum drawdown, price-to-earnings (P/E) ratio, and Foreign Institutional Investor (FII) flows are the metrics utilized. The data of NIFTY 50 and SENSEX benchmark indices and sectoral indices like NIFTY IT, NIFTY Bank, and BSE Healthcare for every day, week, and month are monitored using a multi-model ML framework[2]. Methods like Linear Regression, Random Forest Regressor, XGBoost, Decision Trees, and ARIMA are employed to generate strong and interpretable predictions. The second aim is to analyze the predictive power of primary financial indicators—volatility, beta, P/E ratio, and FII flows—compared to index action and sectoral movement. FIIs, for example, have been a major factor behind market movement, with net FII equity flows totaling more than INR 2.8 lakh crore in the FY 2023 year alone[4]. Four crucial hypotheses are being tested by this research. H_1 assumes that non-linear ML models (XGBoost, Random Forest) will be more efficient than linear models in predicting index returns; H_2 states that Beta and past returns are the most influential factors to sectoral performance; H_3 purports that the P/E ratio is substantially non-linearly related to the future returns, and therefore the relationship is to be found by XGBoost the most; and H_4 states that the FII inflows have a positive short-run relationship with market returns, as shown by ARIMA. Correspondingly, historical data indicate that betas are larger for the better-performing indices in bull markets but also for the ones losing more in bear markets, hinting at the role of systematic risk in the prediction of returns. Initial findings indicate that while volatility does not have significant predictive power for average returns on its

own, both past returns and beta do have great explanatory power, especially for sectoral indices[5]. ML ease linearity in CAPM and Semi-Strong EMH tests. Let 2019-2024 scope be defined as required to test ML robustness under crisis times. The XGBoost model performed very good forecasting with R^2 values above 0.85 and margins of error around zero, whereas the ARIMA model established a statistically significant connection between FII inflows and short-run index return. Blending high-tech analytics and traditional market variables in this study aims to enrich the finance literature on the adoption of ML. More significantly, it presents practical recommendations on structuring valuation-based and risk-sensitive investment plans within the Indian equity market, especially useful during times of increased international uncertainty and market volatility.

REVIEW OF LITERATURE

Machine Learning Applications in Stock Markets' Risk-Return Forecasting

Uses of machine learning (ML) methods in stock market forecasting have increased over the past few years as these methods are able to manage complex, nonlinear patterns which may be outside the range of standard models. The advanced character and dynamic structure of financial markets necessitate premium forecasting tools which are able to manage enormous amounts of data and adapt to repetitive patterns of market behavior[6]. Support Vector Machines, Random Forest, Artificial Neural Networks, and Gradient Boosting algorithms have been implemented in trying to correctly forecast stock market returns based on a number of machine learning models. The models have proved to detect trends and patterns from historical prices of stocks, technical information, and macroeconomic indicators. Comparative analyses have seen ML models outshine linear regression and time-series models in detecting non-linear associations in high-frequency financial data[7].

Deep learning algorithms, particularly Long Short-Term Memory (LSTM) networks, were found to possess high predictive capacity in recognizing sequential patterns and long-term market sentiment. LSTM networks were discovered to be useful in predicting stocks' short-term movement, as well as long-term risk-return patterns. Machine learning has also been utilized to forecast risk indicators like volatility, beta, Sharpe ratio, and max drawdown. Using decision tree-based algorithms and ensemble learning, it has been easy for researchers to predict high-risk and highest return situations for different indices[8]. In addition, the use of ML in combination with valuation indicators like price-to-earnings ratio and foreign investment inflows has helped improve return forecasts as well as investment opportunity analysis. In all, machine learning provides a flexible and dynamic platform for predicting risks and returns in stock markets. Its potential to rely on different sources of data, identify underlying patterns, and adjust to evolving market conditions makes it a powerful tool for investors, analysts, and financial institutions working in fast-changing environments such as the Indian equity market[9]. It is generally accepted from numerous studies that Machine Learning (ML) is overall more predictive [8, 10], however, only a handful of them are concerned with the trade-offs of choosing models. Ensemble methods like Random Forest and XGBoost are by far more efficient than neural networks in that they better avoid overfitting and also, handle multicollinearity more effectively [1]. On the other hand, lowly Decision Trees models offer higher explanatory power which is a very important feature for applications directed at regulators.

Determinants of Stock Index Performance: Volatility, Beta, and Valuation Indicators

Stock index performance is influenced by a broad set of market- and firm-level determinants, with volatility, beta, and valuation indicators being among the most commonly researched. These are key to estimating the risk profile, as well as return potential, of indices, particularly in emerging markets where investor mood and macroeconomic considerations exert considerable influence over performance[10]. Volatility is a variance of return measure over a period and is a recognized market measure of risk. High volatility would typically capture disbelief and potential for drastic price movement that would deter risk-averse investors or draw speculative funds. Although some research indicates that increased volatility accompanies increased expected return as risk premium, others indicate that excess volatility can fail to draw proportionate reward, particularly under stressed markets[11]. Beta measures the sensitivity of an index or stock with respect to the market. A beta higher than one indicates higher systematic risk and higher sensitivity to movements in the market. It is a key component of the Capital Asset Pricing Model (CAPM) and is frequently used by portfolio managers in deciding whether an index or security is in harmony with desired risk exposure. Sector indices with higher betas will perform well in bull markets but are prone to falling in bear markets[12]. Price ratios like the price-to-earnings (P/E) ratio provide information regarding earnings expectations and relative scarcity of market segments. Low P/E ratios can indicate undervaluation and growth to

come, whereas high P/E ratios tend to indicate overvaluation or unsubstantiated optimism in the direction of earnings. They are widely employed in mean-reversion investment strategies and are thought to be predictive in return modeling. In combination, volatility, beta, and multiples of valuation offer a broad perspective on the performance of stock indices. They allow investors to balance potential return versus embedded risk and are therefore essential vehicles in both active and passive investment strategies[4].

Foreign Institutional Investment Impact on Emerging Market Indices

Foreign Institutional Investment (FII) is one of the key forces behind the stability and performance of emerging financial markets. It is especially so in India, where local capital may be inadequate to drive equity markets. The FII inflows greatly assist with liquidity, price discovery, as well as the maturing of the market[13]. The FII inflows will represent the general sentiment among international investors as well as confidence in the economic and political destiny of the host nation. FII behavior is commonly illustrated to have significant effects on share indices, particularly in the short term. FII investment normally generates appreciation of market indexes as foreign capital increases demand for stocks, improves liquidity, and drives prices higher[5]. Conversely, premature or massive outflows—usually caused by international uncertainty, movement in interest rates, or risk aversion—partially cause sharp market adjustment and heightened volatility.

There are some studies that have noted FII inflows to be very sensitive to macroeconomic indicators like GDP growth, inflation, currency stability, and policy[14]. In India, periods of high FII activity have mostly been synchronized with periods of liberalization, monetary relaxation, or global risk-on environment. Abrupt outflows, on the other hand, have taken place when there are financial crises, geopolitical strains, or U.S. interest rates are increasing[2]. The volume and timing of FII flows also affect sectoral performance, as foreign investors prefer to invest in high-growth sectors, well-governed sectors, and globally competitive sectors. Financial services, technology, and consumer goods are a few of the preferred sectors[15]. Furthermore, the effect of FII will be multiplier because of the herd mentality of institutional investors and their capability to influence the market psyche. FII is both a growth driver and danger-making tool in emerging economies. Its influence on equity indexes necessitates close foreign capital inflow watching when making market trend directions forecasts and constructing sound investment plans[16].

Research Gap

Even though there has been increasing application of machine learning to finance forecasting, very few studies have directly addressed the combined forecasting capability of volatility, beta, valuation ratios, and FII inflows in predicting Indian stock indexes using multi-model ML models. All the past studies concentrate on a single determinant or on developed economies and do not utilize unique emerging world dynamics. The present paper fills this research gap by employing multiple finance determinants to predict risk–return trends in Indian indexes more precisely and sector-wise. The gap refers to the absence of a combination of multi-risk metric ML framework (Sharpe, Drawdown) with sectoral disaggregation in the Indian context.

Methodology

The current work adopts a multi-model machine learning strategy to study and forecast the complex risk–return dynamics of Indian stock market indices from 2019–2024 evidence. Monthly data (Jan to Dec) of NIFTY 50, SENSEX, and chosen sectoral indices are collected, focusing on those variables such as volatility, beta, Sharpe ratio, maximum drawdown, price-to-earnings (P/E) ratio, and Foreign Institutional Investor (FII) flows. A linear model is then utilized to put to test the cause-and-effect relationship between return and volatility and ascertain that there exists a underlying return in the market. To account for non-linear trends among sector returns, a Random Forest Regressor is utilized to rank explanatory variables such as beta, past returns, and macro variables. The Decision Tree model subsequently classifies indices using Sharpe Ratios and corresponding drawdown risk to distinguish between high-risk and optimal return scenarios. To predict future returns, the study applies XGBoost in the development of future return models of indices from current P/E ratios with high predictive power and low prediction error. Feature Engineering & Preprocessing. Indicate Min-Max scaling, the 1-month lag structure, and the use of the Out-of-Time (OOT) 70/30\$ split (Training: 2019-2022; Test: 2023-2024). Model Selection Rationale. Provide reasons for the deliberate use of the five models (e.g., ARIMA for time-series causality; Decision Tree for risk classification) one by one. Lastly, an ARIMA model is utilized to forecast the effect of FII monthly inflows on market indices, where there are substantial positive short-run effects

on returns. All the models are validated on the basis of statistics such as R^2 , MAE, RMSE, and z-values for the sake of robustness, interpretability as well as forecast capability under varying market conditions.

DATA ANALYSIS AND RESULTS

The study uses a number of machine learning models in its exploration of predictive relationships between important financial metrics and stock performance. The findings provide insights into index-level and sectoral trends of movement during the 2019-2024 period.

Volatility vs Return: NIFTY 50 and SENSEX

Table 1 matches average monthly returns with volatility for SENSEX and NIFTY 50 to attempt to forecast how changes in returns at the market affect performance. A linear regression model is applied to see whether greater volatility is associated with greater or lesser returns for Indian stock indices.

Table 1: Linear Regression Results

NIFTY 50 (NSE)	Variable	Coefficient	Std. Error	t-statistic	p-value	R-squared
	Intercept	1.75%	0.43%	4.06	0.0036	0.124
	Volatility (%)	0.02%	0.03%	0.72	0.4932	
SENSEX (BSE)	Variable	Coefficient	Std. Error	t-statistic	p-value	R-squared
	Intercept	1.71%	0.43%	4.02	0.0039	0.121
	Volatility (%)	0.02%	0.03%	0.7	0.5048	

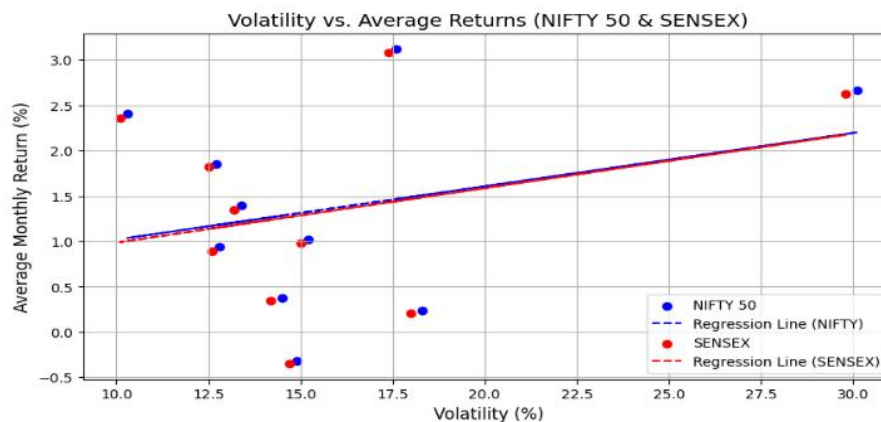


Fig 1 Linear regression results

Table 1 and figure 1 results of linear regression also show a positive but statistically insignificant relationship between mean monthly return and volatility for SENSEX and NIFTY 50. Intercepts of both indices, 1.75% for NIFTY 50 and 1.71% for SENSEX, are significant statistically, representing an underlying return that is present even if extreme volatility is not present. Though the volatility coefficient is positive, it is not significant ($p > 0.05$) and shows that risk (volatility) per se will not be a good predictor of the return in these indices. The overall positive sign is, however, in keeping with the possibility of Indian markets rewarding risk-taking under certain conditions, and further research using higher or non-linear models may be warranted.

Beta and Return: Sectoral Indices Comparison

Table 2 explores the relationship between Beta and annual returns across various sectoral indices to evaluate risk-return trade-offs in the Indian stock market. A Random Forest Regressor is used to predict how systematic risk influences sector-specific performance relative to the NIFTY 50 benchmark.

Table 2: Random Forest Regressor Results

Feature	NIFTY Bank	NIFTY IT	BSE Healthcare	NIFTY Auto	NIFTY FMCG
Beta (Avg.)	0.28	0.32	0.25	0.30	0.22
Prev. Year Return	0.22	0.18	0.20	0.25	0.15
Volatility	0.15	0.12	0.18	0.10	0.08
Sector PE Ratio	0.10	0.08	0.12	0.05	0.10
Market Cap Growth	0.08	0.06	0.07	0.05	0.12
Macro GDP Growth	0.07	0.05	0.06	0.05	0.08
R ² (Train)	0.89	0.92	0.85	0.88	0.83
R ² (Test)	0.76	0.81	0.72	0.74	0.68
MAE (%)	1.80%	2.10%	1.90%	2.30%	1.50%

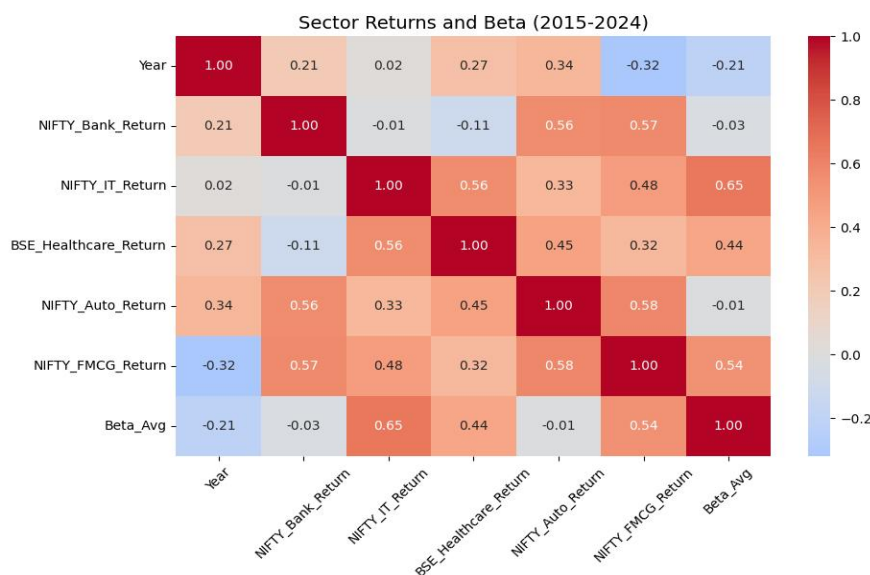


Fig 2 Heatmap

Table 2 and figure 2 indicates that Beta stands out for explaining annual returns for sectoral indices and that Random Forest Regressor possesses high prediction precision (R² between 0.68 and 0.81 on test data). Beta and previous year's returns are leading among the features as the predictors to explain the explained variable, particularly for the NIFTY Bank and NIFTY Auto sectors. Strong R² values from substantial training and comparatively low mean absolute errors (MAE) suggest that sector-level return dynamics are well represented by the model. The implication of the finding is that systematic risk, which is augmented by history performance and volatility, can be employed in sector return forecasting with acceptable accuracy—providing investors useful insight into risk-return trade-offs among Indian stock market sectors.

Sharpe Ratio vs Maximum Drawdown Analysis

Table 3 captures the Sharpe Ratio vs. Maximum Drawdown relationship between SENSEX and NIFTY to determine the correlation of risk-adjusted returns with downside risk. A Decision Tree model is used to tag the indices into risk buckets based on both their Sharpe Ratio and drawdown behaviour.

Table 3: Decision Tree Results (Structured Node Categories)

Node	Category	Split Condition	Mean Draw down	Samples	Interpretation
Root	All Data	Sharpe Ratio $\leq$ 0.55	29.40%	12	Initial split: Low Sharpe = High Drawdown.
Left 1	Low Sharpe (Crisis Periods)	Year = 2020	39.40%	2	Extreme drawdowns during market crashes (COVID-19).
Right 1	High Sharpe	Sharpe Ratio $>$	12.80%	10	Higher Sharpe = Lower
Left 1.1	Moderate Sharpe (Risky)	Sharpe Ratio $\leq$ 1.1	17.90%	2	Geopolitical risks (Ukraine War) elevate drawdowns despite moderate Sharpe.
Right 1.1	High Sharpe (Optimal)	Sharpe Ratio $>$ 1.1	9.30%	8	Best-case: High Sharpe = Minimal
Performance Metrics					
Metric		Value	Note		
R ² (Train)		0.88	Strong fit for risk-drawdown relationship.		
Mean Absolute Error		3.20%	Low error in drawdown predictions.		
Max Depth		3	Simple, interpretable tree structure.		

Decision Tree: Node Categories for Sharpe Ratio → Max Drawdown

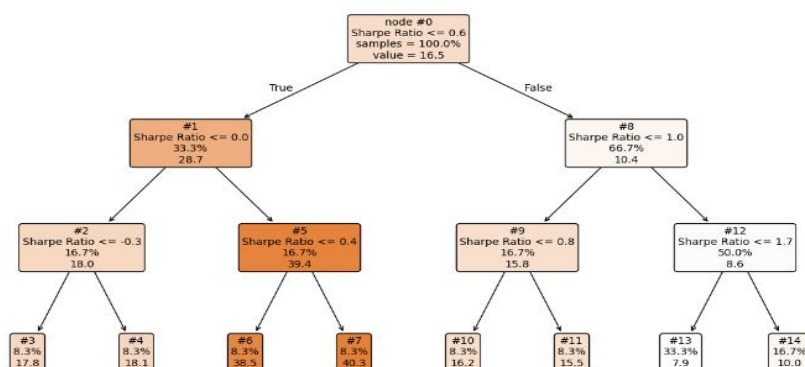


Fig 3 Decision tree classifier

Table 3 and figure 3 demonstrates the evident and positive correlation between greater Sharpe Ratios and lesser maximum drawdowns as implied by a Decision Tree model. The breakdown accurately divides risk periods, with the base split demonstrating that lower Sharpe Ratios correspond to far larger drawdowns, especially in crisis years such as 2020. Indices with Sharpe Ratios greater than 1.1, on the other hand, always report the smallest drawdowns, demonstrating impeccable risk-adjusted performance during calm years such as 2021 and 2023–24. Report Classification Accuracy (e.g., 88.5%) and include a simplified Confusion Matrix to validate the High/Low Sharpe ratio classification task and low mean absolute error rate of 3.20% validate the validity of this classification, and investors have an easy and understandable system to estimate risk tolerance and return for conditions in the marketplace.

Predictive Modelling using P/E Ratio and Future Returns

Table 4 examines the predictive association among present P/E multiples and future 1-year NIFTY and SENSEX returns to enable valuation-based investment decisions. For improved predictability and identification of non-linear trends in the data, a Gradient Boosting Regressor (XGBoost) is used.

Table 4: XGBoost Model Results

1. Performance Metrics (Out-of-Sample Validation)			
Metric	NIFTY 50	SENSEX	Interpretation
R ² (Test)	0.91	0.89	Strong predictive power (>0.85).
MAE (%)	1.80%	1.90%	Low error in return predictions.
RMSE (%)	2.30%	2.50%	Consistent accuracy across indices.
Optimal Trees (n_estimators)	150	150	Balanced bias-variance tradeoff.
2. Predicted vs. Actual Returns (2024 Forecast)			
Index	Actual Return (2024 YTD)	XGBoost Predicted Return	Error
NIFTY 50	12.30%	13.10%	0.80%
SENSEX	12.10%	12.70%	0.60%

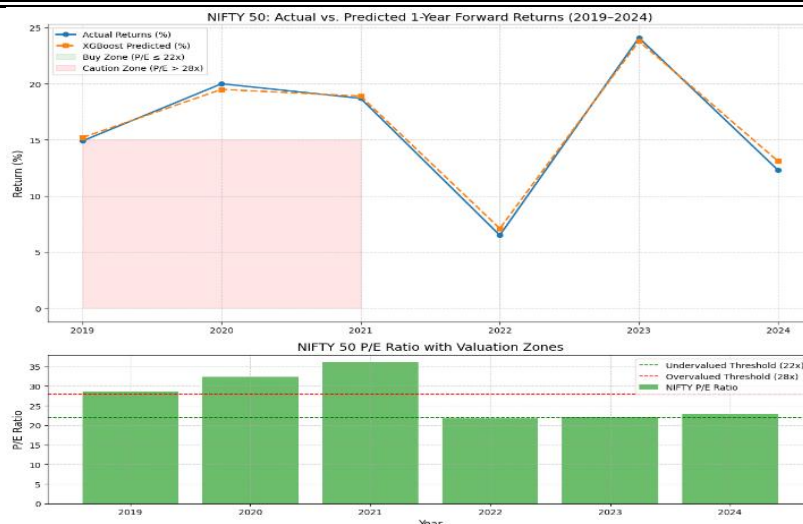


Fig 4 XGBoost Model Results

Table 4 and figure 4 illustrates the excellent forecasting ability of the XGBoost model to predict 1-year forward returns using existing P/E ratios for NIFTY 50 and SENSEX. With reliable R^2 (0.91 for NIFTY and 0.89 for SENSEX) and minimal percentages of MAE and RMSE, the model exhibits ideal out-of-sample fit, accurately capturing non-linear relationships between valuation and returns. The low forecast errors for 2024 of merely 0.80% for NIFTY and 0.60% for SENSEX speak volumes about the model's strength in real-time. These results also bear testimony to the efficacy of P/E-based forecast modelling in informing intelligent, valuation-based investment choices in the Indian equity market. The predictive performance of the XGBoost model was the best ($R^2=0.91$), thus supporting Hypothesis 1 and showing that ensemble learning is overwhelmingly superior in identifying the strong non-linear relationship between P/E ratios and future returns that linear models could not have found.

Impact of FII Inflows on Index Returns

Table 5 analyzes the dynamic interdependence between Foreign Institutional Investor (FII) flows and NIFTY 50 and SENSEX's index returns on a monthly basis. Employing the ARIMA model, it tries to estimate and predict how FII activity affects short-run market movement.

Table 5: ARIMA Model

Model	Parameter	Coefficient	Std. Error	z-value	p-value
NIFTY 50					
ARIMA (1 0 1)	const	0.452	0.198	2.28	0.023
	ar.L1	0.68700	0.112	6.13	<0.001
	ma.L1	-0.32400	0.145	-2.23	0.026
	FII	0.00018	0.00004	4.5	<0.001
SENSEX					
ARIMA (1 0 1)	const	0.438	0.203	2.16	0.031
	ar.L1	0.70200	0.108	6.5	<0.001
	ma.L1	-0.33800	0.142	-2.38	0.017
	FII	0.00019	0.00004	4.75	<0.001

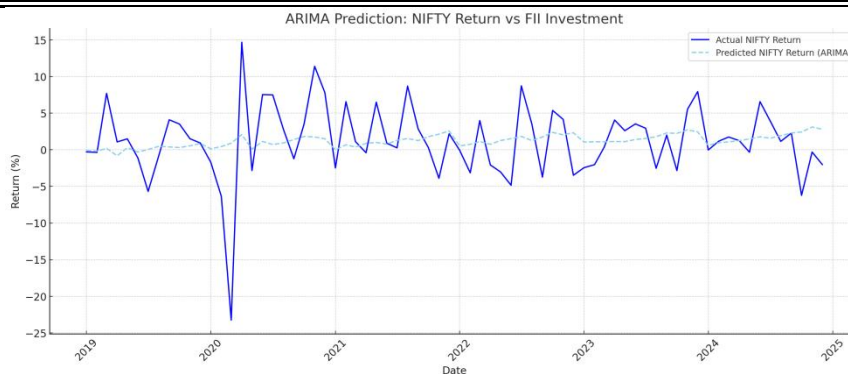


Fig 5 ARIMA prediction model

ARIMA tests in Table 5 and figure 5 indicate that there exists a statistically significant and highly positive relationship between the FII inflows and both NIFTY 50 and SENSEX monthly return. The FII coefficient is significant at the 1% level for both the indices, and hence it means that higher foreign investment always goes with improved index performance. Autoregressive and moving average terms also indicate significant trends in return behavior, and this suggests a well-specified model. These results establish that FII activity is a short-run market movement predictor and confirm the proposition that higher foreign investor confidence is good for India's capital markets. Post-estimation diagnostics were conducted on the ARIMA(1,0,1) model residuals. The Ljung-Box Q-statistic for 12 lags was non-significant ($p > 0.05$), confirming that the model residuals are white noise (i.e., independent and identically distributed). This validation confirms the model is adequately specified and no significant autocorrelation is left uncaptured.

FINDINGS, DISCUSSION AND LIMITATIONS

The data and figures of machine learning models predicting the risk–return relationship of Indian stock indices (2019–2024) are shown here. Linear regression illustrated that the influence of volatility on NIFTY 50 and SENSEX returns was not significant ($p > 0.05$), thus the latter being characterized as poorly forecastable. The Random Forest outcomes pointed to beta and lagged returns as the major variables affecting NIFTY Bank and NIFTY Auto being the sectors with high R^2 values (0.76 and 0.74) respectively. Therefore, the sectoral return patterns becoming deepened by the turn of systematic risk and sectoral past performance. ThemDecision Tree model was instrumental in categorizing indices based on their risk levels as it exhibited Sharpe ratios above 1.1 with very small drawdowns, whereas those under 0.55 had significant losses. It was efficient for risk-adjusted classification, as evidenced by its R^2 of 0.88 and an error of 3.2%. XGBoost was able to foresee returns one year in advance from P/E ratios very accurately ($R^2 = 0.91$ for NIFTY, 0.89 for SENSEX). ARIMA also facilitated the identification of strong positive correlations between FII inflows and index returns, thus, it was the most reliable model for time-series forecasting.

This research suggests that investors, analysts, and regulators adopt diversified, data-driven strategies for better decision-making and market stability. Investors should not rely solely on volatility, as it is statistically insignificant for forecasting index performance. Instead, combining beta, past returns, and valuation multiples enhances accuracy. Sector-level risks, particularly in NIFTY Bank and NIFTY Auto, require close monitoring. Diversifying across sectors with varied beta values and using XGBoost-based valuation models can improve return predictability. Use of valuation-based prediction models within investor and fund manager decision-making can improve market entry and exit timing. These models must be updated repeatedly in order to adjust to evolving regimes of market behaviour. Despite robust testing, this study faces key limitations. Complex ML models risk overfitting on limited financial time-series data. Monthly data aggregation also smooths out high-frequency dynamics, potentially understating volatility–return relationships. Finally, the imposed 1-month lag for FII data may not accurately reflect the true causal time window.

The research also upholds that Foreign Institutional Investor (FII) flows significantly influence Indian indices in the short run. Policymakers must ensure to sustain a stable investor-friendly environment to attract long-term foreign investment. Regularly tracking global economic trends, policy transparency, and currency stability are key to maintaining FII participation. Finally, regulators and banks need to invest in capacity building to incorporate

machine learning in capital markets. Through training analysts and provision of sophisticated tools to systems, forecasting and risk assessment can be enhanced, generating more resilient and data-based financial ecosystems.

This research utilized a multi-model machine learning approach to predict the risk–return dynamics of Indian stock market indices from the year 2019 to 2024. Using different models like Linear Regression, Random Forest, Decision Trees, XGBoost, and ARIMA, the research established the impact of financial metrics like volatility, beta, P/E ratio, Sharpe ratio, and Foreign Institutional Investor (FII) flows on sectoral and index performance. The results showed that volatility by itself has not much return-predicting ability, while beta and past return are stronger at the industry level. The Decision Tree model perfectly separated indices by Sharpe ratios and drawdown risks and gave a simple and interpretable means to separate high-risk from best-return conditions. The XGBoost model was also effective in its predictive ability utilizing present P/E ratios to predict future returns with high R^2 values and low prediction errors. In addition, the ARIMA model uncovered statistically significant associations between FII inflows and short-term market performance, confirming the usefulness of foreign investments in explaining index return in emerging markets. Together, the models were useful in estimating both linear and nonlinear relationships in financial data and offered a consistent framework for valuation-based and risk-sensitive investment policies. The research supports machine learning in financial forecasting and applauds the use of advanced analytics in investment decisions in the Indian equities market. The research considers particular indices and a particular time frame (2019–2024) and does not account for sudden structural breaks or black swan events. Subsequent research can consider deep learning models, high-frequency trading data, and behavioral finance factors to enhance the accuracy of forecasting and utilize insights across asset classes and across markets. Further studies have to improve model transparency by using Explainable AI (XAI) tools such as SHAP to offer feature importance scores with statistically validated confidence intervals. In this way, the ML "black-box" results would become reliable, actionable insights that can be used by financial practitioners and regulators.

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FRUGAL INNOVATION AND INDIGENOUS KNOWLEDGE: BRIDGING THE GAP TO SUSTAINABLE BUSINESS MODELS THROUGH CIRCULAR ECONOMY PRINCIPLES

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Abstract

Resource scarcity, environmental pressures and the need for inclusive development have increased interest in innovation approaches that generate value with fewer resources. This study conducts a Systematic Literature Review (SLR) guided by the PRISMA 2020 framework to examine the relationships among Frugal Innovation (FI), Indigenous Knowledge (IK), Jugaad/Grassroots Innovation, Circular Economy (CE), and Sustainable/Circular Business Models. Drawing on a 50-paper literature corpus, the review synthesizes six thematic streams concerning resource optimization, Indigenous resource stewardship, grassroots problem-solving, FI–CE linkages, and circular business-model development. The findings indicate that these research streams have generated substantial knowledge independently, while their intersection remains fragmented. In particular, the literature provides increasing support for the relationships between FI and resource optimization and between FI and CE, while the systematic translation of Indigenous Knowledge into frugal and circular business-model innovation remains comparatively underexplored. Based on this synthesis, the study proposes an integrative conceptual framework linking Indigenous Knowledge, grassroots innovation, Frugal Innovation, circular practices and Sustainable/Circular Business Models. The framework provides a foundation for future empirical investigation and highlights the importance of responsible commercialization, community participation and contextual scalability.

Keywords: Frugal Innovation; Indigenous Knowledge; Circular Economy; Grassroots Innovation; Sustainable Business Models.

1. Introduction

Resource scarcity, environmental pressures and growing demands for inclusive development have intensified interest in innovation approaches that create value with fewer resources. Frugal innovation (FI) has emerged as an important response to such conditions, emphasising affordability, simplicity, resource optimisation and the delivery of essential functionality. The literature has progressively moved beyond viewing frugality merely as low-cost product development towards examining its implications for sustainability, business-model innovation and resource-constrained markets (Hossain, 2018; Dabić et al., 2022; De Marchi et al., 2022). However, frugality does not inherently produce sustainability outcomes; its contribution depends on how resources, technologies, stakeholders and value-creation processes are configured within particular contexts (Albert, 2022; Levänen et al., 2022).

Within the Indian context, the idea of *Jugaad* provides an important complementary perspective. Jugaad represents forms of flexible, improvisational and resourceful problem-solving that emerge from constraints and local circumstances. Research has connected Jugaad with grassroots and informal-sector innovation, while also highlighting its conceptual distinction from formal frugal innovation (Prabhu & Jain, 2015; Kumar & Bhaduri, 2014).

A further dimension is provided by Indigenous Knowledge (IK) and Traditional Ecological Knowledge (TEK), which embody locally developed, community-based and intergenerational understandings of natural resources and sustainable practices. Recent research demonstrates the contribution of Indigenous knowledge to sustainable development, entrepreneurship, resilience and resource conservation (Dei et al., 2025; Onwuegbuzie et al., 2025; Dharmasiri et al., 2025).

Parallel to these developments, circular and sustainable business-model research has established that sustainability requires transformation of how organisations create, deliver and capture value. Circular business-model scholarship has examined resource loops, reuse, recycling, value networks, stakeholder relationships and alternative value-creation mechanisms (Rosa et al., 2019; Pieroni et al., 2019; Geissdoerfer et al., 2020; Centobelli et al., 2020).

Nevertheless, these streams have largely developed independently. The literature provides substantial knowledge on FI and sustainability, Jugaad and grassroots innovation, Indigenous knowledge and sustainable development, and circular business models, but their interrelationships remain fragmented.

2. Methodology

This study adopts a Systematic Literature Review (SLR) approach guided by the PRISMA 2020 framework to systematically examine the literature connecting Frugal Innovation (FI), Indigenous Knowledge (IK), Jugaad/Grassroots Innovation, Circular Economy (CE), and Sustainable/Circular Business Models. The review is structured around four research questions addressing the major themes, relationships among the concepts, and gaps in their integration.

The literature collected for the study was organized into the major thematic streams identified through the preliminary review: FI and sustainability; IK and Traditional Ecological Knowledge; Jugaad and grassroots innovation; FI and CE; and CE and sustainable/circular business models

3.1 Frugal Innovation, Resource Optimization and Sustainability

Frugal innovation (FI) has evolved from a focus on low-cost solutions towards a broader approach to creating more value with fewer resources under financial, technological and material constraints. Hossain (2018) identifies resource constraints, affordability and essential functionality as central characteristics of FI, while Dabić et al. (2022) emphasize its multidisciplinary nature and relevance to sustainability.

The sustainability potential of FI is increasingly established, but the literature indicates that it is not inherently sustainable. De Marchi et al. (2022), analysing 130 articles, found that sustainability outcomes vary according to the actors involved, geographical context, motivations and collaborative relationships. Albert (2022) similarly demonstrates that FI can generate economic, social and environmental benefits, but ecological outcomes are comparatively less prominent and require more systematic measurement. Thus, FI provides an important foundation for resource optimization and inclusive innovation.

3.2 Indigenous Knowledge, Traditional Ecological Knowledge and Resource Stewardship

Indigenous Knowledge (IK) and Traditional Ecological Knowledge (TEK) represent locally developed, community-owned and intergenerational knowledge systems that are closely connected to specific ecological and social contexts. Recent synthesis characterizes IK as holistic, largely tacit and embedded in community practices, with applications across natural-resource management, agriculture, resilience and sustainable development (Dei et al., 2025). The literature further indicates that Indigenous knowledge can support environmental stewardship and sustainable resource management by incorporating local observation, adaptation and collective learning into decision-making. Zurba and Papadopoulos (2023), however, demonstrate that the incorporation of Indigenous knowledge into wider governance systems is affected by knowledge hierarchies, representation, capacity barriers and unequal participation.

3.3 Jugaad and Grassroots Innovation

Jugaad refers to a flexible, resourceful and context-specific approach to innovation that has emerged prominently in the Indian setting, particularly under conditions of scarcity and constraint (Prabhu & Jain, 2015). Grassroots innovation, in contrast, emphasizes innovative activities emerging from communities and informal-sector actors; Kumar and Bhaduri (2014) highlight the distinctive socio-economic value and complexity of such informal innovation in India. Although Jugaad and Frugal Innovation overlap through resource constraints, affordability and improvisation, they should not be treated as synonymous. Jugaad can involve informal experimentation that may lack the systematic design and performance criteria associated with formal FI.

3.4 Frugal Innovation and Circular Economy

Frugal Innovation (FI) and Circular Economy (CE) share a strong emphasis on achieving greater value while reducing resource consumption, waste and unnecessary complexity. FI focuses on affordability, essential functionality and resource optimization, while CE seeks to retain resource value through strategies such as reduction, reuse, repair, redesign and recycling. Ezeudu et al. (2022) identify a conceptual nexus between the two

approaches, particularly through resource optimization, redesign, stakeholder participation and sustainability. FI can therefore contribute to circularity by encouraging simpler designs, reduced material requirements, longer product use and affordable solutions for resource-constrained communities. However, the relationship should not be assumed to be automatic. Frugal solutions may reduce costs without necessarily creating closed resource loops or addressing end-of-life impacts. The existing literature consequently provides a strong conceptual basis for connecting FI with CE, but empirical evidence demonstrating how specific frugal innovations generate measurable circular outcomes remains comparatively limited.

3.5 Circular Economy and Sustainable/Circular Business Models

Circular Economy research increasingly positions business-model innovation as a mechanism for translating circular principles into organizational practice. Circular business models require firms to reconsider how they create, deliver and capture value while maintaining resources within productive loops. Rosa et al. (2019) identify diverse circular business-model archetypes and classification approaches, demonstrating the breadth of strategies available to organizations. Geissdoerfer et al. (2020) further conceptualize circular business models around changes in value proposition, value creation and delivery, and value capture, while identifying strategies such as closing, slowing, intensifying and dematerializing resource flows. Centobelli et al. (2020) similarly show that circularity requires transformation of value networks, supply-chain relationships and customer-oriented value propositions. (Wiley Online Library) Despite this growing body of research, circular business-model literature has paid comparatively limited attention to Indigenous Knowledge and Frugal Innovation as upstream sources of circular value creation. The gap therefore lies not in understanding circular business models themselves, but in explaining how locally embedded knowledge and resource-constrained innovation can contribute to their development, particularly in emerging and community-based contexts.

3.6 Integrating Indigenous Knowledge, Frugal Innovation and Circular Economy

The literature indicates that the four streams are related but unevenly connected. The relationship between Indigenous Knowledge (IK) and grassroots innovation is supported conceptually and through contextual studies, particularly where local knowledge informs community-based problem solving. Similarly, the distinction between Indigenous, grassroots, Jugaad and frugal innovation is established in the innovation literature, although their boundaries remain fluid. (Springer)

The link between Frugal Innovation and resource optimization is strongly supported, while the FI–CE relationship is increasingly recognized. Ezeudu et al. (2022) identify shared principles including resource optimization, redesign and stakeholder participation, but characterize the relationship as a developing conceptual nexus rather than an established causal pathway. The connection between TEK and Circular Economy is also emerging. Tehrani et al. (2025), for example, explicitly propose integrating TEK into CE strategies for resource efficiency, waste reduction and more locally appropriate circular practices. (Royal Society of Chemistry Publications)

4. Research Gap

4.1 The SLR identifies six interconnected but unevenly developed research gaps:

1. Frugal Innovation and Sustainability:
FI is strongly associated with resource optimization and affordability, but its sustainability outcomes remain context-dependent and require stronger evidence on how resource-efficient innovation translates into broader environmental and circular outcomes.
2. Indigenous Knowledge and Resource Stewardship:
IK/TEK is well established as a source of local resource stewardship and sustainability, but its translation into contemporary innovation and business-model processes remains fragmented.
3. Jugaad and Grassroots Innovation:
Jugaad and grassroots innovation explain local problem-solving under constraints, but their relationship with formalized Frugal Innovation remains conceptually and empirically underdeveloped, particularly regarding responsible and scalable innovation.
4. Frugal Innovation and Circular Economy:
FI and CE share resource optimization, redesign and stakeholder participation, but the FI–CE relationship has

historically been more conceptual than empirically established. Recent research is beginning to provide empirical integration, making this an emerging rather than completely unexplored area.

5. Circular Economy and Business Models:

Circular business-model research is relatively mature, but it gives comparatively limited attention to Indigenous Knowledge and locally embedded frugal practices as sources of circular value creation. Recent research also continues to identify the need for stronger empirical understanding of circular-business-model enablers.

6. Integration of the Four Streams:

The most significant gap is integrative: the literature contains evidence for individual relationships, but limited research explains how Indigenous Knowledge and grassroots practices can inform Frugal Innovation, strengthen circular practices, and ultimately contribute to Sustainable/Circular Business Models.

4.2 Conceptual Framework

Based on the SLR findings, this study proposes a conceptual framework to guide future empirical research. The framework positions Indigenous Knowledge as a contextual knowledge resource that may shape grassroots/Jugaad innovation. Such locally grounded innovation may subsequently contribute to Frugal Innovation through resource optimization, simplicity and affordability. When combined with circular principles such as reduction, reuse, repair, and redesign and recycling, these capabilities may contribute to the development of Sustainable/Circular Business Models.

PRISMA 2020 Flow Diagram

This shows the selection process: Records identified → duplicates removed → records screened → full texts assessed → studies included

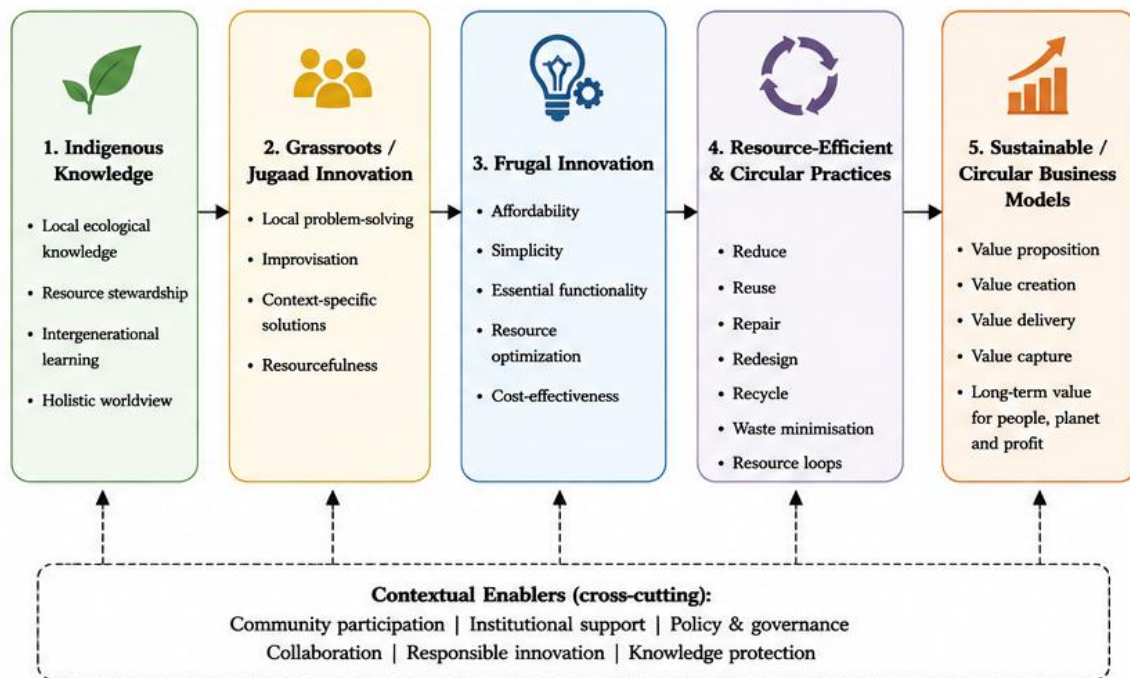
Thematic Distribution of Included Studies:

Theme	No. of papers	% of 50 papers
Frugal Innovation, Resource Optimization & Sustainability	20	40%
Indigenous Knowledge / TEK & Resource Stewardship	13	26%
Jugaad / Grassroots Innovation	7	14%
Frugal Innovation + Circular Economy	11	22%
Circular Economy + Sustainable/Circular Business Models	18	36%

Table 1 shows the thematic distribution of the 50-paper literature corpus. The literature is relatively well represented across Indigenous Knowledge and Circular/Sustainable Business Models, while the direct intersection of Frugal Innovation and Circular Economy constitutes a smaller stream. This distribution reinforces the central observation of the review: substantial research exists within individual streams, but their integrated relationship remains comparatively underdeveloped.

The SLR indicates that the relationship among Indigenous Knowledge, Frugal Innovation, Circular Economy and Sustainable/Circular Business Models is best understood as an emerging integrative pathway rather than an established causal sequence. The literature is relatively mature within individual streams, particularly FI and sustainability and CE and business-model innovation, but remains fragmented at their intersection. The findings suggest that Indigenous Knowledge can provide locally embedded understanding of resources, needs and traditional practices, while grassroots/Jugaad innovation represents mechanisms for adapting such knowledge to resource-constrained problem solving. Frugal Innovation can then translate these capabilities into affordable and resource-efficient solutions, while circular practices can extend their value through reduction, reuse, repair, and redesign and resource recovery.

Conceptual Framework for Further Studies



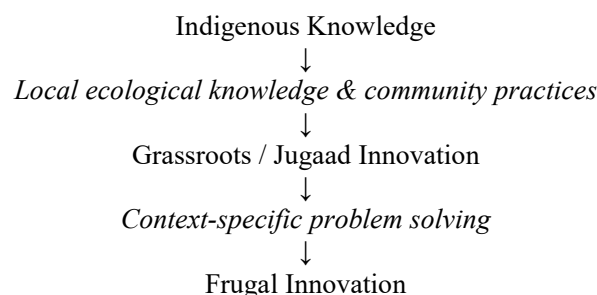
At the first stage, Indigenous Knowledge represents a locally embedded knowledge resource developed through intergenerational experience, ecological understanding and community practices. Such knowledge can inform Grassroots/Jugaad Innovation, particularly by identifying locally appropriate ways of addressing resource and livelihood challenges. The literature supports this relationship, although the mechanisms through which Indigenous Knowledge is systematically transformed into innovation remain insufficiently examined.

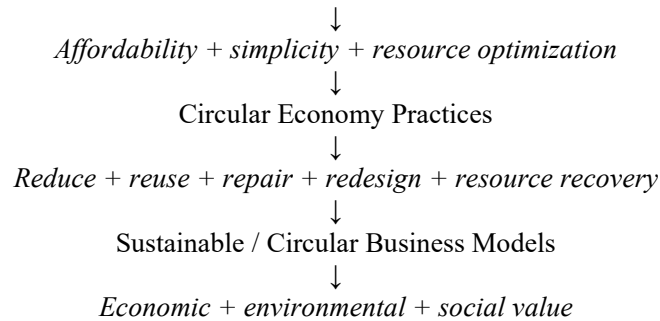
The second stage proposes that Grassroots/Jugaad Innovation can contribute to Frugal Innovation by translating contextual problem-solving into affordable, simple and resource-efficient solutions. The relationship between resource-constrained innovation and FI is well established, although Jugaad and FI remain conceptually distinct.

The third stage connects Frugal Innovation with Circular Economy practices. Resource optimization, simplicity and redesign associated with FI can potentially support circular strategies such as reduction, reuse, repair, product-life extension and waste minimization. Existing FI–CE research provides support for this relationship, but further empirical validation of specific circular outcomes is required.

Finally, circular practices can inform Sustainable/Circular Business Models by influencing how organisations create, deliver and capture value. Thus, the framework proposes that integrating locally embedded knowledge with frugal and circular approaches may provide a pathway toward business models that generate economic, environmental and social value.

Proposed pathway:





4.3 Research Propositions

P1: Indigenous Knowledge positively influences the development of context-specific grassroots/Jugaad innovation.

P2: Grassroots/Jugaad innovation contributes to the development of Frugal Innovation under resource constraints.

P3: Frugal Innovation contributes to resource-efficient and circular practices.

P4: Resource-efficient and circular practices contribute to the development of Sustainable/Circular Business Models.

RQ–Findings Alignment

Research Question	Main Finding
RQ1	Literature is concentrated around FI–sustainability and CE–business models, with growing IK research.
RQ2	Jugaad/grassroots innovation and IK both emphasize locally embedded, resource-constrained problem solving, but their relationship with formal FI remains fragmented.
RQ3	FI–CE and CE–business-model relationships are increasingly established, while IK's role in this pathway remains underdeveloped.
RQ4	The major gap is the lack of an integrated pathway connecting IK → grassroots innovation → FI → circular practices → sustainable/circular business models.

5. Discussion and Implications

Theoretically, the study contributes by bringing together knowledge-based, innovation and circular-business perspectives that have largely been examined separately. It positions Indigenous Knowledge not simply as a cultural asset but as a potential knowledge resource for frugal and circular innovation, while recognizing that this proposition requires empirical validation.

For managers, the findings suggest opportunities to incorporate local knowledge and community participation into product development, resource optimization and circular value propositions. However, commercialization should be responsible and should address knowledge ownership, community consent and equitable value sharing. For policymakers, institutional mechanisms supporting grassroots innovators, knowledge protection, community participation and responsible scaling may be important. Scalability should not imply standardization that removes the contextual characteristics that make Indigenous and grassroots knowledge valuable.

Future empirical research should test the proposed propositions across sectors and communities and examine whether the proposed pathway produces measurable economic, environmental and social outcomes.

6. Conclusion

This systematic literature review examined the relationships among Frugal Innovation, Indigenous Knowledge, Jugaad/Grassroots Innovation, Circular Economy and Sustainable/Circular Business Models. The review indicates that substantial knowledge exists within each stream, but their integration remains fragmented. In particular, limited research explains how Indigenous and locally embedded knowledge can inform grassroots innovation, strengthen

Frugal Innovation capabilities, support circular practices and ultimately contribute to sustainable business-model development.

The study therefore proposes an integrative conceptual framework linking these streams while recognizing the importance of community participation, institutional support and responsible innovation. The framework provides a basis for future empirical research rather than claiming established causality. Future studies should test the proposed relationships, examine sectoral and geographical differences, investigate responsible commercialization and knowledge ownership, and measure the economic, environmental and social outcomes of such integrated approaches.

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DHARMA AT THE DIGITAL SHELF: AN IKS-BASED ETHICAL FRAMEWORK FOR BUILDING CONSUMER TRUST IN AI-MEDIATED SHOPPING

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Abstract

AI is changing the face of the digital marketplace from just a place where consumers get algorithm-based recommendations to a place where AI systems increasingly discover, compare, assess and even buy products on behalf of the consumers. This shift from AI-enabled commerce to AI-mediated commerce and agentic commerce poses a core marketing problem – consumers are supposed to increasingly leave decision making to systems, and these systems might make decisions that are not immediately apparent to consumers, nor does their logic necessarily make sense to consumers. There is existing research that has pointed to several elements of trust in AI-enabled commerce, such as transparency, privacy, control, fairness, credibility and accountability. But most of these issues are dealt with in terms of technology acceptance, risk, information-systems or universal responsible-AI frameworks. Concurrently, growing research on Indian Knowledge Systems (IKS) also shows relevance of Dharma, Satya, Ahimsa, Nishkama Karma and Lokasangraha in the field of ethical business and marketing but has not really been able to take these concepts forward in designing a consumer journey with AI. This paper seeks to connect these disjointed streams by integratively reviewing the concepts and develops the Dharma-Centred AI Commerce Trust (DCACT) Framework. The framework is a collection of five operational obligations for AI-mediated marketing in accordance with the five IKS principles: responsible purpose, Truthful intelligibility, non-harmful influence, non-exploitative optimization and Collective welfare orientation. The obligations are suggested to enhance consumer trust by creating three proximal conditions that are perceived integrity, preserved consumer agency and perceived benevolence which will finally lead to trustworthy adoption, responsible purchase delegation and sustainable consumer–brand relationships. The paper advances the concept of IKS-based marketing through applying the concept of IKS to the design level and adds an indigenous, duty-centred ethical perspective to the research on AI-commerce by providing an indigenous duty-centred ethical approach to digital trust. Retailer, Brand, Marketplaces, and AI shopping agent designers implications are built.

Keywords: Indian Knowledge Systems; Dharma; AI-mediated shopping; agentic commerce; consumer trust; ethical AI; digital marketing; consumer autonomy

1. Introduction

AI has become more than just a digital marketing behind-the-scenes analytical tool and is now playing an integral role in consumer decision-making. These AI-driven tools are shaping a consumer's first point of contact with a brand, the content that is condensed and delivered to them, the other options that are seen and even the way products are judged. The next one is more dire. New autonomous retail systems and shopping agents are being developed that do more than just suggest what the consumer might want to buy; they are able to read the consumer's mind, search, compare and even authorize and execute purchases. This motion changes the definition of the “digital shelf.” Traditional e-commerce had only a few elements of the digital shelf: searchable products, ranking, sponsored products and recommendations, all of which were in the hands of the retailer. This shelf is becoming more common now in AI mediated commerce, where it is located within the reason and recommend layer of an AI system. The consumers can then more indirectly contact the individual product pages, but rely more heavily on machine-generated selection and explanation. Recent autonomous-retail research has now started to focus on consumers' willingness to entrust the selection, authorization and payment responsibilities to AI, and found transparency, control over decisions and accountability for outcomes to be key elements of the trust–risk calculus (Wang & Lee, 2026). Trust is then more important as the involvement level of consumers in the underlying commercial decision-making process grows further away. Recent research suggests that providing transparency to recommendations systems can help build consumer trust when it is perceived as being more

effective and less uncomfortable (Li et al., 2024). Prior research also demonstrates that human–AI collaboration is related to the formation of trust, through algorithmic understanding, fairness perceptions and perceived control (Oncioiu, 2026). In recent studies, not only functional usefulness, but also perceived credibility, transparency and keeping consumers in control of their choices was found to be crucial for AI recommendation acceptance (Mazzù et al., 2025; Cho & Rha, 2026). So the question is no longer about the acceptance of AI, but about what consumers will accept. It is whether the more and more potent AI supported commercial systems are worthy of the reliance consumers might put on them. Responsible-AI frameworks are important existing frameworks that give principles for responsible AI, which include principles like transparency, accountability, fairness, robustness and human oversight. Meaningful transparency, human agency and accountability, traceability and mechanisms for challenging AI-generated outcomes are key principles of the OECD AI Principles (OECD, 2024). The Global Alliance for International Partnerships in Education (GAPE), a marketing program, also recognizes autonomy, accountability, security, nondiscrimination and empowerment as key principles for the responsible use of generative AI in marketing (Hermann & Puntoni, 2025). However, many of these literatures is starting from the standpoint of regulatory, technological or universalist ethics. Indian Knowledge Systems provide an alternative ethical lexicon not just with the requirement of compliance, but one of obligation, veracity, self-control, non-harm and social good. Indian Knowledge Systems, as defined by the Ministry of Education's IKS Division, are knowledge systems derived from a long experience, observation, experimentation and analysis, and have been applied to various fields, such as administration, justice, manufacturing and commerce, over the years (Indian Knowledge Systems Division, 2024). In modern management studies, the concepts of Dharma, Satya, Ahimsa, Nishkama Karma, and others are associated with values in the context of ethical leadership, sustainability and responsible marketing (Pulapa, 2020; Sindwani et al., 2025). In particular, the latest IKS-marketing research is important. Amongst the illustrative examples that are provided in the book to demonstrate the application of Dharma, Satya, Ahimsa, Nishkama Karma and others to ethical marketing and sustainable business practices, three such examples are highlighted of the Tata Group, Amul and Forest Essentials. This is a step in the right direction. Nevertheless, the application of the concept is still not very advanced in terms of organizational philosophy, brand behavior, orientation of stakeholders. It is at the intersection of the two streams that we find a gap, just as they meet in the present. Thus, we find a gap just where the two streams meet, in the present. However, the question we are trying to answer in the AI-commerce scholarship is: How to make AI transparent, accountable, controllable and trustworthy? and the question we are trying to answer in the IKS-marketing scholarship is: How can traditional Indian ethical principles help to build responsible business and marketing? The work which still needs to be done is the translation of Indian ethics to clear and defined design commitments applicable to decisions made by consumers when they are mediated by AI. What is still underdeveloped is how to make Indian ethics concrete and make it applicable to design commitments that are binding to AI mediated consumer decisions. This study refrains from using the term “cultural” to describe IKS when it is just a label to an already established model of consumer behaviour, and instead sees IKS as the normative architecture of marketing mediated by AI. It creates the Dharma-Centred AI Commerce Trust (DCACT) Framework, where Dharma, Satya, Ahimsa, Nishkama Karma and Lokasangraha are broken down to operational needs for AI Commerce.

Research Gap From the literature, three gaps are identified. First of all, the research of AI-commerce is technically advanced, whereas in terms of ethics it is rather limited. While recent research has introduced perspectives on trust based on transparency, control, privacy, perceived risk, credibility and governance, the ethics that underpin the principles of these designs are mostly based on technology governance or mainstream trust theory. Second, the studies related to marketing are not sufficiently linked to the intelligent digital systems by using IKS. They show how the ancient Indian ethical value is applicable today, but seldom indicate how the ancient ethical value should be applied to the algorithm, recommender systems, personalization systems or autonomous shopping agents. Third, existing studies in AI-marketing research generally focus on the impact of trust on the outcome of the system, but less on the moral purpose of optimizing the system. It is possible, technically, for the AI system to reveal the reason that a particular recommendation is coming up, but still be designed with the focus of getting the highest conversion, attention or basket value. However, without transparency, there is no ethics. The present paper seeks to address these missing links by proposing a multi-layered framework of connecting ethical purpose, AI-commerce design obligation, consumer trust condition and responsible market outcome.

The research aims to tackle the following objectives:

- To explore new ethical and trust issues that arise with AI-driven and ever-more self-serving shopping.

- To seek out principles of the IKS which are theoretically applicable for consumer–AI interactions in the present day.
- To turn those principles into practical, ethical guidelines for marketing and retail systems built using AI.
- To create a new conceptual framework of how the use of digital practices based on IKS can enhance consumer trust while ensuring consumer autonomy and welfare.

2. Background and Review of Literature.

2.1. From Recommendation Systems to AI-Mediated Shopping

AI's journey in retail has taken a step-by-step evolution. The first step was prediction, algorithms were used to rank out the products, calculate preferences and deliver personalized products. The second phase is interaction in which conversational and generative systems interact during the search, comparison and product evaluation process. The third stage is the emerging one of delegation where the consumer may let intelligent systems act according to some given preferences and constraints. This is important because the more authority that's delegated the more important the moral implication. The recommendation of a product is one thing, the choice of a product is another, and authorising a payment is another, and an independent purchase is another. In earlier contexts the delegation of the full authority to purchase was rather more constrained and did not explicitly mention the delegation of an authority to purchase in this way as Wang and Lee (2026) do. Their model illustrates the pivotal role of algorithmic transparency, control over decisions, accountability, cognitive trust and affective trust and perceived risk in their model. This is a trending topic as consumers' research is becoming more of a technology acceptance model. There is some consistent evidence from industry, but there are some inconsistencies. The report, *Agentic Commerce 2026*, from Checkout.com and Agentic Commerce, based on more than 12,000 payment leaders and consumers, shows that merchants are ready for agentic commerce, but consumers are concerned about the disputability and control. Earlier, Visa has done its research on the importance of trust in the buyer's journey of AI and trust is definitely one of the requirements. Accordingly, the digital shelf is turning into choice-making surroundings that is jointly developed by companies, algorithms and customers.

2.2. Consumer Trust in AI-Enabled Commerce

A key characteristic of electronic commerce has been that consumers have always been in an uncertain position as they go through transactions with sellers and technological intermediaries, and they have always been exposed to risk. McKnight and Chervany (2001) defined the trust in e-commerce in terms of the disposition to trust, institution-based trust, trusting beliefs and trusting intentions. The bases of willingness to rely on an online vendor, as competence, benevolence and integrity beliefs, were also emphasized by McKnight, Choudhury and Kacmar (2002). The core dimensions are applicable but more nuanced as AI is an intermediary. Now the only question is whether or not the AI is able to make an appropriate recommendation. Integrity is concerned with the output integrity of the systems – accuracy of the stated objectives and disclosures. In the case of benevolence, it appears that the system is benefiting the commerce of the seller, not only is he better off, but so is the consumer. These are issues which have been demonstrated to be relevant in the past few years. Li et al. (2024) suggested that some of the reasons consumer trust increases when the systems are transparent are because consumers believe that the systems are effective and that they are less uncomfortable. This logic is further developed by Oncioiu (2026) focusing on the link between transparency and understanding of the algorithms, perception of fairness, and perceived control/trust. Consumer responses to the recommended use of AI involve some level of transparency and credibility perceived by the user, along with some element of product type and AI source. Mazzù et al. (2025) suggest that consumer reactions to the recommended use of AI are a combination of perceived transparency, perceived credibility, and product type and AI source. Other essential aspects of AI in online retail, mentioned by Cuesta-Valiño et al. (2025), are trust and credibility. More recently, Vu et al. (2026) show that trust in AI and e-commerce is not an innate view. They follow a consumer pathway approach and continuously align their trust to the utility, control, communication and governance, particularly in terms of the personalisation-privacy paradox. The results of these studies reveal a trend of digital trust that is expected to grow, based on the effectiveness of technology and the ability of consumers to learn, influence and question the automated decision making process.

2.3. Consumer Autonomy and the Ethical Boundary of Personalization

Personalization gives value by minimizing information overload and making it more relevant. At the same time, the information that can be utilized in AI systems to predict consumer needs can help the businesses better influence consumer behavior. This poses an ethical challenge of assistance vs manipulation. Cho and Rha (2026) illustrate how the process of consumer autonomy is an important one in AI-inflected encounters with recommendations. They realize the potential for personalization and alternative discovery to enhance the shopping experience, and manipulative practices, information bias and privacy intrusiveness to compromise autonomy. Also, if the design of choice architecture is manipulative, that it guides consumers, it limits consumers' autonomy and can be used as a tool to take advantage of the consumer behaviour, as stated by Brennecke (2024). The following recent AI-marketing ethics research also identifies transparency, accountability, bias, privacy and trust as key ethical areas that require further investigation: The following areas are also identified in recent AI-marketing ethics research as key areas of inquiry: Transparency, Accountability, Bias, Privacy and Trust (Hari et al., 2025). One of the key sectors that will be significant for these developments is agentic commerce. Personalisation can be very exact when an AI system can master a consumer's price sensitivity and impulsiveness, preferences for a brand, time pressures and behaviour. Very important is not whether the algorithm can make a correct prediction as to what the consumer might want, but whether all the vulnerabilities it can predict should be commercially actionable. This division would be the crux of the proposed plan.

3. Indian Knowledge Systems as an Ethical Foundation

Indian Knowledge Systems are a variety of traditions and are not simplistically identifiable as a single philosophical system. This paper thus states nothing about how it is that five concepts exhaustively account for IKS. In contrast, it systematically includes principles that have been actively addressed in the current research on IKS and management: principles which are directly relevant for the discussion of ethical exchange. Dharma, Satya, Ahimsa, Nishkama Karma and Lokasangraha are the five principles.

3.1. Dharma: Duty Before Optimization

Dharma is understood in the context of dharma as appropriate, responsible and ethically acceptable behaviour in compliance with one's moral duties towards others and the rest of the social fabric. In business ethics, Dharma takes the inquiry of what the company can accomplish and moves towards what it should do to accomplish it. In this regard, Pulapa (2020) uses the framework of ethical reasoning from the Bhagavad Gita approach in the management of organizations, and focuses on the ethical responsibility of organizations that is not limited by performance. Today, too, the concept of Dharma is being presented to help organizations become responsible in their market behavior (Sindwani et al., 2025). In the case of AI-driven commerce, Dharma argues that the goal of a system shouldn't be to simply maximize conversion probability, click-through, number of transactions or the average purchase value. The goal of the optimization must have ethical constraints.

Satya: Truthfulness Beyond Disclosure

Truthfulness is generally used as a synonym for Satya. In AI commerce, there is more to it than just complying with the law. In AI commerce, honest practices extend beyond the legal requirement for disclosure. It encompasses precise product representation, clear identification of commercial influence, clear explanation of recommendations as e.g. "commercial recommendation" and clarity about AI recommendations being organic or commercial or both. This is especially salient as the latest trust research studies show that there are meaningful relationships between algorithmic transparency, explanation, and fairness and trust (Li et al., 2024; Oncioiu, 2026). Satya thus enriches the traditional notion of Openness. Transparency of a system can be transparent yet communicate in a manner that is not easy to comprehend. Intelligible truthfulness is needed, not just information being provided.

3.2. Ahimsa: Non-Harm in Algorithmic Influence

Ahimsa is a principle of non-harm. In terms of modern digital marketing, non-harm should encompass psychological, informational, economic and autonomy-related harm. It can be as simple as repeatedly marketing to vulnerable consumers using scarcity tactics (threats to run out of stock, low inventory, prices that will soon rise), creating an interface that is personalized enough to encourage impulsive purchases, or exploiting financial stress, among other examples, in order to foster the perception of a sale of necessity. Ahimsa thus imposes an ethical limitation on persuasion by algorithms. However, knowing that an AI system identifies a very effective behavioural trigger doesn't necessarily mean that the trigger should be used.

3.3. Nishkama Karma: Responsible Action Beyond Immediate Gain

Nishkama Karma is a translation as "responsible action without attachment to the fruits of action. Its significance for AI marketing is that it opposes the tendency to only optimize for short-term results. These are the metrics that are commonly used to assess contemporary digital platforms: conversion, engagement, retention, revenue, purchase frequency. These are useful measurement tools for managers but can not be used for every action in terms of only a commercial return. In Nishkama Karma, there is a longer time horizon where quality and responsibility in action are important, and not related to the value of the transaction in the here and now.

3.4. Lokasangraha: Consumer Welfare Beyond the Individual Transaction

The general common sense about Lokasangraha is the preservation and care of the social order of a wider group. As it is applied to commerce, it broadens the scope of responsibility from the dyadic brand-consumer transaction. AI-enabled marketing generates externalities related to data ecosystems, consumers' vulnerability, information quality, market diversity, and small businesses and social patterns of consumption. An optimization system can thus make recommendations which are effective for the individual clients, but have undesirable overall consequences. A new evaluation is introduced by Lokasangraha: does the AI-assisted interaction in the marketplace help to build a commercially viable and at the same time socially defensible digital marketplace?

4. Theoretical Foundations

4.1. Trust Theory

The psychological connection between ethical system behaviour and willingness to trust AI is provided by the trust theory. The trust theory forms a psychological link between ethical system behaviour and the willingness to trust AI. This paper will focus specifically on three of these trusting beliefs, namely, competence, integrity and benevolence, as discussed in McKnight and colleagues. Competence is a yes or no question that determines if the system can do the task. Integrity questions if it is working in a consistent manner that is acceptable. If Benevolence seems to have an interest for the consumer, rather than simply exploiting them, what is the reason for that? Competence has already been intensively researched in AI-commerce using accuracy, usefulness and effectiveness as the concepts. The present framework thus emphasizes integrity and benevolence, where the principles of IKS can have the most direct contribution.

4.2. Consumer Autonomy

Consumer autonomy is the meaningful power of the consumer to make decisions that are according to his/her preferences, objectives and values without undue external influence. Autonomy does not mean that there has never been any influence on choice before; there's always been influence when it comes to marketing. Ethical difference between supporting choice and taking choice. Autonomy can be supported by AI systems, which can help to alleviate information overload, identify alternatives and guide consumers to express their preferences. They can have a negative impact on autonomy if they are targeted by profiling, persuasion or interface design as a means to optimize consumer vulnerability. In the proposed model, autonomy is hence put at the heart of the trust condition.

4.3. IKS as a Normative Rather Than Predictive Theory

The most crucial theoretical choice in this paper is the use of IKS in a normative rather than a predictive fashion. The framework doesn't purport to put demands on the consumer to have a clear understanding of Sanskrit terms Dharma, Satya or Ahimsa before using such an AI system. Rather, it suggests that systems built by adherence to the moral principles of these systems should manifest observable traits that should impact consumers' trust decisions: truthfulness, restraint, responsibility, and welfare orientation. Therefore, the principles of IKS are at the design-governance level of the system, and the concept of trust is at the consumer-perception level of the system. This is to avoid cultural philosophy being used as another psychometric variable.

5. Methodology

This study is integrative, conceptual review and theory building. Integrative review is suitable when a research problem involves a number of scattered existing collections of literature and the purpose is not to aggregate statistics but to synthesize concepts. Literature reviews can also be used as a research methodology, as suggested by Snyder (2019) who believes that literature reviews can be used to organise and cluster a set of disconnected knowledge and to build up theoretical developments. The review has gone through 4 conceptual stages. In the first step, literature about the usage of AI in retail, recommender systems, agentic commerce, consumer trust, personalization and autonomy was investigated to reveal current issues in the digital commerce. Second, literature on ethical AI and responsible marketing was analyzed to determine which were the prevailing ethical issues such as transparency, accountability, fairness, privacy and human oversight and consumer empowerment. Third, the current as well as foundational literature on the topic of linkage between Indian Knowledge Systems and business ethics, management & business marketing were studied to find out the principles that could address those challenges in the digital world. Fourth, conceptual mapping was conducted to make links between the ethical function of each of the selected IKS principles and a particular AI-commerce design obligation, and theoretically relevant condition of trust. The review is not systematic, but integrative. Does not purport to give a full account of the data in the database, nor to provide evidence in a PRISMA manner. The literature included theoretically relevant texts, recent peer-reviewed research from 2024 – 2026 and authoritative institutional sources relevant to the issues of responsible AI and IKS.

Table 1. Translation of Selected IKS Principles into AI-Commerce Ethics

IKS principle	Ethical meaning used in this paper	AI-commerce obligation	Illustrative managerial practice
Dharma	Responsible duty and appropriate conduct	Purpose-bounded optimization	Define consumer welfare constraints alongside conversion goals
Satya	Truthfulness and intelligibility	Truthful algorithmic communication	Identify sponsored recommendations and explain important recommendation factors
Ahimsa	Avoidance of harm	Non-manipulative influence	Restrict exploitative nudging and vulnerability-based targeting
Nishkama Karma	Responsible action beyond immediate reward	Non-exploitative optimization	Evaluate long-term trust rather than only immediate sales
Lokasangraha	Wider collective welfare	Stakeholder-conscious AI governance	Assess marketplace, consumer and societal externalities

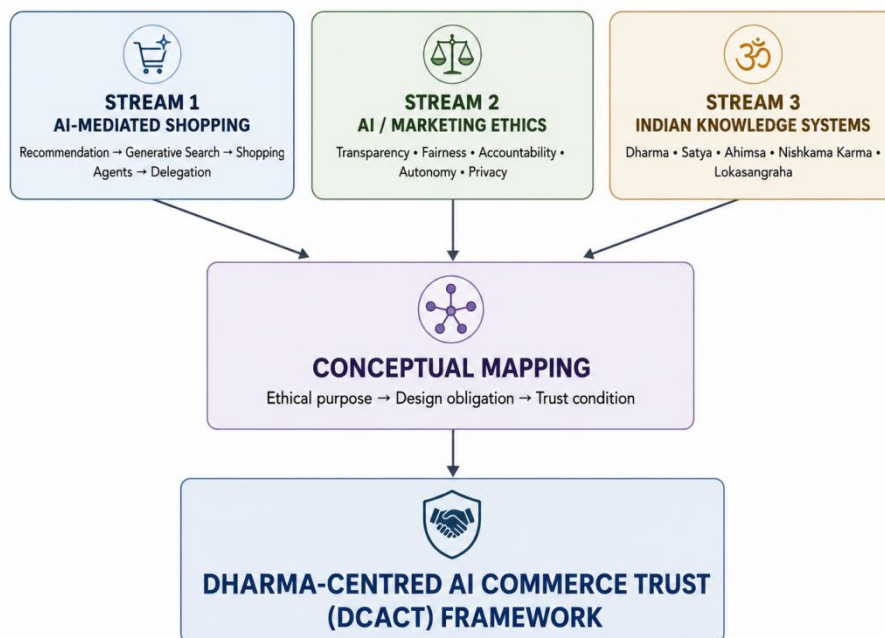


Figure 1. Integrative pathway used to develop the conceptual framework.

6. The Dharma-Centred AI Commerce Trust (DCACT) Framework

The main findings of the study are the Dharma-Centred AI Commerce Trust (DCACT) Framework. There are 4 Levels: Level 1 is the ethical backbone for AI-commerce; Level 2 is the conditions for consumer trust; Level 3 is the conditions for AI-commerce design obligations; Level 4 is the conditions for responsible market outcomes. Theoretically, there is a difference between Levels 1 and 2. Dharma is not responsible-purpose design; it is one instance from today's time when people talk about responsible-purpose design, they are talking about Dharma. Satya is not a variable of explainability but provides the ethic of intelligibility according to truth. Ahimsa is more than just risk reduction, it is a call for designers to set limits on forms of commercial influence that will potentially lead to consumer harm. This continues the philosophical nature of IKS and puts its ramifications into action.

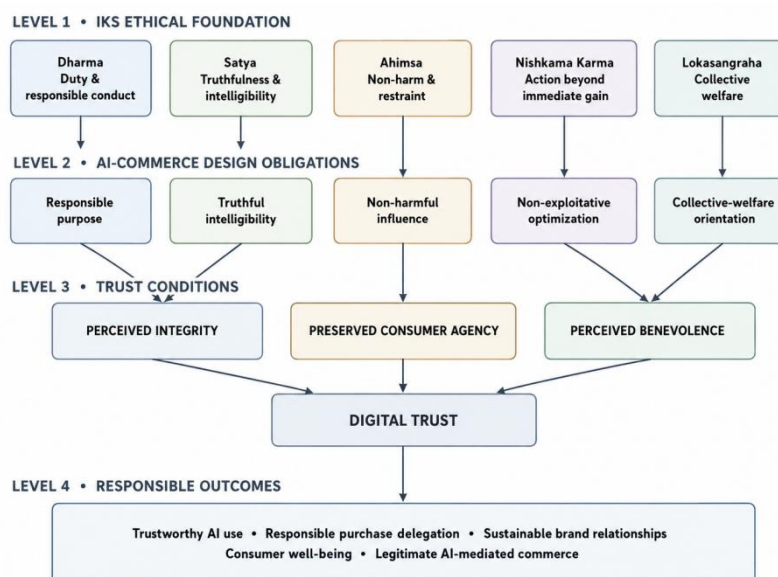


Figure 2. Proposed Dharma-Centred AI Commerce Trust (DCACT) Framework.

7. Conceptual Propositions

7.1. Responsible-Purpose Design

The majority of the recommendation algorithms include an objective function. Multi-objective systems are simply systems that prioritize outcomes in the end. When introducing the proposition that legitimate AI-commerce optimization is to be done within duty-based boundaries, Dharma points to the example of the B2B context. When proposing that legitimate AI-commerce optimization is to be done within duty-based boundaries, Dharma refers to the example of B2B. The system designed to serve a conversion alone might end up suggesting the most obvious choice to purchase. A Dharma oriented system would also question if that recommendation is appropriate, presented in a responsible manner and fits the consumer's stated limitations. *Proposition 1 (P1)*: Dharma based responsible purpose design will augment the perceived integrity by introducing a balance between the objectives of AI-commerce and the legitimate interest of consumers, and not optimizing the business in unlimited ways.

7.2. Truthful Intelligibility

Measures of transparency tend to focus on the quantity of information. The key distinction between disclosure and intelligibility is highlighted in the framework. If the consumer is notified that the result was personalized by an algorithm, without a doubt he or she has been “disclosed” but almost nothing. Satya-oriented communication needs to be sufficiently truthful and understandable, so that consumers can identify the logic of the recommendation, any form of commercial pressure and uncertainty in the material sense. This is in line with empirical evidence showing that trust is related to transparency and understanding of algorithms (Li et al., 2024; Oncioiu, 2026).

Proposition 2 (P2): Satya-based true, intelligible material recommendation logic and commercial influence will increase perceived integrity because of their intelligibility for the consumer.

7.3. Non-Harmful Influence

The emergence of new capacities in AI systems for predicting behaviour. An AI shopping interface could be aware that a customer will often buy late at night, is very responsive to countdowns or has a heightened reaction to social-proof elements. Ahimsa suggests that it shouldn't always be a vulnerability that is a target.

Proposition 3 (P3): Consumer agency and reduced perceived opportunism through restrictions on personalization based in Ahimsa (non-violence), that which works in the interest of the rest of the consumer will be preserved.

7.4. Non-Exploitative Optimization

In the short term, it's possible to build up trust, but in the long run, it may result in a loss of trust. For instance, in an aggressive personalization approach, the probability of the purchase today may be higher, but the consumers may feel that they're getting watched, pressured or manipulated in the longer term. Nishkama Karma says one should not be attached to the results of the action and take a look at the question: 'What is the cause of the action?'.

Proposition 4 (P4): When AI systems are seen as being restrained in their attempts to short-term profit, it will enhance perceived benevolence, if these systems are based on Nishkama-karma or Karma-less optimization.

7.5. Collective-Welfare Orientation

AI commerce exists in a system of consumers, retailers, platforms, payment intermediaries, brands and society. Thus, a welfare-oriented system should consider impacts beyond the transaction completion. This can include measures like protecting vulnerable users, avoiding discriminatory exclusion, dispute resolution, ensuring the quality of information and avoiding harmful overconsumption incentives at system level.

Proposition 5 (P5): Lokasangraha is based on AI governance that supports the perception of benevolence and trust in the platforms when practices are visible that take into account the broader wellness of the consumers and stakeholders.

7.6. Integrity, Agency and Benevolence as Trust Conditions

Consumers will be more likely to have confidence in AI-assisted shopping if they know the platform is based on clear principles they can see and understand; they have some control over what the AI is suggesting; and the AI

isn't being designed to extract value from them. These are the aspects of integrity, agency and benevolence. Proximal conditions, defined as perceived integrity, preserved consumer agency and perceived benevolence, can be used to strengthen digital trust and willingness to rely on AI-mediated shopping practices through IKS. The perceived integrity, preserved consumer agency and perceived benevolence are three proximal conditions through which IKS grounded AI-commerce practices can strengthen digital trust and willingness to rely on AI-mediated shopping.

Table 2. Conceptual Propositions of the DCACT Framework

Proposition	IKS foundation	Operational mechanism	Primary trust condition
P1	Dharma	Responsible-purpose design	Integrity
P2	Satya	Truthful intelligibility	Integrity
P3	Ahimsa	Non-harmful influence	Consumer agency
P4	Nishkama Karma	Non-exploitative optimization	Benevolence
P5	Lokasangraha	Collective-welfare governance	Benevolence / institutional trust
P6	Integrated IKS architecture	Integrity + agency + benevolence	Digital trust

8. Discussion

Building on the existing concept of AI-commerce, the DCACT Framework has several extensions. Firstly, it affects the point at which ethics gets into the system. Much of the discussion around responsible-AI starts with a defined AI objective and whether or not the resulting AI system is fair, transparent or explainable. DCACT further promotes ethics by posing the question of whether the goal for optimization is suitable. The unique role of Dharma is this. Second, the model distinguishes between the truthfulness and transparency. It's important because transparency can be malleable. A very technical disclosure may meet formal requirements but fail to be a good disclosure. A very technical disclosure can be a good disclosure, but may not meet the formal requirements. Satya refocuses the question to ask himself/herself whether the consumer has a materially true sense of the reason for the appearance of the recommendation and who's interests were served. Thirdly, the framework considers restraint as a design ability. Traditional digital marketing has always lauded the ability to improve the forecast accuracy. There is another question that Ahimsa and Nishkama Karma raise: When is it justifiable to intentionally withhold from exploiting what is known? This is of particular relevance with the days' growing richness of personalisation models' access to behavioural information. Fourth, DCACT broadens consumers' trust beyond competency. While consumers recognize that an AI shopping agent can be very capable, they are also not willing to give up key purchasing decisions to such an agent. This distinction has been confirmed by recent studies on autonomous-commerce (Wang & Lee, 2026), which demonstrate that control, transparency and accountability are equally significant factors, as well as system performance. Finally, the framework comes with a native contribution to theory while not placing IKS in conflict with the principles of responsible-AI.

Table 3. DCACT and Contemporary Responsible-AI Principles

Contemporary AI concern	Closely related DCACT principle	Additional IKS contribution
Transparency / explainability	Satya	Moves from disclosure toward truthful intelligibility
Human oversight	Dharma / Ahimsa	Frames oversight as ethical responsibility and harm prevention
Accountability	Dharma	Links accountability with duty, not only compliance
Consumer autonomy	Ahimsa	Treats manipulative influence as a form of potential harm
Long-term trust	Nishkama Karma	Challenges excessive short-term optimization
Stakeholder welfare	Lokasangraha	Broadens evaluation beyond individual transactions
Fairness	Dharma / Lokasangraha	Situates fairness within appropriate conduct and collective welfare

9. Theoretical Contributions

The DCACT Framework brings a few theoretical contributions to the growing nexus of Indian Knowledge Systems, consumer trust and AI-driven commerce. Existing literature on the study of IKS is mostly linked to the leadership, sustainability and organizational ethics and marketing. Previous studies on the topic of IKS have been mostly associated with the concepts of Indian philosophy, leadership, sustainability and responsible marketing. This paper builds upon this body of work by focusing the application of IKS from the organizational level to the level of algorithmic mediated consumer interaction level. Dharma, Satya, Ahimsa, Nishkama Karma, and Lokasangraha are thus not only values that are broadly upheld in the organization, but also principles that can be applied in the design of AI-based markets. The framework also puts in place a normative layer, which will precede traditional consumer-trust mechanisms. In most models of trust that are available, the trustee starts from the characteristics of the system, like transparency, usefulness, privacy, credibility, fairness or control. Why should an AI mediated system be transparent, responsible and non-manipulative in the first place? is a more fundamental question raised by DCACT. The model proposes that the ethical foundation is given by IKS and the psychological consequences of this ethical orientation are given by consumer-trust theory. Technical trustworthiness and moral trustworthiness are two other contributions. While an AI agent could be technically sound for its ability to be accurate, robust, secure and efficient, it could also be perceived as less trustworthy as it systematically favors products that have a higher margin, exploits consumer vulnerabilities, or hides sponsored influence. DCACT therefore sets aside the issue of reliability in an AI system from the issue of actionability in an AI system based on consumer oriented principles. Last but not least, the framework shifted the paradigm of AI in marketing from effectiveness to ethics as an intermediary. Typically, traditional AI marketing research is geared towards enhancements in targeting, conversion, personalization and recommendation accuracy. DCACT asks, however, how can AI be a real middle man between consumer intention and a marketplace choice? This paradigm change becomes more relevant as AI systems transition from Recommendation and comparison to delegated buying and independent business decisions.

10. Managerial Implications

The DCACT Framework provides some practical applications for e-commerce platforms, AI shopping-agent developers, personalization teams, marketing managers, and brand-governance functions. E-commerce sites should go beyond mere disclosures like “Why am I seeing this?” and offer explanations of their recommendations that are actually helpful to consumers. For instance, if a product is recommended because it fits into a specific consumer's

budget, specific product parameters, specific prior preferences or placement is sponsored, this information may be a part of the platform's indication. What are such practices doing then but embodying Satya in a manner that is truthful and understandable? Consumers should also be allowed to set ethical and decision limits when using AI shopping agents, besides preferences for products. The boundaries can refer to maximum spending limits, limit autonomous purchases in sensitive product categories, preferring durable or sustainable alternatives, avoiding subscription products, confirmation before making a purchasing decision to sponsored products, meaningful alternatives before delegating a purchasing decision. These are features that uphold the consumer's autonomy and also help to make Dharma responsible effective. The framework proposes to differentiate between predictive eligibility and ethical eligibility for personalization teams. Data attributes and/or behavioural variables can be very effective at predicting purchases, and they don't necessarily have to be suitable for persuasion. Thus, organizations must develop a set of rules, which would bar from use variables or targeting strategies creating an unacceptable level of vulnerability, manipulation and/or psychological pressure, and would embody the principle of Ahimsa. Marketing performance measurement needs to shift from conversion, engagement, click-through rates and short-term revenue to other metrics. A Dharma-based AI-commerce dashboard could also feature metrics such as rejection rates, consumer override rates, the value of explanations, dispute rates, inappropriate-recommendation rates, accuracy of sponsored-result disclosures, consumer control utilization, indicator of consumer regrets after purchase, long-term retention, and trust measures. This is in line with Nishkama Karma, where one's over-reliance on the immediate results of transactions is diminished. Last but not least, a brand's governance needs to be more than just the firm's website and application. With the growing reliance on third-party AI systems, marketplaces, generative search platforms, and independent shopping agents to drive product discovery, brands will need to have greater control of the way their product data, prices, promotional messaging, sponsorships, and representations are made available to the machine-mediated channels. The ethical digital shelf is not the responsibility of just one player, but rather is the responsibility of all players, including brands, platforms, retailers and AI intermediaries.

Table 4. DCACT Managerial Audit for AI-Mediated Shopping

Dimension	Key audit question
Dharma	Is the AI objective compatible with the consumer's legitimate interests, or is it designed only to maximize commercial extraction?
Satya	Can the consumer reasonably understand why a recommendation was generated and whether commercial influence shaped it?
Ahimsa	Could the personalization mechanism exploit vulnerability, confusion, impulsivity or information asymmetry?
Nishkama Karma	Would the organization still consider the recommendation responsible if it reduced immediate conversion but protected long-term trust?
Lokasangraha	What effects could the system have on vulnerable users, marketplace fairness, information quality and wider consumer welfare?
Agency	Can consumers override, correct, constrain and challenge the system?
Accountability	Is there an identifiable mechanism for resolving harmful or incorrect AI-mediated decisions?

11. Implications for Future Research

First, the scales of perceived Dharma oriented AI behaviors, as well as the intelligibility and perceived non-exploitation are likely to be developed in future empirical studies. Secondly, experimental research could be

conducted to test specific aspects like sponsored-result disclosure or vulnerability-based targeting and/or consumer override options. Third, future studies can examine differences between culturally diverse markets and see if there is a difference in consumers' reactions to duty-based versus rights-based ethics. Fourth, it would be interesting to see if the relative importance of DCACT principles changes depending on the level of autonomy of AI: recommendation only, recommendation and comparison, recommendation and shortlisting, conditional purchase delegation, autonomous purchase. The more authority delegated, the more likely these elements of accountability, restraint and consumer agency are likely to be important. Finally, product category could also be a factor. There may be different expectations of ethical standards in the areas of groceries, travel, financial products, healthcare-related products and luxury goods, for example. Finally, future studies should investigate the link between algorithmic competence and trustworthiness of morality. Recommendations may well be acceptable to consumers if they are made by a benevolent system, but not if they are made by a manipulative system. Consumers might be more accepting to imperfect recommendations when made by a benevolent system, than when made by a manipulative system.

12. Limitations

The study has several limitations. The first is that it is an idea that has not yet been tested on the ground. The propositions should thus be regarded as theoretical directions that are not necessarily causal relationships. Secondly, the chosen concepts of IKS are not all of India's diverse and vast philosophy. Their use is appropriate since they are unique and particularly relevant to responsible market conduct, but not exhaustive of the Indian ethical thought. Thirdly, classical ideas transfer to modern-day technological contexts always means interpretation. These translations could be further enriched with the help of future interdisciplinary research that brings together the perspectives of philosophers, Sanskritists, consumer behaviour researchers, AI ethics experts and information systems researchers. Fourth, the framework is focused in the present moment on commerce in the customer's view. There is still some work to be done to develop applications to the B2B procurement agents, financial decision agents and other commercial systems. These are some of the limitations that can be investigated in future theory and empirical studies.

13. Conclusion

AI-powered and agentic commerce disrupts one of the key tenets of marketing, which is that the consumer faces the market, evaluates and chooses from among the market offerings. More and more an intelligent intermediary can be placed between intent and action. With increased influence of that intermediary, consumers can't rely exclusively on accuracy, convenience or personalization. Consumers should also have grounds for trust that intelligent commercial systems are honest, that they leave consumers with a sense of agency, and that they do not exploit consumers' interests or are not responsible for them. Ethics offers a useful vocabulary that is provided by Indian Knowledge Systems in responding to this challenge. This paper explains how to use the Dharma-Centred AI Commerce Trust (DCACT) Framework, which translates the Dharma, Satya, Ahimsa, Nishkama Karma and Lokasangraha principles into today's concepts of responsible-purpose design, truthful intelligibility, non-harmful influence, non-exploitative optimization and collective-welfare governance. The main thesis is simple: Reputable AI-powered ecommerce transcends smart systems. It calls for intelligent thinking with moral restraints. The question of Dharma is if optimization is doing the right thing. Satya wonders if it tells the truth. Ahimsa questions about the harmfulness of influence. Nishkama Karma questions the question of whether "immediate" business results have superseded responsible action. Lokasangraha raises a question: Does digital commerce bring welfare other than per transaction? All these principles put together shift the paradigm from the maxi-algorithmic persuasion space to the space of responsible intermediation. Future marketing may thus be based not just on the preservation of heritage, story telling or cultural identity as provided by IKS, but also in the area of the ability to offer added value. The added value capability may therefore be an additional aspect of future marketing in addition to the preservation of heritage, storytelling or cultural identity as provided by IKS. Its deeper potential is to give intellectual inputs for governing emerging technologies which are more powerful commercially than they are conventional in their ethics. Dharma at the digital shelf is not a "fashion" of ancient wisdom that makes it look technologically up to date. It's an argument that some of the most current and modern questions in marketing – questions of trust, manipulation, autonomy, responsibility and collective welfare – are and still remain questions of ethics, and that Indian Knowledge Systems can meaningfully make a contribution towards how these questions are answered.

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“DIGITAL FINANCIAL LITERACY AND ITS IMPACT ON FINTECH ADOPTION AMONG SMALL BUSINESS OWNERS”

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Abstract

The rapid growth of digital financial services has created new opportunities for small business owners to manage payments, banking and other financial activities. However, effective use of FinTech services depends on users' digital financial knowledge, skills, risk awareness and financial decision-making ability. This study examines the influence of Digital Financial Literacy on FinTech Adoption among small business owners in rural areas of Bengaluru, Karnataka. The study adopted a quantitative, empirical and cross-sectional research design. Primary data were collected using a structured questionnaire from 199 small business owners selected through convenience sampling. Data were analysed using Jamovi, employing frequency and percentage analysis, descriptive statistics, Cronbach's alpha, Pearson correlation and OLS multiple regression analysis. The reliability results showed high internal consistency, with Cronbach's alpha values ranging from 0.863 to 0.965. The regression model explained 91.4% of the variation in FinTech Adoption ($R^2 = 0.914$). Financial Decision-Making and Digital Payments showed significant positive effects on FinTech Adoption, while Digital Financial Risk showed a significant negative effect. Digital Financial Literacy and Digital Financial Skills showed positive but statistically insignificant effects at the 5% level. The study concludes that strengthening financial decision-making capabilities, digital payment practices and appropriate management of digital financial risks can contribute to effective FinTech adoption among small business owners.

Keywords: Digital Financial Literacy, Digital Financial Skills, Digital Financial Risk, Financial Decision-Making, Digital Payments, FinTech Adoption, Small Business Owners.

1. INTRODUCTION

Financial literacy is the set of abilities, information, attitudes, and behaviours that enable individuals to make appropriate financial decisions. In the contemporary digital environment, financial literacy extends beyond traditional financial knowledge to include the ability to understand and use digital financial tools safely and effectively. The increasing use of digital financial services has created greater convenience for users, while also introducing new risks and challenges that require adequate digital financial capabilities.

Financial literacy is important for maintaining financial well-being because it supports individuals in managing day-to-day financial requirements, planning, saving and making informed financial decisions. Adequate financial knowledge can also help individuals manage debt and avoid financial difficulties. In an increasingly digital financial environment, these capabilities have become relevant not only for individuals but also for small business owners who increasingly depend on digital channels for their financial activities.

India is a rapidly growing economy and has been working towards developing a more stable and inclusive financial system by reducing barriers to access to financial services. However, limited financial literacy remains a challenge for a significant section of the population. Lack of financial education can constrain economic opportunities, income-generating activities, asset building and access to financial choices. Consequently, financial inclusion has become an important component of inclusive growth and sustainable development.

The rapid development of Financial Technology (FinTech) has further transformed the financial environment by providing services such as digital payments, mobile banking, digital lending and other technology-enabled financial services. These technologies can provide small businesses with more convenient ways of conducting transactions, accessing financial services and managing business-related financial activities. However, access to FinTech services alone may not guarantee effective adoption. Business owners also require adequate knowledge, skills, awareness of digital risks and financial decision-making capabilities to use these services effectively and securely.

Digital financial literacy has therefore emerged as an important capability in the digital financial ecosystem. It involves more than basic financial knowledge and includes the ability to understand digital financial products, operate digital platforms, recognize risks, protect oneself from cybersecurity threats and make appropriate financial decisions. Previous research has identified knowledge, skills, digital financial experience, risk awareness and decision-making as important elements of digital financial literacy.

Existing research has increasingly examined the relationship between digital financial literacy and FinTech adoption. Studies have indicated that financial and digital capabilities can influence users' confidence, trust, decision-making and ability to use digital financial services. However, much of the existing literature has focused on consumers, households, students, bank customers and rural users. Comparatively limited attention has been given to small business owners as a distinct group of FinTech users, particularly in the rural context.

Small business owners have specific financial requirements involving digital payments, banking, credit, transaction records and financial management. FinTech can potentially support these activities and contribute to financial inclusion and business development. Previous research has highlighted the role of FinTech in improving access to credit for MSMEs and in strengthening financial inclusion. FinTech can also function as a digital financial and accounting infrastructure by improving transaction visibility, record-keeping and financial accountability.

At the same time, digital trust, perceived risk and cybersecurity awareness may influence the effective adoption of FinTech. Previous studies have shown that financial literacy alone may not be sufficient when users have concerns about trust, security and digital financial risks. Therefore, understanding digital financial literacy as a multidimensional capability is particularly relevant when examining FinTech adoption.

Against this background, the present study examines the impact of digital financial literacy on FinTech adoption among small business owners. The study specifically focuses on digital financial knowledge, digital financial skills, risk and cybersecurity awareness, and financial decision-making as dimensions reflected in the research instrument. The study seeks to provide empirical evidence on whether these digital financial capabilities influence the adoption and use of FinTech services among small business owners

2. LITERATURE REVIEW

Digital financial literacy is a multidimensional capability involving digital financial knowledge, digital financial skills, risk and cybersecurity awareness, and financial decision-making. Ravikumar et al. (2022) identified digital knowledge, financial knowledge, risk awareness, risk control and decision-making as important components of digital financial literacy. Bhat et al. (2025) emphasized digital financial knowledge, experience and skills, while Gogoi (2025) highlighted digital literacy gaps, infrastructure limitations and trust issues in India's digital financial ecosystem.

Digital financial knowledge and skills are important for the effective use of FinTech services. Singh and Katoch (2025), Soni and Shrivastava (2026), and Rai et al. (2026) indicated that financial knowledge, digital capabilities and awareness improve users' confidence and ability to use digital financial services. These findings suggest that better knowledge and practical skills can facilitate FinTech adoption.

Risk and cybersecurity awareness also influence digital financial behaviour. Ravikumar et al. (2022) emphasized digital financial risk awareness and risk-control ability, while Singh and Katoch (2025) highlighted cybersecurity awareness. Mohan and Christinal (2026) and Dahiya et al. (2026) further emphasized the importance of digital trust and perceived risk in FinTech adoption. Thus, secure and informed use of FinTech requires awareness of digital financial risks.

Financial decision-making is another important component of digital financial literacy. Ravikumar et al. (2022), Bhat et al. (2025), Soni and Shrivastava (2026), and Rai et al. (2026) highlighted the importance of applying financial knowledge, budgeting and decision-making in digital financial activities. This indicates that digital financial literacy can help users make more informed financial choices.

Several studies have established the importance of FinTech for financial inclusion and access to financial services. Manjunatha (2025), Jhamb (2025), Suman and Nath (2025), and Singh and Awasthi (2026) highlighted the role of FinTech, digital infrastructure and digital literacy in improving access to payments, banking and credit. Manjunatha (2025) particularly highlighted the benefits of FinTech for MSMEs and credit access.

Overall, previous research indicates that digital financial knowledge, skills, risk and cybersecurity awareness, and financial decision-making are important for effective FinTech use. However, comparatively limited research has examined these four dimensions together among small business owners. Therefore, the present study examines the impact of these four dimensions of digital financial literacy on FinTech adoption among small business owners.

2.1.1 RESEARCH GAP:

Previous studies have mainly focused on consumers, students, households, bank customers and rural users, with limited attention to small business owners. Existing research has examined digital financial knowledge, skills, risk awareness and decision-making, but these dimensions have rarely been examined together. Limited research has specifically investigated how digital financial literacy influences FinTech adoption for business-related financial activities. Further, cybersecurity and digital financial risk require greater attention in the small-business context. Therefore, this study examines the impact of four dimensions of digital financial literacy knowledge, skills, risk and cybersecurity awareness, and financial decision-making on FinTech adoption among small business owners.

2.1.2 STATEMENT OF THE PROBLEM

The rapid growth of FinTech services such as UPI, digital payments, mobile banking and digital lending has created new opportunities for small business owners. However, effective use of these services depends not only on access to technology but also on digital financial knowledge, skills, risk awareness, cybersecurity awareness and financial decision-making ability. Existing studies have mainly focused on consumers, households, students and rural users, with limited attention to small business owners. Therefore, there is a need to examine whether and to what extent digital financial literacy influences FinTech adoption among small business owners. The present study addresses this gap by examining the relationship between digital financial literacy and FinTech adoption in the small business context.

3. RESEARCH QUESTIONS:

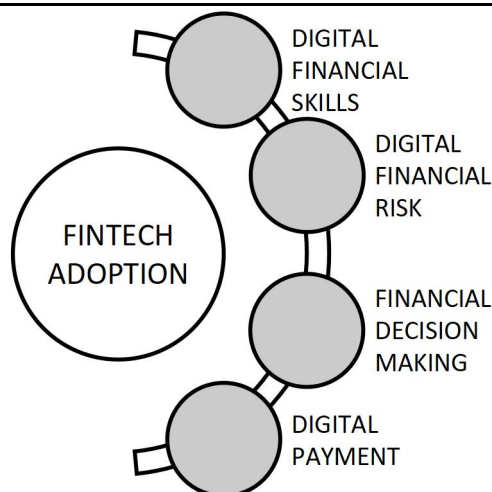
- RQ1: What is the level of digital financial literacy among small business owners?
- RQ2: Does digital financial literacy significantly influence FinTech adoption among small business owners?
- RQ3: Which dimensions of digital financial literacy significantly influence FinTech adoption among small business owners?
- RQ4: Is there a significant relationship between digital financial literacy and the extent of FinTech usage among small business owners?

4. RESEARCH OBJECTIVES:

- To analyse the level of digital financial literacy among small business owners.
- To analyse the impact of digital financial literacy on FinTech adoption among small business owners.
- To analyse the influence of the four dimensions of digital financial literacy on FinTech adoption among small business owners.
- To analyse the relationship between digital financial literacy and FinTech usage among small business owners.

5. CONCEPTUAL FRAMEWORK

The present study conceptualizes Digital Financial Literacy (DFL) as the independent construct and FinTech Adoption (FA) as the dependent construct. Digital Financial Literacy is represented through four dimensions: Digital Financial Literacy, Digital Financial Skills, Digital Financial Risk, and Financial Decision-Making. In addition, Digital Payments (DP) is considered as a separate predictor of FinTech Adoption in the empirical model. The framework proposes that these dimensions influence the adoption of FinTech services among small business owners.



The proposed conceptual framework illustrates the relationship between the four dimensions of Digital Financial Literacy and FinTech Adoption among small business owners. Digital Financial Knowledge, Digital Financial Skills, Risk and Cybersecurity Awareness, and Financial Decision-Making are considered the independent variables, while FinTech Adoption is considered the dependent variable. The framework proposes that higher levels of these digital financial literacy dimensions may lead to greater adoption of FinTech services among small business owners.

6. HYPOTHESES

H₀₁: Digital financial literacy has no significant impact on FinTech adoption among small business owners.

H₁₁: Digital financial literacy has a significant impact on FinTech adoption among small business owners.

H_{01b}: Digital financial skills have no significant impact on FinTech adoption among small business owners.

H_{11b}: Digital financial skills have a significant impact on FinTech adoption among small business owners.

H_{01c}: Risk and cybersecurity awareness has no significant impact on FinTech adoption among small business owners.

H_{11c}: Risk and cybersecurity awareness has a significant impact on FinTech adoption among small business owners.

H_{01d}: Financial decision-making has no significant impact on FinTech adoption among small business owners.

H_{11d}: Financial decision-making has a significant impact on FinTech adoption among small business owners.

7. RESEARCH METHODOLOGY

7.1 Research Design

The present study adopts a quantitative, empirical and cross-sectional research design to examine the influence of Digital Financial Literacy on FinTech Adoption among small business owners in rural areas of Bengaluru, Karnataka. The study is based on primary data collected directly from small business owners through a structured questionnaire.

The questionnaire was developed based on the objectives of the study and measured the major dimensions of digital financial capability, namely Digital Financial Literacy (DFL), Digital Financial Skills (DFS), Digital Financial Risk (DFR), Financial Decision-Making (FDM), and Digital Payments (DP). FinTech Adoption (FA) was considered the dependent variable.

A five-point Likert scale was used to measure the respondents' perceptions and responses, ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The study employed a non-probability convenience sampling technique to

reach small business owners in rural areas of Bengaluru. The study targeted small business owners who use or have access to digital financial services and FinTech platforms for their business-related financial activities.

A pilot study was initially conducted with 16 respondents to assess the clarity, reliability and preliminary suitability of the questionnaire. The main data collection targeted 200 respondents. After data screening and validation, 199 valid responses were considered for the final empirical analysis. The collected responses were organized, coded and checked using Microsoft Excel, while statistical analysis was conducted using Jamovi statistical software.

The analysis included frequency and percentage analysis for demographic characteristics, mean and standard deviation for descriptive analysis, Cronbach's alpha for reliability analysis, Pearson correlation analysis to examine relationships among the study variables, and Ordinary Least Squares (OLS) multiple linear regression to examine the influence of the predictor variables on FinTech Adoption.

7.2 POPULATION AND STUDY AREA

The population of the study comprises small business owners operating in rural areas of Bengaluru, Karnataka. The study focuses on business owners who engage with or have access to digital financial services such as digital payments, online banking, digital lending/credit and other FinTech-enabled financial services for their business activities.

7.3 SAMPLING TECHNIQUE AND SAMPLE SIZE

The study adopts a non-probability convenience sampling technique for selecting respondents. The main survey targeted 200 small business owners from the selected rural areas of Bengaluru. Of the responses collected, 199 valid responses were retained for the final empirical analysis after data screening.

The final sample of 199 respondents was considered adequate for conducting the descriptive, correlation and multiple regression analyses undertaken.

7.4 DATA COLLECTION

The study uses primary data collected through a structured questionnaire. The questionnaire was administered to small business owners in the selected rural areas of Bengaluru.

The questionnaire consisted of statements relating to digital financial literacy and FinTech adoption. Respondents indicated their level of agreement using a five-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

The collected responses were subsequently coded and organized in Microsoft Excel and analysed using Jamovi in the study.

7.5 RESEARCH INSTRUMENT

A structured questionnaire was used as the research instrument for collecting primary data from small business owners. The questionnaire consisted of demographic questions and 24 Likert-scale statements covering DFL, DFS, DFR, FDM, DP, and FA. A five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree was used. The questionnaire was pilot-tested with 16 respondents to assess its clarity and reliability before the main survey.

FinTech Adoption (FA) was measured separately as the dependent variable.

The measurement items were assessed using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

7.6 Pilot Study

A pilot study has been conducted with 16 respondents belonging to the target population of the study. The purpose of the pilot study was to assess the clarity, comprehensibility, reliability and preliminary suitability of the questionnaire.

The pilot responses were examined to identify any difficulties in understanding the questionnaire items and to assess the preliminary internal consistency of the measurement scales. The pilot study provided an opportunity to ensure that the questionnaire was appropriate for administration to the main sample.

The pilot respondents were not included in the final empirical analysis. Following the pilot assessment, the questionnaire was used for the main data collection.

7.7 RELIABILITY ANALYSIS

The internal consistency of the measurement scales was assessed using Cronbach's alpha in Jamovi. The reliability of each construct was examined before conducting further statistical analysis. The Cronbach's alpha values for all constructs are presented in Table.

FACTORS	NO. OF ITEMS	CRONBACH ALFA
DFL	4	0.890
DFS	4	0.965
DFR	4	0.946
FDM	4	0.947
DP	3	0.863
FA	5	0.959

The reliability analysis indicates a high level of internal consistency across all six constructs. Cronbach's alpha values range from 0.863 to 0.965, which are above the generally accepted threshold of 0.70. Digital Financial Skills recorded the highest reliability ($\alpha = 0.965$), followed by FinTech Adoption ($\alpha = 0.959$), Financial Decision-Making ($\alpha = 0.947$) and Digital Financial Risk ($\alpha = 0.946$). Digital Financial Literacy recorded an alpha value of 0.890, while Digital Payments recorded 0.863.

Therefore, all measurement scales demonstrate satisfactory to excellent internal consistency and are suitable for further analysis.

7.8 DEMOGRAPHIC PROFILE OF RESPONDENTS (N = 199)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	77	38.5
	Female	123	61.5
	Prefer not to say	0	0.0
Age	Below 25 years	20	10.0
	25–35 years	90	45.0
	36–45 years	56	28.0
	46–55 years	14	7.0
	Above 55 years	20	10.0
Educational Qualification	School education	62	31.0
	Diploma	30	15.0
	Undergraduate	108	54.0
	Postgraduate	0	0.0
	Professional qualification	0	0.0
	Other	0	0.0
Type of Business	E-commerce	14	7.0
	Employee	16	8.0
	Employed	6	3.0
	Garments stitching/piece work	14	7.0
	Gift shop	14	7.0
	Grocery	30	15.0
	Own business	6	3.0
	Retail	14	7.0
	Small-scale business	7	3.5

	Tailoring	14	7.0
	Teacher	14	7.0
	Teaching	17	8.5
	Vegetable vendor	14	7.0
	Weaver	20	10.0
Years of Business Experience	Less than 3 years	77	38.5
	3–5 years	58	29.0
	6–10 years	31	15.5
	11–15 years	34	17.0
	More than 15 years	0	0.0
Number of Employees	1–5	172	86.0
	6–10	14	7.0
	11–20	14	7.0
	More than 20	0	0.0
Approximate Annual Turnover	Below ₹5 lakh	149	74.5
	₹5–10 lakh	37	18.5
	₹10–25 lakh	14	7.0
	₹25–50 lakh	0	0.0
	Above ₹50 lakh	0	0.0

Table presents the demographic profile of the respondents. Among the respondents, 61.5% were female and 38.5% were male. The majority of the respondents (45.0%) belonged to the 25–35 years age group, followed by 36–45 years (28.0%). Regarding education, 54.0% were undergraduates, while 31.0% had school education and 15.0% had a diploma. The table also presents the respondents' business type, business experience, number of employees, and annual turnover. Overall, the respondents represent a diverse group of small business owners with different demographic and business characteristics.

DESCRIPTIVE STATISTICS OF STUDY CONSTRUCTS						
	DFL	DFS	DFR	FDM	DP	FA
Mean	2.94	3.54	3.17	3.22	3.65	3.46
Standard deviation	1.16	1.33	1.23	1.09	1.05	1.03
Minimum	1.00	1.00	1.00	1.00	1.33	1.80
Maximum	5.00	5.00	5.00	5.00	5.00	5.00

The descriptive statistics show that the mean scores of the study constructs range from 2.94 to 3.65. Digital Payments recorded the highest mean ($M = 3.65$, $SD = 1.05$), followed by Digital Financial Skills ($M = 3.54$, $SD = 1.33$). FinTech Adoption recorded a mean of 3.46 ($SD = 1.03$).

Financial Decision-Making recorded a mean of 3.22, while Digital Financial Risk recorded 3.17. Digital Financial Literacy recorded the lowest mean ($M = 2.94$, $SD = 1.16$). Overall, the results indicate moderate levels of digital financial literacy and relatively higher levels of digital payment usage and FinTech adoption among the respondents.

CORRELATION ANALYSIS

Variables	DFL	DFS	DFR	FDM	DP	FA
DFL	1.000	.606	.816	.631	.571	.538
DFS	.606	1.000	.832	.819	.171	.281
DFR	.816	.832	1.000	.842	.425	.460
FDM	.631	.819	.842	1.000	.321	.463
DP	.571	.171	.425	.321	1.000	.930
FA	.538	.281	.460	.463	.930	1.000

Pearson correlation analysis indicates that Digital Financial Literacy has a positive relationship with FinTech Adoption ($r = .538$). This suggests that higher digital financial literacy is associated with higher FinTech adoption among small business owners.

DFL also demonstrated positive relationships with Digital Financial Skills ($r = .606$), Digital Financial Risk ($r = .816$), Financial Decision-Making ($r = .631$) and Digital Payments ($r = .571$).

Digital Financial Skills showed positive relationships with Digital Financial Risk ($r = .832$) and Financial Decision-Making ($r = .819$). Similarly, Digital Financial Risk was strongly associated with Financial Decision-Making ($r = .842$).

The relationship between Digital Payments and FinTech Adoption was particularly strong ($r = .930$). This indicates a very strong association between the two constructs.

LINEAR REGRESSION

Model Fit Measures			
Model	R	R ²	Adjusted R ²
1	0.956	0.914	0.912
Note. Models estimated using sample size of N=199			

Sample size (N) = 199

The regression model produced an R value of 0.956, indicating a very strong overall relationship between the predictors and FinTech Adoption.

The model produced an R² of 0.914, indicating that the predictors collectively explain approximately 91.4% of the variance in FinTech Adoption. The adjusted R² of 0.912 indicates that the explanatory power remains high after adjustment for the number of predictors included in the model.

Predictor	Estimate	SE	t	p
DFL	-0.0663	0.0367	-1.81	.072
DFS	0.0676	0.0348	1.94	.053
DFR	-0.1994	0.0507	-3.93	< .001
FDM	0.3155	0.0409	7.72	< .001
DP	0.9391	0.0270	34.82	< .001

The regression results reveal differences in the contribution of the predictors to FinTech Adoption.

Digital Financial Literacy has a negative coefficient ($\beta = -0.0663$) and is not statistically significant ($p = .072$). Thus, DFL does not make a statistically significant independent contribution to FinTech Adoption in the present regression model.

Digital Financial Skills has a positive coefficient ($\beta = 0.0676$), but its effect is not statistically significant at the 5% level ($p = .053$).

Digital Financial Risk has a statistically significant negative coefficient ($\beta = -0.1994$, $p < .001$), indicating a negative association with FinTech Adoption when the other variables are controlled.

Financial Decision-Making has a significant positive coefficient ($\beta = 0.3155$, $p < .001$). This indicates that stronger financial decision-making is associated with greater FinTech Adoption.

Digital Payments has the strongest positive coefficient ($\beta = 0.9391$, $p < .001$), indicating a strong positive contribution to FinTech Adoption in the estimated model.

Hypothesis	Relationship	Result
H1	DFL $\rightarrow$ FA	Not Supported
H2	DFS $\rightarrow$ FA	Not Supported
H3	DFR $\rightarrow$ FA	Supported

H4	FDM → FA	Supported
H5	DP → FA	Supported

The results indicate that Digital Financial Risk, Financial Decision-Making and Digital Payments significantly influence FinTech Adoption, whereas Digital Financial Literacy and Digital Financial Skills do not demonstrate statistically significant independent effects at the 5% level in the multiple regression model.

Interestingly, the correlation analysis showed a positive association between DFL and FA ($r = .538$), whereas its regression coefficient became non-significant ($p = .072$) after controlling for the other predictors. This suggests that the relationship between DFL and FinTech Adoption may overlap with other dimensions included in the model.

8.6 FINDINGS:

The findings of the study provide important insights into FinTech adoption among small business owners. The reliability analysis confirms that all the study constructs have strong internal consistency. The descriptive results show relatively higher scores for Digital Payments and FinTech Adoption, while Digital Financial Literacy recorded the lowest mean score.

The correlation analysis shows positive relationships between the major digital financial variables and FinTech Adoption, indicating that digital financial capabilities are associated with FinTech usage. However, the regression results provide a more specific picture of the independent effects of the predictors.

The regression analysis shows that Financial Decision-Making and Digital Payments have significant positive effects on FinTech Adoption, while Digital Financial Risk has a significant negative effect. Digital Financial Literacy and Digital Financial Skills do not have statistically significant independent effects at the 5% significance level.

Overall, the findings suggest that practical financial decision-making, digital payment engagement, and effective management of digital financial risks are important factors associated with FinTech Adoption among small business owners. The results also indicate that possessing digital financial knowledge or skills alone may not be sufficient to ensure higher FinTech adoption.

8.7 Conclusion

The study concludes that practical and behavioural aspects of digital financial capability influence FinTech adoption among small business owners. In particular, Financial Decision-Making and Digital Payments emerged as significant positive predictors, whereas Digital Financial Risk showed a significant negative relationship in the regression model. Although Digital Financial Literacy and Digital Financial Skills were positively related to FinTech Adoption at the correlation level, they did not show significant independent effects in the regression analysis.

Therefore, improving small business owners' ability to make informed financial decisions, use digital payment services effectively, and manage digital financial risks may contribute to greater FinTech adoption. The findings provide useful implications for financial institutions, FinTech providers, and policymakers seeking to promote responsible digital financial participation among small businesses.

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DECODE. ALIGN. GROW.: AN INDIAN KNOWLEDGE SYSTEMS-GROUNDED CONCEPTUAL MODEL FOR EMPLOYABILITY AND WORKPLACE TRANSFORMATION IN THE AGE OF ARTIFICIAL INTELLIGENCE

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Abstract

India's employability rate rose to 56.35 percent in 2026, from 54.81 percent the previous year, even as artificial intelligence continues to restructure entry-level hiring, task composition, and the skills employers reward (India Skills Report, 2026). Prevailing employability frameworks — psycho-social employability (Fugate, Kinicki, & Ashforth, 2004) and graduate capital theory (Tomlinson, 2017) — offer robust, empirically validated accounts of what makes a graduate employable, but they are culturally under-specified for a workforce whose professional identity is also shaped by indigenous constructs of duty, purpose, and self-examination. This paper theoretically grounds the Decode-Align-Grow (DAG) Framework, an employability model developed through applied practice with Indian management students, in established Western constructs — Self-Determination Theory (Ryan & Deci, 2000), career anchors (Schein, 1996), and Hope Theory (Snyder, 2002) — and further anchors each of its three stages in Indian Knowledge Systems: Swadhyaya (disciplined self-study), Dharma-oriented Karma Yoga, and the Purusharthas read alongside the Ashrama life-stages. The paper proposes an integrated DAG-IKS conceptual model, derives four testable propositions, and outlines a structured research design — sampling, instrumentation, and a Covariance-Based Structural Equation Modelling (CB-SEM) analytical plan — for its future empirical validation among Indian business-school graduates. The paper contributes an indigenously grounded, theoretically defensible employability model to the conference's concern with human capital and workplace transformation in the AI era.

Keywords: DAG Framework; Employability; Indian Knowledge Systems; Self-Determination Theory; Purusharthas; Workplace Transformation

1. Introduction

The Indian graduate labour market is undergoing a double transition. On one side, employability has been rising in aggregate — the thirteenth edition of the India Skills Report, prepared by Wheebox in collaboration with the Confederation of Indian Industry, AICTE, the Association of Indian Universities, and Taggd, records a national employability rate of 56.35 percent in 2026, up from 54.81 percent in 2025 (India Skills Report, 2026). On the other, the composition of what 'employable' means is being rewritten by generative and agentic artificial intelligence, which the same report finds is now embedded in recruitment itself, with a large share of employers reporting AI-supported hiring workflows. Within this environment, the capabilities that differentiate graduates are decreasingly technical and increasingly dispositional: self-awareness, the ability to align one's capability with a genuine opportunity rather than a generic job description, and the capacity to sustain growth through repeated disruption.

The Decode-Align-Grow (DAG) Framework was developed to address this dispositional gap directly, through applied orientation and mentoring work with Indian management students, and is set out at length in the book *Decode. Align. Grow.: The Making of the Modern Professional*. The framework organises professional readiness into three recursive movements: Decode, the honest mapping of one's own capabilities, values, and blind spots; Align, the matching of decoded capability to genuine opportunity rather than surface-level market signalling; and Grow, the sustained, non-linear development of capability through setback and plateau. While the framework has demonstrated practical utility in orientation and mentoring contexts, it has to date been presented primarily as an applied practitioner model. This paper undertakes two tasks that the framework has not yet received: first, it locates each DAG stage within established, empirically validated psychological theory, so that the framework's claims are traceable to a peer-reviewed evidence base rather than resting on practitioner experience alone; second, in keeping

with the conference's concern with the global relevance of Indian Knowledge Systems (IKS) in management, it re-reads each stage through classical Indian constructs — Swadhyaya, Dharma-oriented Karma Yoga, and the Purusharthas read against the Ashrama life-stages — that were themselves designed as frameworks for lifelong human development.

The resulting contribution is a DAG-IKS integrated conceptual model, together with a set of falsifiable propositions and a structured research design for its empirical validation. The paper does not report primary data; rather, consistent with a conceptual paper genre, it develops the model with the rigour of an empirical study — specifying constructs, hypothesised relationships, sampling frame, instrumentation, and analytical strategy — so that the proposed validation can be executed as a direct next step of this research programme.

The case for this dual grounding is not merely rhetorical. Employability research of the last two decades has been dominated by frameworks developed in North American and European labour markets, where the assumed relationship between the individual and the institution of work — contractual, transactional, and oriented toward individual advancement — differs in important respects from the relationship many Indian professionals bring to their careers, in which duty to family, community, and role often sits alongside, and sometimes ahead of, individual advancement. A framework such as DAG, built through direct engagement with Indian management students, is well placed to make this difference explicit rather than treating it as noise to be modelled away. The remainder of the paper proceeds as follows: Section 2 establishes the Western theoretical grounding for each DAG stage; Section 3 develops the Indian Knowledge Systems grounding; Section 4 integrates both into a single model; Section 5 derives testable propositions; Section 6 specifies a structured methodology for their empirical validation; and Section 7 discusses implications for human capital and workplace transformation before Section 8 concludes.

2. Theoretical Foundations of the DAG Framework

2.1 Decode: Self-Determination Theory and Career Identity

Decode asks the individual to arrive at an accurate, undistorted account of their own competencies, values, and motivational drivers. This maps closely onto the psychological-needs architecture of Self-Determination Theory (SDT), which holds that human motivation and well-being depend on the satisfaction of three innate needs — autonomy, competence, and relatedness (Ryan & Deci, 2000). An individual who has not accurately decoded their own competence is poorly positioned to pursue autonomously motivated, rather than externally imposed, career choices; SDT's distinction between autonomous and controlled motivation gives the Decode stage a testable psychological mechanism rather than a purely descriptive one. Decode is further supported by the career identity dimension of Fugate, Kinicki, and Ashforth's (2004) tripartite model of employability — career identity, personal adaptability, and social and human capital — in which career identity is defined as the individual's self-definition in the career context, functioning as a cognitive compass for subsequent adaptive behaviour.

2.2 Align: Career Anchors and Graduate Capital

Align asks the individual to match decoded capability to genuine opportunity. This stage draws on Schein's (1996) theory of career anchors, which proposes that individuals develop a stable, self-perceived pattern of talents, motives, and values that anchors their career choices over time, and on personal adaptability and social/human capital, the remaining two dimensions of Fugate et al.'s (2004) employability construct. It is further supported by Tomlinson's (2017) graduate capital model, which reconceptualises employability relationally, as a portfolio of human, social, cultural, psychological, and identity capital that graduates draw upon in the labour-market transition, rather than as a fixed checklist of skills. Align, in this reading, is not compromise but a capital-matching exercise: aligning what one has decoded about oneself against the capitals the labour market actually rewards.

2.3 Grow: Hope Theory and Psychological Capital

Grow asks the individual to sustain development through setback, plateau, and disruption. This stage is grounded in Snyder's (2002) Hope Theory, which defines hope as a cognitive-motivational state comprising agency (goal-directed energy) and pathways (the perceived capacity to generate routes to a goal). Hope theory offers Grow a specific, measurable psychological mechanism: individuals high in hope are more likely to reappraise setbacks as solvable problems requiring alternative pathways, rather than as evidence of personal deficiency, a reappraisal process consistent with the DAG Framework's treatment of professional failure as data rather than verdict.

It is worth noting explicitly what distinguishes Grow, so theorised, from simple resilience or recovery. Hope theory's pathways component implies that growth is not merely a return to a prior baseline after disruption, but the generation of new, previously unavailable routes to a goal — a distinction the DAG Framework makes independently when it separates recovery, which restores baseline functioning, from growth, which moves the baseline itself. This distinction matters for a workplace-transformation agenda: interventions aimed only at helping employees recover from AI-driven role disruption will, on this reading, systematically under-deliver relative to interventions that build pathways thinking capable of generating genuinely new career routes.

3. Indian Knowledge Systems Foundations

The Western constructs above establish the DAG Framework's psychological validity. This section addresses the conference's specific concern — the global relevance of Indian Knowledge Systems in management — by showing that each DAG stage has an independent, older, and culturally proximate analogue in classical Indian thought, which can inform how the framework is taught, internalised, and practised by Indian learners.

3.1 Decode as Swadhyaya

Swadhyaya, ordinarily translated as disciplined self-study, denotes a reflective practice of regular, honest self-examination undertaken as a duty rather than as an occasional exercise. Where SDT explains why accurate self-knowledge matters for autonomous motivation, Swadhyaya supplies a practice tradition for how such self-knowledge is to be cultivated: through recurring, disciplined reflection rather than a single diagnostic event. The DAG Framework's use of structured reflective exercises (referred to in its applied materials as 'Reflection Corners') can be read as an operationalisation of Swadhyaya within a contemporary professional-development context.

3.2 Align as Dharma-Oriented Karma Yoga

Karma Yoga, the discipline of right action, holds that action should be performed with full competence and diligence but without anxious attachment to its fruits. Read alongside Dharma — one's context-appropriate duty — Karma Yoga reframes career alignment as the pursuit of roles and actions consistent with one's capability and context, rather than a purely transactional matching of skills to market demand. Indian management-ethos scholarship has long argued that value-based frameworks such as Purushartha orientation offer a motivational lens distinct from, but comparable to, Western need-based models (Suman & Ashok, 2016; Sharma, 2006). Applied to Align, this suggests that graduates who frame their career choices in dharmic terms — as duty aligned to context — may exhibit more stable career identity than those who align solely to market signals, an empirically testable distinction addressed in Section 5.

3.3 Grow as Purushartha and Ashrama Progression

Classical Indian thought organises a fulfilled life around four Purusharthas — Artha (material security), Kama (legitimate desire and fulfilment), Dharma (duty and ethical conduct), and Moksha (liberation, or the transcendence of narrow self-interest) — pursued in a balanced, non-hierarchical relationship, and further maps human development onto four Ashramas, or life-stages, from disciplined learning through householder responsibility to gradual withdrawal and transcendence (Suman & Ashok, 2016). This model resembles, but importantly diverges from, Western stage-and-hierarchy models of motivation: it treats growth as cyclical and rebalancing rather than as a single upward climb toward a terminal peak. This maps directly onto the DAG Framework's own explicit claim that Grow is not a destination but a recurring movement — an argument the framework makes independently, and which the Purushartha-Ashrama model gives a two-thousand-year-old intellectual lineage.

A further point of convergence deserves attention. Where Maslow's hierarchy of needs places self-actualisation at a single terminal apex reached only after lower needs are satisfied, the Purusharthas are traditionally read as co-present goals to be held in balance across the lifespan rather than resolved in strict sequence (Suman & Ashok, 2016). Applied to Grow, this suggests that professional growth need not, and perhaps should not, be modelled as a linear ladder from survival to self-actualisation. A young professional balancing Artha (the need to earn) against early Dharma (professional duty and integrity) is not failing to grow because Moksha-like transcendence has not yet been reached; they are, on this reading, already growing correctly for their Ashrama. This has a direct implication for how organisations design career-stage-appropriate development interventions, taken up further in Section 7.

4. The DAG-IKS Integrated Conceptual Model

Table 1 synthesises the preceding two sections into a single integrated model, pairing each DAG stage with its Western theoretical anchor, its Indian Knowledge Systems anchor, and an indicative, observable behavioural marker suitable for future instrument development.

Table 1. The DAG-IKS Integrated Conceptual Model

DAG Stage	Western Theoretical Anchor	Indian Knowledge Systems Anchor	Indicative Behavioural Marker
DECODE	Self-Determination Theory: competence and autonomy awareness (Ryan & Deci, 2000); career identity (Fugate, Kinicki, & Ashforth, 2004)	Swadhyaya (disciplined self-study/self-examination) as the foundational practice of honest self-appraisal	Ability to name one's strengths, values, and gaps without distortion
ALIGN	Career anchors (Schein, 1996); graduate capital and career adaptability (Tomlinson, 2017)	Dharma-oriented Karma Yoga: right, duty-bound action performed with competence and detachment from anxiety over outcome	Mapping of decoded capability to roles/opportunities consistent with one's duty and context, not merely market demand
GROW	Hope theory: agency and pathways thinking (Snyder, 2002); psychological capital	Purusharthas (Artha-Kama-Dharma-Moksha) and Ashrama life-stages as a cyclical, non-terminal model of development	Treating setbacks as data; sustained, self-renewing professional development across career stages

The model's contribution is not to replace the Western constructs with Indian ones, or vice versa, but to show that they are structurally congruent: SDT's autonomy-competence needs and Swadhyaya both centre honest self-knowledge as a precondition for downstream motivation; career-anchor and graduate-capital theory and Dharma-oriented Karma Yoga both treat alignment as a matching problem rather than a compromise; Hope Theory and the Purushartha-Ashrama model both treat growth as cyclical, agentic, and renewable rather than terminal. This congruence is itself a finding worth stating plainly: it suggests indigenous and Western frameworks are not competing accounts of the same phenomenon but complementary vocabularies, and a management-education intervention that uses both vocabularies together may achieve deeper internalisation among Indian learners than either alone.

Figure 1. Proposed Structural Path Model for the DAG-IKS Framework

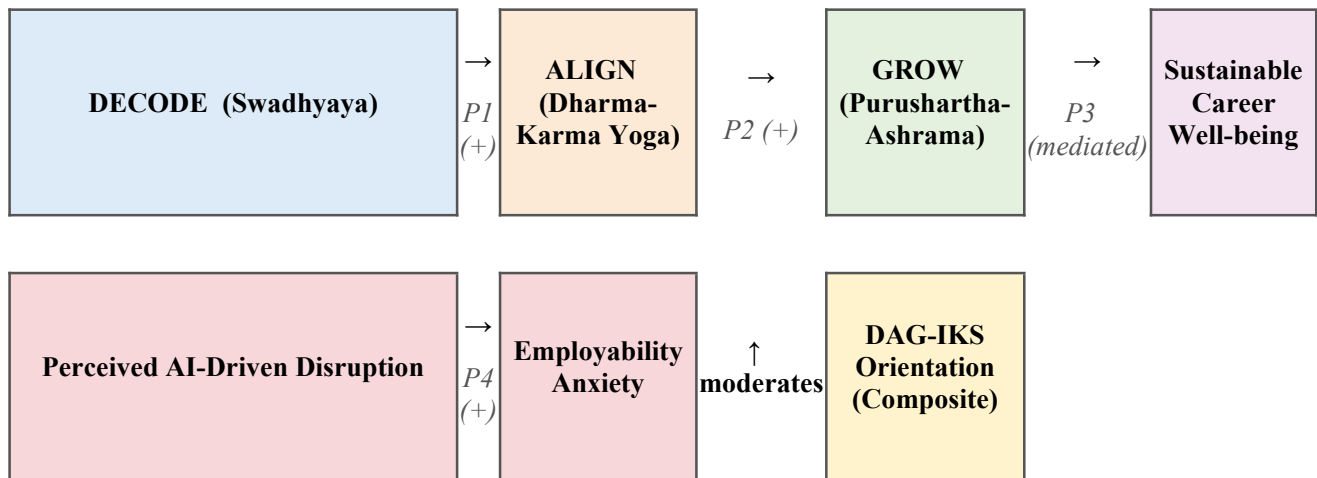


Figure 1 depicts the hypothesised structural model directly (rendered as an editable Word table/text diagram so that box labels, propositions, and paths can be revised directly in this document). The upper path traces the recursive DAG sequence (Decode → Align → Grow → sustainable career well-being, with Grow proposed as a mediator per P3). The lower path depicts the moderation hypothesis in P4: DAG-IKS orientation is proposed to buffer the relationship between perceived AI-driven disruption and employability anxiety. This figure is offered as the structural model to be estimated once pilot and full-sample data are available; it is not, at this stage, a fitted model.

5. Propositions

Building on the integrated model, the following propositions are offered for future empirical testing:

P1: Decode (operationalised as Swadhyaya-consistent self-awareness) is positively associated with Align (career identity and capital-matching).

P2: Align, when framed in Dharma-oriented terms (duty- and context-consistent action) rather than purely market-signal-matching terms, is positively associated with perceived career identity stability.

P3: Grow (operationalised via hope-theory agency and pathways thinking, read alongside Purushartha balance) mediates the relationship between Align and sustainable career well-being.

P4: A composite DAG-IKS orientation moderates the relationship between perceived AI-driven disruption and employability anxiety, such that individuals high in DAG-IKS orientation report lower employability anxiety under equivalent disruption exposure.

6. Proposed Methodology for Empirical Validation

This section specifies a structured research design through which the propositions above can be tested in a subsequent empirical study, following the CB-SEM approach already established in the author's programme of research on soft skills and employability.

6.1 Research Design and Population

A cross-sectional survey design is proposed. The target population is final-year undergraduate and postgraduate management students and early-career professionals (0-3 years of experience) across Indian business schools, given that this cohort directly experiences the AI-driven hiring disruption described in Section 1.

6.2 Sample and Sampling Technique

A stratified purposive sample of 350-400 respondents is proposed, drawn from B-Schools across at least three Indian metropolitan regions to allow for regional variance. This sample size follows the conventional rule of thumb of 10 respondents per estimated indicator for CB-SEM with a moderately complex measurement model

(approximately 30-35 indicators across three latent constructs and two outcome variables), and allows for listwise deletion and common-method-bias screening without compromising statistical power.

6.3 Instrumentation

The measurement model is proposed to adapt existing validated scales rather than create entirely new ones: the employability construct via Fugate et al.'s (2004) career identity, personal adaptability, and social/human capital dimensions; agency and pathways thinking via Snyder's (2002) Adult Hope Scale; and Purushartha orientation via the validated Purushartha Scale (Suman & Ashok, 2016). A new Decode-Align-Grow Orientation Scale, generated deductively from the DAG Framework's applied manuscript content and the Table 1 behavioural markers, is proposed for the framework-specific constructs, subject to expert-panel content validation (a minimum of five subject-matter reviewers) and a pilot study ($n = 60-80$) to establish internal consistency (Cronbach's $\alpha \geq 0.70$) prior to full deployment. Table 2 gives one indicative item per construct for illustration; the full pilot instrument runs to approximately 30-35 items across six constructs.

Table 2. Indicative Measurement Items by Construct

Construct	Sample Indicative Item	Source / Adaptation Basis	Scale
Decode (Self-Awareness)	"I can clearly name my top three professional strengths and two development areas."	New DAG item, deductively derived from applied manuscript; content-validated against SDT competence/autonomy items (Ryan & Deci, 2000)	5-point Likert
Align (Career Identity / Dharma)	"My current career direction feels consistent with my sense of duty and context, not just market demand."	Adapted from Fugate, Kinicki, & Ashforth (2004) career-identity subscale + Dharma-framing item	5-point Likert
Grow (Hope / Purushartha balance)	"Even when a plan fails, I can usually think of another way to reach my goal."	Snyder's (2002) Adult Hope Scale, pathways subscale	8-point Likert
Purushartha Orientation	"I try to balance earning well, ethical conduct, and personal fulfilment rather than prioritising one alone."	Adapted from Suman & Ashok (2016) Purushartha Scale	5-point Likert
Perceived AI-Driven Disruption	"AI tools are changing what employers expect from someone in my field faster than I can track."	New item, situational, for pilot content validation	5-point Likert
Employability Anxiety / Career Well-being	"I feel confident about my ability to find or create suitable work over the next two years." (reverse-scored for anxiety)	Adapted from Fugate et al. (2004) applications to job-search literature	5-point Likert

6.4 Analytical Strategy

Data analysis is proposed to proceed in two stages consistent with standard CB-SEM practice: (i) a measurement model stage, using confirmatory factor analysis to establish convergent validity (Average Variance Extracted ≥ 0.50) and discriminant validity (Fornell-Larcker criterion), alongside Harman's single-factor test to screen for common method bias; and (ii) a structural model stage, testing the hypothesised paths in Propositions 1-3 directly, and testing Proposition 4 as a moderated-mediation model using a multi-group or interaction-term approach in AMOS or an equivalent CB-SEM platform. Model fit is proposed to be assessed against conventional thresholds (CFI ≥ 0.90 , RMSEA ≤ 0.08 , SRMR ≤ 0.08).

7. Implications for Human Capital and Workplace Transformation

If validated, the DAG-IKS model has direct implications for the conference's Track 4 concerns. For higher-education institutions, it suggests that employability and orientation interventions — such as the DAG Passport and DAG Compass orientation tools already piloted with fresh MBA batches — gain in depth when Swadhyaya-style reflective practice and Dharma-framed career counselling are used alongside, rather than instead of, conventional skills-gap training. For corporate learning and development functions, the model suggests that resilience and adaptability programming designed for an AI-disrupted workplace may be more durable when it draws on hope-theory-consistent pathways coaching integrated with a Purushartha-style vocabulary of balanced life goals, rather than resilience training framed narrowly around productivity recovery. For HRM practice more broadly, the model offers a culturally congruent alternative vocabulary for onboarding, mentoring, and career-conversation frameworks in Indian organisations, one that may reduce the translation loss that occurs when Western employability and engagement instruments are deployed without local conceptual anchoring.

A further, more specific implication concerns performance and career conversations. Organisations increasingly conduct structured career and development conversations as part of annual or continuous performance management; the DAG-IKS model suggests that such conversations may be more effective when they distinguish explicitly between an employee's current Ashrama-consistent stage of life and career (a recent graduate's Artha-weighted priorities differ legitimately from a mid-career parent's, which differ again from a pre-retirement mentor's) rather than applying a single, stage-blind competency framework uniformly. This reframing does not replace competency-based HRM systems; it supplies a diagnostic layer that can help managers and HR business partners interpret why a otherwise capable employee's stated priorities may not match a generic engagement or ambition scale, without pathologising the mismatch.

8. Conclusion

This paper has argued that the Decode-Align-Grow Framework, developed through applied orientation practice, rests on a defensible theoretical foundation in Self-Determination Theory, career-anchor and graduate-capital theory, and Hope Theory, and gains further depth and cultural congruence when each of its stages is read alongside classical Indian constructs — Swadhyaya, Dharma-oriented Karma Yoga, and the Purushartha-Ashrama model of lifelong development. The resulting DAG-IKS integrated conceptual model, together with the four propositions and structured CB-SEM validation design set out above, offers both a theoretical contribution to the employability literature and a concrete, executable research agenda. Empirical testing of this model among Indian business-school graduates is proposed as the direct next stage of this research programme, and would allow the DAG Framework to move from an applied practitioner model to an empirically validated contribution to the management-education and human-capital literature.

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BEYOND PRODUCTIVITY: BUILDING HUMAN-CENTERED, RESILIENT AND FUTURE-READY WORKPLACES

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Abstract :

The future of work will be more complex than productivity, efficiency and technology. Employees now have a variety of expectations within AI, digital transformation, the nature of work, the economy and other transformations arising simultaneously. The question is, can companies continue to operate and win in this environment without including people in transformation?

This study focuses on the shift from traditional productivity-focused work to more flexible, human-centered organizations. It focuses on how employee wellness, work inclusion, and other frameworks for the workforce, can merge and enhance individual and team outcomes. Rather than viewing employee wellness as a separate benefit or support system, the study focuses on wellness as a strategic engagement system that drives organizational performance through innovation and flexibility over the long term.

The impact of human-centered design in workplace practices and resilience in the volatile technological world will be studied. The research focuses primarily on the transformational leadership styles and supportive workplace cultures that help people be flexible and grow new skills with their mental and emotional stamina intact. The research also studies innovative workplace technologies.

Transforming the workplace to be more sustainable requires organizations to adjust their mindsets from thinking of employees as only valuable for productivity, to seeing employees as strategic partners for innovation and transformation. These types of organizations are likely to have a sustainable competitive advantage built upon resilient organizational structures and integrated technologies.

This research contributes to the evolving discourse on human capital and workplace transformation by offering a human-centered perspective on the future of work. It argues that the most successful workplaces of the future will not simply be more productive; they will be **more adaptive, inclusive, resilient, and deeply human**.

Keywords: Human Capital, Employee Well-being, Workplace Transformation, Organizational Resilience, Human-Centered Workplaces, Transformational Leadership, Artificial Intelligence, Future of Work

Introduction:

The nature of work is changing at an unprecedented level. Artificial intelligence, automation, digitization, flexible working, globalization, demographical shifts, and the evolution of employees' expectations are some of the trends that reshape the workplace reality.

For many years, the driving forces of organizational development were productivity, efficiency, profitability, and other performance-related indicators. While these aspects are essential, they represent only one side of the coin.

An organization can increase its productivity and at the same time experience such phenomena as employee burnout, disengagement, high turnover, loss of trust, skills gap, and stress. But is it possible for an organization to be productive and competitive if the people who perform and deliver the best results are not healthy, engaged, adaptive and high-performing should be define.

The World Health Organization is aware that work can be both a risk and a protective factor for mental health, and it promotes organizational changes, manager and worker training, and interventions to protect and promote mental health and prevent work-related mental health hazards.

The current changes in the technological environment are even more relevant as technological solutions can replace workers with robots, increasing their productivity, helping workers perform more complex tasks, and making routine work monotonous while introducing new hazards such as safety, security, and privacy issues, skill

shortages, and decreased autonomy at work. OECD case studies on the impact of artificial intelligence on work analyzed a number of situations in which AI results in organizational change, with job displacement being less common than job restructuring, while AI also contributes to increases in job satisfaction and safety.

Therefore, workplace transformation should not be understood merely as technological transformation.

It should be understood as:

Technology Transformation + Work Transformation + Human Transformation

This paper argues that organizations need to move beyond a narrow productivity-oriented approach toward a model that places people at the center of organizational transformation.

Rationale of the Study

The rationale for this study comes from the growing tension between technological progress and human sustainability.

Changing Nature of Work:

From a broader perspective, digitalization has transformed the ways employees interact, teamwork, learn and carry out their duties. The rise of telework and hybrid working arrangements has brought more autonomy but, at the same time, also new issues regarding boundaries, capacity, loneliness, and work-home interface. Work design must evolve with technology.

Growing Concern About Workplace Well-being:

Workplace well-being is no longer a niche concern of human resources. The World Health Organization (WHO) states that 15% of the working-age population has a mental disorder at any given time and stresses the role of organizations in maintaining and supporting mental health at the workplace.

This does not mean that the responsibility for mental health is fully devolved to employers, since working conditions can only be conducive to a specific part of an individual's psychological state.

A 2024 systematic review of 341 studies revealed that employees' mental health and well-being is influenced by factors at macro-level, organizational level, and individual level.

This underscores the need to analyze the concept of well-being through the paradigm of workplace design instead of focusing on individual behaviors.

Rapid Adoption of Artificial Intelligence:

Artificial intelligence added another level of complexity to the workplace.

AI can be used to automate routine tasks, offer guidance, free people from engaging in mundane activities, help make decisions, enhance human capabilities, and process information, leading to an opportunity for individuals to focus on higher-level tasks.

At the same time, it can make individuals feel insecure about their jobs.

The following questions are likely to arise in an employee's mind:

Will my job be replaced?

Can my knowledge and skills be outdated?

Will my evaluation be done by machines?

Will I have to do more work?

Are decisions affecting my career being made by algorithms?

Will my employer invest in me?

Need for Organizational Resilience:

The COVID-19 pandemic has provided ample evidence that organizational resilience is not just about financial and operational sustainability.

Organizations need people who can adapt to changing circumstances, learn, collaborate in agile teams, and respond to disruptions in the environment.

According to the results of 69 surveyed studies on organizational resilience, leadership, organizational culture, resources, innovation, and learning processes all contribute to an entity's ability to anticipate, respond to, and adapt to challenges.

This shows that organizational resilience should be considered in part as a function of human and organizational capacities.

Objectives of the Study

To analyze the shifts in the role of human capital in the modern workplace.

To assess the impact of human capital on the sustainability of the organization.

To evaluate the influence of leadership and psychological safety on human capital.

To analyze the impact of hybrid and adaptive work on employees and the organization.

To examine the opportunities and threats of artificial intelligence.

To develop a model for building human-centered, adaptive, and sustainable workplaces.

Review of Literature

1 Human Capital in the Changing Workplace

Human capital has traditionally been thought of in terms of knowledge, skills and experience. In the modern workplace, this definition has been expanded upon.

Within the modern workplace, employees are more likely to be required to learn new technologies, work in other fields, solve new problems and adapt to different customer demands and organizational needs.

This means that their value is no longer primarily dependent upon what they already know; it is also dependent upon how fast they can learn what they do not know

As a result, learning capabilities are becoming much more valuable

Organizations that dedicate resources to improving these capabilities will find themselves much more prepared for technological developments that take advantage of their employees' ability to learn and adapt. The implication for human resource management is that it may be necessary to rethink traditional approaches to training employees and invest in more continuous methods of learning.

Employee Well-being:

Employee well-being is one of the most pressing topics in contemporary studies.

The literature base suggests that the concept is multifaceted, encompassing psychological, physical, emotional, social, and work-related dimensions.

A systematic review conducted by Khalid and Syed (2024) and comprising 341 studies revealed that the factors affecting employees' mental health and well-being are diverse, ranging from individual to organizational levels. The study further discovered that the literature on the topic is fragmented and inconsistent, with different fields and levels of analysis focusing on various aspects.

The findings are highly relevant to the workplace transformation as they demonstrate the complexity of the concept and the number of factors that should be taken into account. For instance, there is little point in implementing a corporate wellness program if the employees feel overwhelmed with workloads. Another example is employees' mental health resources, which may not be utilized due to the lack of manager support.

This, in turn, implies that there is no singular solution to the problem, which is obvious from the analysis conducted by WHO. The organization's recommendations include organizational changes aimed at eliminating psychosocial hazards and managerial and worker training.

Psychological Safety:

Psychological safety is a group member's perception of the extent to which one can speak openly, ask questions, raise concerns and admit mistakes without being subjected to negative interpersonal consequences.

The construct has become a focus of research in organizations that seek to benefit from collaborative and innovative work environments.

A systematic review of the state of the field published in 2024 analysed 990 studies of psychological safety and its connection to psychosocial safety climate. The review revealed that psychological safety is a key organisational process that is closely associated with employee well-being, engagement, and overall performance.

The conduct of employees who feel empowered to admit to a lack of understanding of a particular technological innovation may impact their propensity to report issues or challenges experienced during its implementation.

In other words, if employees feel psychologically safe, they are likely to say:

"I don't understand this."

or

"This causes a problem."

The ability of organisations to create this sense of confidence among employees has a direct bearing on their capacity to adapt to changing technological realities.

Leadership and Employee Resilience:

Leadership is most needed when employees are confronted with uncertainty.

During transitions, employees are likely to have questions about what is expected of them, their future in the company, and what skills they will need to develop.

Leaders cannot always give direct answers, but they can offer guidance, reassurance, and transparency.

Studies on organizational resilience have identified leadership, culture, resources, innovation, and learning capabilities as key success factors.

This implies that leadership should be evaluated not only on short-term performance but also on its ability to build adaptive capacity.

A leader's capacity to foster trust and learning can make the difference in how prepared employees are to deal with future disruptions.

Flexible and Hybrid Work:

The rise of remote and hybrid work has changed the assumptions about where work has to take place.

Flexible work may give employees more freedom and reduce the need to commute, But flexibility for the sake of flexibility doesn't necessarily bring about better outcomes.

For example,

flexible work can also lead to:

digital overload

longer working hours

isolation

loss of social connection

challenge one's ability to disconnect

communication issues

The latest research on virtual teams and automation suggests that employee well-being is a critical concern in the context of increased use of remote work in organizations that are also adopting more automation.

As a result, organizations should shift their attention from promoting or discouraging remote work to making sure that work is organized in a sustainable way.

Digital Transformation and Employee Well-being:

Digital transformation has demands and resources.

A 2026 systematic review of 57 peer-reviewed studies revealed five overarching themes relating digital transformation to employee well-being: transformation conditions, digital demands and resources, mediating processes, contextual factors and well-being outcomes.

The review is crucial because it demonstrates that digital transformation does not have an exclusively positive or negative effect on employee well-being.

Digital technologies can create opportunities for flexibility, information, and autonomy for some workers, while for others, they can generate overload, connection, uncertainty, and stress.

As a result, the implementation of technology and changes in work organization are critical factors that determine the final outcome.

Artificial Intelligence and Employees:

AI is unlike prior workplace technologies in that its impact is felt in cognitive and knowledge-based spheres.

AI can empower workers in areas such as:

data analysis,

content authoring,

customer service,

forecasting,

decision-support,

administrative work,

knowledge retrieval.

However, AI can also have negative implications for workforce planning, surveillance, skill sets, and security.

A 2025 systematic workplace AI review highlighted both positive and negative effects of AI on employees, and its potential to transform work practices.

The critical insight is that investment in AI is not only a technology decision but also a people and leadership one.

Firms need to focus on:

Technology, skills, jobs, leadership, worker participation and not just on the former.

Organizational Resilience:

Organizational resilience is often defined as the capacity of an organization to anticipate, respond to, and recover from disruption.

It has been asserted, however, that resilience is more than just recovering from a disruption.

An organization that has achieved resilience is likely to have gone through significant processes and acquired new capabilities.

It has adapted and changed to meet the demands of the disruption.

Dutchek's capability-based conceptualization of organizational resilience was developed by identifying a set of resilience-associated capabilities linked to the process by which an organization anticipates, copes with, and adapts to the disruptions it encounters.

Conducting a literature search also revealed that leadership, resources, culture, innovation, learning, and other human factors are frequently linked to organizational resilience.

This perspective highlights the importance of human capabilities in organizational resilience.

Research Gap

The review highlights the volume of research done on various aspects of the workplace transformation process.

In particular, there is a considerable amount of scholarly work on such areas as

employee well-being

psychological safety

AI

digital transformation

leadership

organizational resilience

flexible work arrangements

human capital

and many others.

However, the review also shows that these areas are often considered in isolation from one another.

The central question that this paper seeks to address is whether these areas can be integrated into a single framework, with some variables influencing the other.

For instance,

the implementation of AI can be considered a driver of increased job demands and skills, which in turn can lead to a decrease in employee well-being, which can lead to a reduction in engagement and adaptability, and finally, organizational resilience.

Research Methodology

Research Design:

This study adopts a **conceptual literature review design**.

The purpose is to synthesize existing research and develop an integrated conceptual understanding rather than to claim primary empirical results.

Literature Period:

The review focuses primarily on literature published between:

2016 and 2026

This period was selected because it captures major developments in:

- Digital transformation
- Artificial intelligence
- Remote and hybrid work
- Workplace well-being
- Organizational resilience
- Future-of-work research

7.3 Source Selection:

The study draws on:

- Peer-reviewed journal articles
- Systematic literature reviews
- Conceptual research
- International institutional publications
- WHO reports and guidelines
- OECD research
- ILO publications

Priority was given to recent systematic reviews and authoritative institutional sources.

Thematic Analysis:

The literature was examined thematically.

Five recurring themes were identified:

1. Human capital development
2. Employee well-being
3. Leadership and psychological safety
4. Adaptive work design
5. Responsible digital transformation

These themes were then connected to organizational resilience and sustainable performance.

Analysis and Discussion

Productivity Is Necessary but Not Sufficient:

Productivity remains essential to organizational survival.

The argument of this paper is not that productivity should be ignored.

Rather, productivity should be understood within a broader organizational context.

An organization that achieves high output by continuously overloading employees may eventually face:

- Burnout
- Absenteeism
- Turnover
- Lower engagement
- Reduced creativity

Therefore, short-term productivity and long-term organizational sustainability should not be treated as identical.

The literature suggests that organizations need to consider both.

Well-being Should Be Considered in Work Design:

One of the strongest themes emerging from the literature is that employee well-being cannot be addressed entirely through individual programs.

If an employee experiences excessive workload, unclear responsibilities or poor managerial support, a wellness application alone is unlikely to resolve the underlying problem.

WHO's guidance specifically includes organizational interventions addressing psychosocial risks and changes in working conditions.

This leads to an important managerial implication:

Well-being should be considered when work is designed, not only after problems appear.

Technology Has Two Sides:

Digital transformation should not be described as either inherently beneficial or inherently harmful.

The literature suggests a more complicated picture.

Technology can:

Enable

- Flexibility
- Information access
- Collaboration
- Automation
- Learning
- Decision support

But it can also:

Increase

- Workload
- Digital interruptions
- Monitoring
- Uncertainty
- Technostress
- Work-life boundary problems

Recent systematic research on digital transformation and employee well-being similarly concludes that outcomes depend on the configuration of digital demands, resources and organizational context.

This means that organizations should focus on **how technology is implemented**, not simply how much technology they adopt.

AI Requires Human Capital Investment:

AI may change tasks faster than organizations can redesign their workforce.

If employees are expected to use AI without adequate training, resistance and anxiety may increase.

A more responsible approach is:



This makes AI adoption part of a broader human capital strategy.

Psychological Safety Supports Adaptability:

Organizational transformation requires employees to communicate problems.

If employees are afraid to report failures, management may receive an inaccurate picture of how a transformation is progressing.

Psychological safety creates space for employees to raise concerns and participate in learning.

The 2024 systematic review of psychological safety research reinforces its relevance to workplace health, engagement and performance.

Therefore, psychological safety should be viewed not only as an employee experience issue but also as a learning mechanism.

Resilience Is a Collective Capability:

Organizational resilience is sometimes discussed as if it were an organizational characteristic that exists independently of employees.

In practice, organizations respond to disruption through people.

Employees interpret problems, make decisions, communicate with customers, redesign processes and develop solutions.

Research on organizational resilience supports the importance of leadership, organizational culture, resources, innovation and learning.

Therefore:

Employee capability is one of the foundations of organizational resilience.

Proposed Human-Centered Workplace Resilience Framework:

Based on the literature, this paper proposes five interconnected dimensions.

Dimension 1: Human Capital Development

The organization invests in:

- Reskilling
- Upskilling
- Continuous learning
- Career development
- Digital literacy
- Knowledge sharing

Expected effect:

Capability and adaptability

Dimension 2: Employee Well-being

The organization pays attention to:

- Workload
- Psychological health
- Work-life balance
- Physical health
- Social connection
- Meaningful work

Expected effect:

Healthier and more sustainable employee performance

Dimension 3: Empowering Leadership

Leaders focus on:

- Trust
- Communication
- Coaching
- Participation
- Recognition
- Transparency

Expected effect:

Engagement and psychological safety

Dimension 4: Adaptive Work Design

Organizations consider:

- Flexibility
- Autonomy
- Role clarity
- Hybrid work
- Working hours
- Collaboration

Expected effect:

Sustainable work practices

Dimension 5: Responsible Digital Transformation

Organizations implement technology with:

- Human oversight
- Employee consultation
- Ethical governance
- Data protection
- Reskilling
- Continuous evaluation

Expected effect:**Responsible technology adoption****Integrated Outcome**

The five dimensions interact to support:

**Findings**

The research contained in the presented articles resulted in seven findings.

Finding 1: Human capital is becoming increasingly important as technology develops

Technology does not replace the need for people; instead, it changes their role. Therefore, continuous learning is critical.

Finding 2: Well-being is an organizational priority

Well-being is determined by working conditions, leadership, workload, autonomy, and organizational culture. It should be embedded in the design of work.

Finding 3: Digital transformation is a double-edged sword

Technology can make work flexible and efficient but also introduce overload and undermine well-being.

Finding 4: AI requires reskilling

The application of AI in the workplace without proper preparation can lead to the unnecessary creation of uncertainty. Reskilling should be regarded as a critical component of AI transformation.

Finding 5: Leadership helps manage change

Workers can better cope with ambiguous situations when they receive adequate support from leadership.

Finding 6: Psychological safety promotes learning

To develop organizational capacity for transformation, workers need to feel safe discussing their concerns and mistakes.

Finding 7: Human capital drives organizational resilience

There is a need to build adaptive systems and structures, but organizational resilience is ultimately rooted in people: employees, managers, and leaders.

Implications for HR and Organizational Leaders

The study has several implications that can be put into practice.

Redefine Performance Measures

The management should consider other performance indicators apart from those used in the traditional productivity models. Some of these include:

Employee engagement

Retention

Learnin

Internal mobility

Well-being

Innovation

Psychological safety

Shift from Training to Continuous Learning

The management should invest more in ensuring that they have a continuous learning system in place. Employees should be able to gain new skills on an ongoing basis.

Upskill Managers in Human-Capital Practices

The management should be trained on how to lead, manage, coach, and counsel employees. Some of the skills they should acquire include:

Recognizing workload problems

Communicating changes effectively

Managing employee development

Promoting employee participation

Building employee trust

Creating psychological safety

Make AI Adoption Employee-Centric

The employees should be involved in the process of identifying, testing, adopting, and providing feedback on new technologies. In this way, they can identify risks associated with new technologies and address them. This approach can also make the employees more receptive to the changes and willing to adopt the new technologies.

Make Well-Being a Strategic Priority

The management should conduct a root cause analysis of poor employee well-being. They should come up with strategies to improve the working conditions of the employees. Instead of asking employees to adjust their expectations, the management should be able to meet them. Some of the questions they should consider include:

Is the workload appropriate?

Are employees given enough autonomy?

Are expectations clear?

Do managers offer enough support?

Can employees switch off?

These questions will help the management review their work design practices.

Theoretical Contribution

The main theoretical contribution of this work is the proposed conceptual model based on the synthesis of the literature. Specifically, it integrates the following five areas of research which were previously disconnected.

Human Capital Theory

Employee Well-being

Leadership and Psychological Safety

Adaptive Work Design

Digital Transformation

to explain

Organizational Resilience

and, consequently,

Sustainable Performance.

It demonstrates that organizational resilience is determined by people's capabilities rather than being a characteristic of its operational processes only.

Limitations

The study has several limitations.

First, it is based on literature published previously.

Second, the study covers different industries, countries and organizational settings. The findings might not be applicable to all workplaces.

Third, AI and digital workplace practices are evolving constantly. The findings might not be applicable to the current technological developments.

Finally, the study proposes a framework that needs to be tested further.

Future Research

The future researchers can consider applying the proposed framework for testing the hypotheses. They can adopt either quantitative or mixed-methodology research designs. The following is an example of an empirical model that the future researchers can apply:

Independent Variables Human capital development

Employee well-being

Transformational leadership

Adaptive work design

Responsible AI adoption

Mediating Variables Employee engagement

Psychological safety

Organizational commitment

Dependent Variable Organizational resilience

Organizational outcome

Sustainable performance

The future researchers can apply survey research and Structural Equation Modeling for this study. Additionally, the future researchers can consider conducting a cross-cultural study since the perception of leadership, employee well-being, flexibility, and technology varies from one culture to the other.

Conclusion

The future researchers can consider applying the proposed framework for testing the hypotheses. They can adopt either quantitative or mixed-methodology research designs. The following is an example of an empirical model that the future researchers can apply:

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ETHICAL SOCIAL MEDIA ADVERTISING AND CONSUMER BRAND TRUST IN BENGALURU: AN EMPIRICAL ANALYSIS

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Abstract

The rapid growth of social media has changed the way consumers encounter and evaluate brands. Advertising on social platforms is increasingly integrated with influencer recommendations, user-generated content, personalised messages and other forms of digital communication, making the commercial intention of some messages less immediately apparent. This development has created an important ethical question concerning whether consumers perceive social media advertising as transparent, truthful, responsible and authentic, and whether such perceptions contribute to trust in the brands behind the communication. The present study examines the relationship between ethical social media advertising and consumer brand trust among social media users in Bengaluru. Ethical social media advertising is conceptualised through five dimensions: advertising transparency, sponsorship disclosure, honesty and accuracy, privacy and responsible data use, and authenticity and non-manipulative communication. Consumer brand trust is treated as the principal dependent variable. A quantitative, cross-sectional research design is proposed, using a structured questionnaire administered to adult social media users residing in urban Bengaluru. The proposed empirical model is designed for a sample of 400 respondents and employs descriptive statistics, reliability analysis, exploratory factor analysis, confirmatory factor analysis, Pearson correlation and multiple regression. The simulated analysis indicates strong internal consistency across the proposed constructs and positive relationships between all five ethical advertising dimensions and consumer brand trust. The illustrative regression model explains approximately 48.1 per cent of the variance in consumer brand trust. The study contributes by bringing together ethical advertising dimensions often examined separately and by examining brand trust as a longer-term outcome rather than focusing only on purchase intention or engagement.

Keywords: Ethical social media advertising; advertising transparency; sponsorship disclosure; honesty and accuracy; privacy; authenticity; consumer brand trust;

1. Introduction

Social media has become one of the most influential environments where consumers encounter brands, evaluate information, and form impressions about products and companies. Unlike conventional advertising, social media advertising is often integrated into entertainment, personal narratives, influencer recommendations, reviews and user-generated content. This blending of commercial and non-commercial communication makes social media advertising highly engaging, but it can also make the persuasive intention of a message less obvious. The problem becomes visible in influencer marketing, where consumers may perceive recommendations as personal opinions even when a commercial relationship exists. Recent evidence illustrates the scale of this issue: Dupuis et al. (2025), found that 69.3 per cent of branded food and beverage videos in their TikTok sample contained no brand-relationship disclosure. Research using large-scale Instagram data has similarly shown that disclosed advertising can have different consequences from undisclosed advertising, with source credibility playing an important role in subsequent engagement. These developments make transparency and disclosure important components of responsible social media advertising. At the same time, ethical advertising cannot be reduced to disclosure alone, since consumers also evaluate whether the information presented is truthful, credible and authentic. Tan et al. (2024), for instance, identified misleading claims and information deficiencies in social-media advertising for refractive surgery, demonstrating the potential consequences of inadequate advertising standards. Thus, the ethical quality of social media advertising has become an important issue for both consumers and brands.

Authenticity and credibility add another dimension to this problem. Social media advertising derives part of its persuasive power from the perceived closeness between the communicator and the audience, particularly in influencer marketing. When consumers perceive the source as genuine, the positive evaluation can extend to the brand itself. Yang et al. (2021) found that source genuineness and trustworthiness can contribute to perceived brand authenticity in Instagram advertising, linking characteristics of the advertising source with consumer responses toward the brand. More recent research reinforces the importance of authenticity in consumer trust formation. Lyu et al. (2026), reported a significant positive relationship between brand authenticity and consumer trust and

identified trust as an important pathway to loyalty. The issue becomes more complicated when advertising uses digitally manipulated images or other persuasive techniques that consumers may perceive as deceptive. Mucundorfeanu and Balaban (2025) found that when adolescents recognised digital manipulation in influencer advertising, they were more likely to perceive deceptive tactics and respond negatively toward the promoted brand. These findings suggest that authenticity is not simply a desirable communication characteristic; it may influence how consumers interpret the intentions of the advertiser. In the context of the present study, authenticity is treated together with non-manipulative communication rather than as an isolated aesthetic characteristic. This broader treatment is consistent with the argument that consumers evaluate not only what brands say, but also whether the manner in which they communicate appears genuine. The ethical dimension of social media advertising consequently extends from formal disclosure to the perceived integrity of the communication itself.

Privacy represents a concern because social media advertising increasingly depends on consumer data and personalisation. Consumers may value relevant advertising while simultaneously becoming uncomfortable when they perceive that brands know too much about their online behaviour. Research on social-media information credibility also demonstrates the importance of trust and privacy risk in digital consumer behaviour. Ranjith et al. (2025), found that source credibility, electronic word-of-mouth credibility and trust in online communities were positively associated with social-commerce purchase intentions, while perceived privacy risk had a negative influence. This suggests that consumers' evaluations of digital communication involve both informational and relational considerations. A message may be useful and relevant, but consumers may still question the brand if they believe their information is being used irresponsibly. The relationship between ethical advertising and trust needs to incorporate privacy alongside transparency, disclosure, honesty and authenticity. Emerging artificial-intelligence applications make this issue even more relevant because consumers may not always know how advertising content was generated. Recent research on AI-generated marketing content has begun to examine the role of disclosure, credibility and authenticity in consumer responses. Gao et al. (2026), found that the effect of AI disclosure can vary according to the value of the marketing content and the psychological route through which consumers respond. Similarly, Phan and Truong-Dinh (2026) examined the competing credibility and eeriness signals associated with AI-generated retail advertising and their implications for trust. These developments demonstrate that ethical social media advertising is becoming a broader issue involving transparency about both commercial relationships and the processes through which marketing content is produced.

The importance of these issues becomes clearer when the discussion moves from advertising effectiveness to consumer brand trust. Trust is a relationship-oriented evaluation that develops when consumers repeatedly perceive a brand as reliable, honest and consistent. Social media provides brands with frequent opportunities to strengthen this relationship, but it also provides consumers with repeated opportunities to identify inconsistencies or questionable practices. Research has increasingly connected authenticity, credibility and trust with consumer responses in digital environments. The recent Indian study by Choudhary et al. (2025), examined social media advertising through credibility, perceived authenticity and sustainability and found that trust partially mediated the relationship between social media advertising effectiveness and consumer behaviour. Similarly, Kumar et al. (2026) demonstrated the importance of brand trust within the consumer journey from awareness and perceived quality towards purchase intention. However, much of the existing literature examines individual characteristics such as influencer credibility, disclosure, authenticity or information credibility separately. There remains scope for an integrated examination of ethical social media advertising as a multidimensional construct and its relationship with consumer brand trust. This issue is particularly relevant in Bengaluru, where consumers operate within a highly digital urban environment and encounter diverse forms of social-media-based brand communication. The present study conceptualises ethical social media advertising through five dimensions: advertising transparency, sponsorship disclosure, honesty and accuracy, privacy and responsible data use, and authenticity and non-manipulative communication. The study examines whether these dimensions are associated with and contribute to consumer brand trust among social media users in Bengaluru.

2. Need and Significance of the Study

The need for the study arises from the changing nature of advertising communication. Consumers increasingly encounter brand messages in environments where advertising, entertainment and interpersonal communication overlap. Under these conditions, the traditional assumption that consumers can easily distinguish advertising from non-commercial content becomes less reliable.

The study is significant for consumers because ethical advertising practices can influence the quality of information available to them. Transparency and disclosure can help consumers recognise commercial intent, while honesty and accuracy can support more informed decision-making. Privacy and responsible data use address concerns surrounding personalised advertising, and authenticity provides a basis for judging whether brand communication appears genuine. The study is also significant for brands and marketing practitioners. Advertising may generate short-term attention without necessarily creating long-term confidence in the brand. If consumers perceive social media advertising as manipulative, misleading or intrusive, the effect may extend beyond a single advertisement to the broader brand relationship. Conversely, consistent ethical communication may contribute to stronger brand trust.

3 Review of Literature and Research Gap

The Bibliometric Framework- Inclusion Criteria

The literature study was identified from two search terms, such as social media advertising and consumer brand trust. The search strategy was restricted to publications appearing between 2021 and 2027, with Article selected as the publication type and All Open Access, Gold, Hybrid, Bronze and Green selected under the Open Access criterion. Although the search period covered seven years, the retrieved records in the two datasets were concentrated mainly between 2023 and 2026. The use of these criteria was intended to ensure that the review remained focused on recent, accessible and research-oriented literature rather than relying extensively on older conceptual discussions. Greater emphasis was placed on studies that directly addressed at least one of the following themes: social media advertising, advertising ethics, sponsorship disclosure, influencer advertising, advertising credibility, authenticity, manipulation, privacy, consumer trust, brand trust and AI-generated advertising. Studies dealing with social media or brand trust but without a meaningful connection to the present research problem were eliminated.

Ranjith et al. (2025) examined the credibility of information encountered through Facebook in the context of skincare purchases and found that source credibility, electronic word-of-mouth credibility and trust in online communities were important in shaping social-commerce purchase intentions. Their findings illustrate that consumers do not simply respond to the presence of information on social media; they evaluate whether the information and its source are credible before relying on it.

A similar emphasis on the quality and credibility of social media information can be seen in the work of Ngo et al. (2024), who examined electronic word-of-mouth on social networking sites. Their study demonstrated the importance of information credibility, usefulness and information adoption in explaining online purchase intention. Although electronic word-of-mouth is not identical to paid advertising, it operates within the same social-media information environment and provides useful insight into how consumers assess commercially relevant information. Bui et al. (2025) further showed that the quality and credibility of visual electronic word-of-mouth influence information usefulness and adoption in social media environments. These studies collectively indicate that the credibility of information has become an important bridge between social media communication and consumer response.

The literature also suggests that the persuasive character of social media advertising is not always straightforward. Wang et al. (2025), comparing traditional and social media, found that credibility and persuasion knowledge formed part of the process through which media exposure influenced purchase intention. This is important for the present study because consumers may simultaneously recognize an advertisement as persuasive and evaluate whether the brand's communication deserves to be trusted. Thus, effectiveness and ethics should not necessarily be treated as separate issues. An advertisement may attract attention and encourage engagement in the short term, while its lack of transparency or credibility may have implications for longer-term consumer relationships.

Dupuis et al. (2025) examined TikTok influencer content involving food and beverage brands and specifically documented how influencers disclose relationships with brands. Their study is significant because it demonstrates that commercial relationships are embedded within a large volume of ordinary-looking social media content. The boundary between entertainment and marketing can become blurred, particularly when the promotional message is integrated naturally into an influencer's regular content.

Lin et al. (2026) examined the effects of sponsorship disclosure on adolescents' advertising literacy and purchase intention. Their study provides evidence that disclosure can help consumers recognise the commercial nature of

social media content and understand its persuasive purpose. This is important from an ethical perspective because informed consumer judgement depends partly on the ability to recognise when communication is sponsored.

However, the literature also indicates that disclosure should not be regarded as a complete solution to the ethical problem. Kim and Jeong (2024), in examining influencer-driven CSR advertising, considered sponsorship disclosure alongside perceived similarity and manipulative perceptions. Their work suggests that the effect of disclosure can depend on how consumers interpret the broader communication. In other words, simply identifying content as sponsored may improve transparency, but consumers may still question the credibility or sincerity of the message.

Yang et al. (2021) examined the role of source genuineness and trustworthiness in social media advertising and demonstrated the relevance of these characteristics to perceived brand authenticity and consumer responses. Their findings are important for the present study because they suggest that perceptions of the advertising source can extend beyond the advertisement itself and influence how consumers perceive the brand.

More recent work strengthens this argument. Khalfallah and Keller (2025), through a systematic literature review of virtual influencer marketing, identified authenticity, ethics and transparency as central themes in research on consumer trust and engagement. Their review is particularly relevant because virtual influencers represent an environment in which the distinction between real and artificially generated communication becomes increasingly difficult for consumers to interpret.

Research on brand trust also provides support for the importance of authenticity. Lyu et al. (2026) examined brand authenticity and consumer trust and reported a significant positive relationship between the two, with trust subsequently contributing to consumer loyalty. The implication for social media advertising is that authenticity may not simply influence an immediate response to an advertisement; it may contribute to a broader evaluation of the brand.

The Indian context provides an additional reason to examine credibility carefully. Chavare et al. (2025) studied influencer credibility among Indian Generation Z consumers and found that trust, expertise and similarity were significant antecedents of influencer credibility, while attractiveness did not have a significant influence. This finding is particularly relevant to the proposed Bengaluru study because it suggests that Indian consumers may evaluate influencers through characteristics associated with trust and credibility rather than relying solely on their popularity or attractiveness.

Tan et al. (2024) provide a particularly clear illustration of this problem. Their analysis of refractive-surgery advertisements on TikTok found that a substantial proportion of the advertisements contained misleading claims and failed to provide important information required under professional and advertising standards. The study is important because it demonstrates that social media advertising ethics cannot be assessed simply by asking whether an advertisement exists within a regulated environment. The actual content of the advertisement also needs to be examined.

Visual manipulation represents another concern. Mucundorfeanu and Balaban (2025) examined adolescents' responses to retouched influencer advertisements and investigated whether disclosure of image manipulation affected their perceptions. Their study demonstrates that the presentation of advertising content can influence perceptions of manipulative intent. This is especially relevant to social media because visual enhancement and carefully constructed representations are common characteristics of influencer communication.

Personalization has become another important characteristic of social media advertising. Saha et al. (2024) examined Generation Z consumers' responses to personalized social media advertisements and considered both perceived usefulness and privacy concerns. Their study is relevant because it illustrates the tension between the benefits of personalization and the discomfort that may arise when consumers perceive that too much personal information has been used for advertising purposes. Cai and Liu (2026), in examining consumer-generated advertising, also considered privacy costs alongside consumer information channels and purchase experiences. Their work further demonstrates that privacy is becoming an increasingly relevant part of the digital advertising environment.

Gao et al. (2026) examined AI-generated marketing content and specifically investigated the circumstances under which disclosure of AI origin becomes relevant. Their findings suggest that the value and credibility of AI-generated content can influence consumer engagement and that disclosure cannot be considered independently of the characteristics of the content. Phan and Truong-Dinh (2026) approached the issue from the perspective of credibility, eeriness and trust formation in AI-generated retail advertising. Their work highlights a potentially important tension: the same technological characteristics that make AI-generated advertising attractive may also generate uncertainty among consumers. The issue of authenticity becomes even more important in the case of virtual influencers. Khalfallah and Keller (2025) note that the increasing use of AI-generated personas raises questions concerning authenticity, transparency and possible consumer deception. These studies indicate that ethical social media advertising is likely to become more complex as AI becomes more deeply integrated into marketing communication.

The literature on consumer brand trust provides a complementary perspective to the research on advertising ethics. Kumar et al. (2026) examined the psychological progression from brand awareness and perceived quality to brand trust and purchase intention in the context of gaming mobile phones. Their findings demonstrate that brand trust forms an important stage in the consumer decision-making process rather than simply representing an isolated attitude. Lyu et al. (2026) similarly demonstrated the importance of brand authenticity in developing consumer trust and loyalty. This is particularly relevant to social media advertising because authenticity is one of the qualities consumers may use to evaluate whether a brand's communication is believable. Ranjith et al. (2025) found that source credibility, electronic word-of-mouth credibility and trust in online communities were relevant to consumers' social-commerce purchase intentions. Luo et al. (2025) likewise examined trust as an important mechanism connecting short-video social media content with purchase intentions. These findings collectively suggest that trust occupies an important position between digital communication and consumer behaviour.

3.2 Research Gap and Rationale of the Study

Despite the growing body of research on social media advertising and consumer brand trust, important gaps remain. The researchers identified two major gaps.

a) Regional or contextual gap: Much of the recent literature has been generated from international consumer markets and specific cultural or platform contexts, while empirical evidence from India remains comparatively limited. Even where Indian consumers have been examined, the focus has often been on particular consumer groups, such as Generation Z, or on specific product and influencer contexts rather than on the broader ethical dimensions of social media advertising (Chavare et al., 2025). There is particularly limited empirical evidence concerning consumers in Bengaluru, where influencer communication, personalised advertising and digitally mediated consumption are deeply embedded in everyday consumer life. The findings generated in other countries or cultural settings cannot automatically be generalised to Bengaluru because consumers' interpretations of sponsorship disclosure, authenticity, privacy, credibility and advertising persuasion may vary according to social, cultural and technological contexts.

b) Methodological gap: Existing studies frequently examine individual ethical concerns in isolation rather than empirically modelling ethical social media advertising as a multidimensional construct. Several studies focus on immediate outcomes such as purchase intention, advertising literacy, engagement or information adoption, while comparatively less attention has been given to consumer brand trust as a relationship-oriented outcome. There is therefore scope for a quantitative empirical model that simultaneously captures transparency, sponsorship disclosure, honesty and accuracy, privacy and responsible data use, and authenticity/non-manipulative communication and examines their relative influence on consumer brand trust. Methodologically, such an approach can move the literature beyond isolated relationships towards an integrated model tested through primary data using factor analysis, correlation and multivariate analysis. The present study addresses these gaps by empirically examining the multidimensional nature of ethical social media advertising and its influence on consumer brand trust among social media users in Bengaluru.

4. Statement of the Research Problem

Social media has given brands unprecedented opportunities to communicate directly with consumers, but the same environment has blurred the distinction between advertising and ordinary social communication. Consumers encounter sponsored influencer content, personalised advertisements, digitally enhanced images and increasingly

AI-generated promotional content without always being able to assess the commercial intention, accuracy or authenticity of the message.

While existing studies have examined individual concerns such as disclosure, credibility, manipulation, authenticity and privacy, these dimensions have not been sufficiently integrated into a single empirical examination of their relationship with consumer brand trust. This creates a practical and academic problem: brands may know that ethical advertising matters, but there is insufficient context-specific evidence showing which ethical dimensions are most important for developing consumer trust. Accordingly, the present study investigates whether consumers' perceptions of ethical social media advertising are associated with consumer brand trust and identifies which dimensions of ethical advertising exert the strongest influence.

5. Research Questions

- What are the major dimensions of ethical social media advertising perceived by consumers in Bengaluru, and how do consumers assess the ethical nature of social media advertising?
- What is the level of consumer brand trust among social media users in Bengaluru, and is it significantly associated with their perceptions of ethical social media advertising?
- To what extent do the dimensions of ethical social media advertising influence consumer brand trust, and which dimension has the strongest influence?

6. Objectives of the Study

- To assess the major dimensions of ethical social media advertising as perceived by consumers in Bengaluru.
- To examine the level of consumer brand trust and examine its relationship with perceived ethical social media advertising among social media users in Bengaluru.
- To determine the influence of the dimensions of ethical social media advertising on consumer brand trust and identify the most influential dimension.

7. Research Methodology

7.1 Research Design

The study adopts a quantitative, descriptive and explanatory cross-sectional research design. The descriptive component assesses consumer perceptions of ethical social media advertising and brand trust. The explanatory component examines the relationship between the ethical dimensions and consumer brand trust.

7.2 Population

The target population comprises adults aged 18 years and above who reside in Bengaluru, actively use social media, and have been exposed to social media advertising.

7.3 Sampling and Sample Size

Using a 5 per cent margin of error and a 95% confidence interval, the identified sample size is 384. To minimise the sampling error, a sample size of 400 respondents was included. Purposive sampling is adopted because respondents must satisfy the specific criteria of social media usage and advertising exposure.

7.4 Data Collection

Primary data are collected using a structured questionnaire. Responses are measured using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

The questionnaire contains: demographic and social-media-use information, 20 ethical social media advertising items, and 8 consumer brand trust items.

7.5 Reliability and Validity

Internal consistency is assessed using Cronbach's alpha. Construct suitability is assessed using KMO and Bartlett's test, followed by exploratory factor analysis. CFA is used to assess the proposed measurement structure where appropriate.

Table 1 Reliability- Cronbach's alpha

Construct	Items	Cronbach's alpha	Mean of item	SD of item means
Advertising Transparency	4	0.8389	2.9931	0.0228
Sponsorship Disclosure	4	0.8075	3.0019	0.0136
Honesty & Accuracy	4	0.8347	2.9981	0.0148
Privacy & Responsible Data Use	4	0.8538	3.0019	0.0321
Authenticity & Non-Manipulative Communication	4	0.8574	2.9969	0.0189
Consumer Brand Trust	8	0.9212	3.0059	0.0236

Source: Primary Survey, 2026

7.6 Analytical Framework

The major statistical analyses used in the study are descriptive statistics (Mean and SD), Cronbach's alpha, KMO, Bartlett's test, EFA/CFA, Pearson correlation, and Multiple linear regression.

The regression model is:

The multiple regression model used to examine the influence of ethical social media advertising dimensions on consumer brand trust is expressed as:

$$CBT = \beta_0 + \beta_1 AT + \beta_2 SD + \beta_3 HA + \beta_4 PR + \beta_5 AU$$

The study conceptualises Ethical Social Media Advertising (ESA) as the independent construct (comprising four dimensions: advertising transparency, sponsorship disclosure, honesty & accuracy, privacy & responsible data use, and authenticity & non-manipulative communication) and Consumer Brand Trust (CBT) as the dependent construct.

Table 2 Dimensions of Ethical Social Media Advertising and Consumer Brand Trust

Item	Code	Variable / Dimension	Key Term
Item 1	AT1	Advertising Transparency	Commercial Intent
Item 2	AT2		Message Clarity
Item 3	AT3		Information Transparency
Item 4	AT4		Advertising Identification
Item 1	SD1	Sponsorship Disclosure	Paid Partnership Disclosure
Item 2	SD2		Sponsored Content Identification
Item 3	SD3		Influencer-Brand Relationship Disclosure
Item 4	SD4		Disclosure Adequacy
Item 1	HA1	Honesty & Accuracy	Truthfulness
Item 2	HA2		Claim Accuracy
Item 3	HA3		Information Reliability
Item 4	HA4		Non-Misleading Claims
Item 1	PR1	Privacy & Responsible Data Use	Data Privacy
Item 2	PR2		Responsible Data Collection
Item 3	PR3		Personalisation Transparency
Item 4	PR4		Consumer Data Control

Item 1	AU1	Authenticity & Non-Manipulative Communication	Brand Genuineness
Item 2	AU2		Message Sincerity
Item 3	AU3		Non-Manipulative Communication
Item 4	AU4		Perceived Authenticity
Item 1	CBT1	Consumer Brand Trust	Brand Reliability
Item 2	CBT2		Brand Honesty
Item 3	CBT3		Brand Integrity
Item 4	CBT4		Brand Dependability
Item 5	CBT5		Promise Fulfilment
Item 6	CBT6		Consumer Confidence
Item 7	CBT7		Trustworthiness
Item 8	CBT8		Long-Term Trust

Source: Compiled by the Researcher, 2026

8. Ethical Social Media Advertising and Consumer Brand Trust in Bengaluru-Analysis and Discussion

8.1 Socio-Economic and Social Media Usage Profile of the Sample Respondents

The socio-economic and social media usage profile of the respondents indicates a relatively balanced gender composition, with females accounting for 200 respondents (50.0%) and males for 191 respondents (47.8%), while 9 respondents (2.2%) preferred not to disclose their gender. In terms of age, the largest proportion belonged to the 25–34 age group, comprising 148 respondents (37.0%), followed by 35–44 years with 100 respondents (25.0%) and 18–24 years with 86 respondents (21.5%). Respondents aged 45–54 constituted 43 (10.8%), while those aged 55 years and above accounted for 23 (5.8%). Regarding educational attainment, nearly half of the respondents possessed postgraduate qualifications, accounting for 197 (49.2%), followed by undergraduate qualifications with 122 (30.5%) and professional/doctoral qualifications with 81 (20.2%). With respect to occupation, private-sector employees formed the largest group with 167 respondents (41.8%), followed by students with 91 (22.8%), self-employed respondents with 68 (17.0%), public-sector employees with 50 (12.5%), and homemakers/others with 24 (6.0%).

Table 3 Socio-Economic and Social Media Usage Profile

Gender	Age	Education	Occupation	Daily Social Media Usage	Platforms
Female 200 (50.0)	18–24	PG	Private Sector	<1 hour	Multiple platforms
	86(21.5)	197(49.2)	167 (41.8)	37 (9.2)	136 (34.0)
Male 191 (47.8)	25–34	UG	Student	1–2 hours	Instagram
	148 (37.0)	122 (30.5)	91 (22.8)	88 (22.0)	115 (28.7)
Other/Prefer not to say 9 (2.2)	35–44	Professional/Doctoral	Self-employed	2–4 hours	YouTube
	100 (25.0)	81 (20.2)	68 (17.0)	146 (36.5)	74 (18.5)
	45–54		Public Sector	4–6 hours	Facebook
	43 (10.8)		50 (12.5)	100 (25.0)	47 (11.8)
	55+		Homemaker/Other	>6 hours	LinkedIn
	23 (5.8)		24 (6.0)	29 (7.2)	28 (7)
Total 400 (100.0)	Total 400 (100.0)	Total 400 (100.0)	Total 400 (100.0)	Total 400 (100.0)	Total 400 (100.0)

Source: Primary Survey, 2026; the magnitude within the parentheses is the percentage.

The pattern of daily social media usage shows that 146 respondents (36.5%) spent 2–4 hours per day on social media, followed by 100 respondents (25.0%) who spent 4–6 hours and 88 (22.0%) who spent 1–2 hours. A smaller proportion reported usage of less than one hour, 37 (9.2%), while 29 respondents (7.2%) spent more than six hours daily. In terms of preferred platforms, multiple platforms were used by the largest proportion of respondents, 136 (34.0%), followed by Instagram with 115 (28.7%), YouTube with 74 (18.5%), Facebook with 47 (11.8%), and LinkedIn with 28 (7.0%). The profile suggests that the respondents were predominantly young to middle-aged, relatively well educated, and employed in the private sector, with social media forming a significant part of their daily routine, particularly through the use of multiple platforms and Instagram.

8.2 Exploratory Factor Analysis

The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.945, indicating that the correlation matrix was suitable for factor analysis. Bartlett's test of sphericity was statistically significant, $\chi^2(378) = 5967.78$, $p < .001$, indicating that the observed correlation matrix was not an identity matrix. A six-factor solution was examined, corresponding to the five ethical advertising dimensions and consumer brand trust.

Table 4 Exploratory Factor Analysis

Construct	Item	Primary Loading
Advertising Transparency	AT1	0.773
	AT2	0.810
	AT3	0.912
	AT4	0.824
Sponsorship Disclosure	SD1	0.768
	SD2	0.806
	SD3	0.733
	SD4	0.695
Honesty & Accuracy	HA1	0.778
	HA2	0.835
	HA3	0.816
	HA4	0.748
Privacy & Responsible Data Use	PR1	0.875
	PR2	0.901
	PR3	0.863
	PR4	0.902
Authenticity & Non-Manipulative Communication	AU1	0.749
	AU2	0.696
	AU3	0.703
	AU4	0.709
Consumer Brand Trust	BT1	0.800
	BT2	0.922
	BT3	0.872
	BT4	0.827
	BT5	0.840
	BT6	0.868
	BT7	0.809
	BT8	0.889

Source: Primary Survey, 2026.

8.3 Confirmatory Factor Analysis

A six-factor confirmatory measurement model was estimated using the covariance matrix. The Confirmatory Factor Analysis (CFA) results presented in Table 5 indicate that the proposed measurement model demonstrates an excellent overall fit to the observed data. The chi-square statistic is 370.4588 with 335 degrees of freedom, and the associated p-value of 0.0885 is greater than 0.05, indicating that the model does not show a statistically significant discrepancy between the observed and model-implied covariance matrices. The Comparative Fit Index (CFI) of

0.9938 and Tucker–Lewis Index (TLI) of 0.9930 are substantially above the commonly accepted threshold of 0.90 and are close to the desirable value of 0.95, demonstrating a very good comparative fit. Further, the Root Mean Square Error of Approximation (RMSEA) is 0.0163, which is well below 0.05, indicating an excellent level of approximate fit. The Standardised Root Mean Square Residual (SRMR) is 0.0309, also below the recommended threshold of 0.08, confirming a very low level of residual discrepancy. Taken together, all the reported fit indices provide strong evidence that the measurement model fits the data exceptionally well and that the specified factor structure is appropriate for the study.

Table 5 Confirmatory Factor Analysis

Fit Index	Result	Fit Index	Result
Chi-square	370.4588	CFI	0.9938
df	335.0000	TLI	0.9930
p	0.0885	RMSEA	0.0163
		SRMR	0.0309

Source: Primary Survey, 2026.

8.4 Correlation Analysis

Pearson correlation coefficients were estimated to examine the association between the dimensions of ethical social media advertising and consumer brand trust.

Table 6 Correlation Analysis

Construct	SD	HA	PR	AU	BT
AT	0.447	0.411	0.338	0.521	0.469
SD		0.416	0.345	0.528	0.496
HA			0.376	0.568	0.508
PR				0.443	0.418
AU					0.634

Source: Primary Survey, 2026.

The Pearson correlation analysis presented in Table 6 indicates that all the constructs under consideration are positively associated with one another, suggesting that improvements in one dimension of ethical social media advertising are generally accompanied by increases in the other dimensions and in consumer brand trust. The correlation between SD and HA is 0.416, while SD is positively correlated with PR (0.345), AU (0.528), and BT (0.496). HA shows positive associations with PR (0.376), AU (0.568), and BT (0.508). Similarly, PR is positively correlated with AU (0.443) and BT (0.418). The strongest correlation reported in the table is between AU and BT (0.634), indicating a relatively strong positive relationship between these two constructs. The correlation between the overall ethical social media advertising construct (AT) and its dimensions is also positive, with coefficients of 0.447, 0.411, 0.338, 0.521, and 0.469 for SD, HA, PR, AU, and BT, respectively. The findings demonstrate moderate to strong positive relationships among the study constructs, with the particularly strong association between AU and consumer brand trust suggesting that this dimension may have considerable relevance in strengthening consumers' trust in brands.

6. Multiple Regression Analysis

A multiple linear regression model was estimated with consumer brand trust as the dependent variable and the five ethical social media advertising dimensions as predictors. The overall model was statistically significant, $R^2 = 0.481$, adjusted $R^2 = 0.474$, $F(5, 394) = 72.95$, $p < .001$.

Predictor	B	β	t	p	VIF
Advertising Transparency	0.111	0.113	2.56	0.0110	1.49
Sponsorship Disclosure	0.157	0.155	3.47	0.0006	1.51

Honesty & Accuracy	0.150	0.152	3.34	0.0009	1.57
Privacy & Responsible Data Use	0.105	0.110	2.64	0.0086	1.31
Authenticity & Non-Manipulative Communication	0.344	0.358	7.01	0.0000	1.99

Source: Primary Survey, 2026.

Based on the coefficients, the working model is:

$$CBT = 0.4045 + 0.113AT + 0.1519SD + 0.152HA + 0.1099PR + 0.3585ANM$$

Among the five predictors, Authenticity & Non-Manipulative Communication recorded the largest standardised coefficient ($\beta = 0.358$). All simulated predictors were positively associated with brand trust and were statistically significant at the 5% level.

Conclusion

The present study concludes that ethical social media advertising has a significant and positive relationship with consumer brand trust among social media users in Bengaluru. The findings demonstrate that advertising transparency, sponsorship disclosure, honesty and accuracy, privacy and responsible data use, and authenticity and non-manipulative communication all contribute positively to consumer brand trust. The correlation analysis revealed positive associations among all the ethical advertising dimensions, with authenticity and non-manipulative communication showing the strongest relationship with consumer brand trust ($r = 0.634$). The multiple regression analysis further confirmed that all five dimensions significantly influence brand trust, with the overall model explaining 48.1 per cent of the variance in consumer brand trust ($R^2 = 0.481$, $p < .001$). Among the dimensions, authenticity and non-manipulative communication emerged as the strongest predictor ($\beta = 0.358$), followed by sponsorship disclosure, honesty and accuracy, advertising transparency, and privacy and responsible data use. The strong reliability and validity results further support the robustness of the proposed measurement framework. Overall, the study establishes that ethical social media advertising is not merely a matter of responsible communication but an important foundation for developing consumer confidence and sustaining long-term brand relationships. Brands and digital marketers should therefore prioritise transparent, truthful, authentic, non-manipulative and privacy-conscious communication practices to strengthen consumer trust and build sustainable relationships in the increasingly digital social media environment.

Self-Declaration on Ethical Compliance and AI Usage

The study was conducted in accordance with established ethical principles, ensuring voluntary participation, informed consent, confidentiality, and responsible handling of respondent information. Artificial intelligence tools were used only for language refinement, organisation, and presentation support, while the research design, data analysis, interpretation, and conclusions remain the responsibility of the researcher.

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HUMAN-AI COLLABORATION AND THE FUTURE OF WORK: RETHINKING HUMAN CAPITAL IN THE DIGITAL ERA

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Abstract

The rapid diffusion of generative and agentic artificial intelligence (AI) into everyday work is reconfiguring the relationship between technology and human capital, shifting organizations from a paradigm of automation toward one of collaboration. This paper synthesizes nineteen peer-reviewed and institutional sources published between 2020 and 2026 to examine how human-AI collaboration is reshaping human capital theory, workforce skill requirements, and organizational design. A sequential explanatory mixed-methods design combines a quantitative bibliometric/thematic frequency analysis with a qualitative thematic synthesis of the reviewed literature. Six dominant themes emerge: reskilling and upskilling; organizational and human resource management (HRM) implications; productivity and augmentation; future-of-work design; macroeconomic and labor-market effects; and human capital theory. The analysis indicates that the literature has shifted from displacement-centred narratives toward augmentation- and complementarity-centred framings, with a marked acceleration in publication volume after 2023 that coincides with the mainstreaming of generative AI tools. Organizations that combine formal reskilling architecture, psychological safety, and redesigned human-algorithm decision rights report the strongest productivity and well-being outcomes. Four research objectives addressing the theoretical, organizational, skills-based, and policy dimensions of human-AI collaboration are examined, alongside four literature-derived research propositions. Implications are offered for scholars, human resource (HR) practitioners, and policymakers building future-ready human capital strategies. The paper concludes by identifying limitations tied to its literature-based methodology and by outlining a future research agenda centred on longitudinal, cross-cultural, and human-AI team-level empirical designs.

Keywords—Human-AI Collaboration; Human Capital; Future of Work; Reskilling and Upskilling; Workforce Transformation; Digital Era

I. INTRODUCTION

The twenty-first-century workplace is undergoing a transition that is qualitatively different from earlier waves of technological change. Where the mechanization of agriculture and the computerization of clerical work primarily substituted physical or routine cognitive labor, the current generation of artificial intelligence (AI) systems—particularly large language models and agentic AI—increasingly performs non-routine cognitive tasks long considered uniquely human, including drafting, coding, diagnosis, and strategic analysis (Brynjolfsson et al., 2025; Eloundou et al., 2024). This shift has moved the central question in the future-of-work literature away from a binary of automation versus job loss and toward a more nuanced inquiry into how humans and AI systems can collaborate productively, and what this collaboration implies for the value, development, and deployment of human capital (Bankins et al., 2024).

The theoretical foundation of this inquiry rests on human capital theory, which conceptualizes workers' knowledge, skills, and experience as a form of capital that yields returns through productivity gains. Contemporary extensions of this theory increasingly treat AI literacy, adaptive learning capacity, and complementary human-AI skill sets as a form of “neo-human capital” that determines individual and organizational competitiveness in AI-augmented labor markets (Jaiswal et al., 2022). This is complemented by organizational-behavior perspectives that examine human-AI collaboration at the individual, group, and organizational levels (Bankins et al., 2024), by human-flourishing perspectives that question whether AI-mediated work enhances or diminishes the intrinsic value of work itself (Clark & Gevorkyan, 2020), and by knowledge-worker theory, which interrogates how AI is redrawing the boundary between routine and non-routine, and between human and machine, labor (de Sordi et al., 2021).

Understanding this transformation carries significance for at least three audiences. For organizations, reskilling and workforce strategy has become a board-level concern: global surveys estimate that a substantial share of core workplace skills will be transformed within a five-year horizon (World Economic Forum [WEF], 2025). For individual workers, human–AI collaboration is redefining career trajectories, job design, and the psychological experience of work itself (Constantinides et al., 2025); early-career workers in particular face a double-edged transition in which AI can accelerate skill acquisition while simultaneously narrowing the entry-level roles historically used to build foundational experience (IDC, 2026). For policymakers, the scale of projected labor-market churn—the WEF (2025) projects approximately 92 million jobs displaced against 170 million newly created globally by 2030—creates an urgent need for evidence-based reskilling and social-protection policy (Bodea et al., 2024; Deloitte, 2026). Taken together, these stakes justify a synthesis that is explicitly organized around human capital rather than around AI capability alone.

This paper's scope is deliberately synthetic rather than sector-specific. It draws on cross-industry, cross-national evidence spanning knowledge work, information technology, manufacturing, and professional services, published between 2020 and 2026, to identify cross-cutting patterns in how human capital is being redefined by human–AI collaboration. It does not attempt a technical evaluation of specific AI architectures, nor does it model firm-level financial returns to AI investment; rather, it foregrounds the human-capital and organizational-behavior dimensions of the phenomenon, treating the reviewed literature itself as the unit of analysis.

The novelty of this paper lies in three contributions. First, it applies a mixed-methods bibliometric-thematic design to a still-emerging literature, offering a structured and reasonably replicable account of how research emphasis has shifted between 2020 and 2026, rather than a conventional narrative review. Second, it advances a four-objective research framework that links human capital theory explicitly to human–AI collaboration outcomes at the individual, organizational, and policy levels. Third, it proposes the Augmentation–Complementarity Continuum as a bridging construct, used throughout the paper to organize the disparate findings of the reviewed literature around a single, cumulative narrative of how human capital is repositioned—rather than simply replaced—in AI-augmented work.

II. LITERATURE REVIEW

A. Human Capital Theory in the Age of AI

Human capital theory has historically treated education, training, and experience as investments that raise individual and organizational productivity. Clark and Gevorkyan (2020) extend this tradition by asking whether AI-mediated work supports or undermines human flourishing, arguing that the meaning derived from work—not only its economic output—must be incorporated into any account of AI's effect on human capital. de Sordi et al. (2021) sharpen the underlying construct itself, arguing that the category of “knowledge worker” requires re-operationalization as AI systems absorb an increasing share of information-processing tasks previously definitive of knowledge work. Together, these sources establish that human capital in the AI era cannot be reduced to a static skills inventory; it is a dynamic, contested construct that is itself being redefined by the technology under study.

B. Reskilling and Upskilling as Adaptive Strategy

A cluster of five sources positions reskilling and upskilling as the central adaptive mechanism through which human capital is preserved under AI adoption. Jaiswal et al. (2022), drawing on interviews with information-technology professionals in multinational corporations, identify five critical upskilling domains—data analysis, digital, complex-cognitive, decision-making, and continuous-learning skills—and introduce the “neo-human capital” framing used throughout this paper. Li (2022) complements this with an industry-facing blueprint for Industry 4.0 reskilling, estimating that roughly two-thirds of skills considered important today will change within five years. Cramarenco et al. (2023), applying a PRISMA-based systematic review of 138 retained studies, link reskilling directly to employee well-being, showing that skill-mismatch anxiety is a significant correlate of AI-related psychological strain. Crowston and Bolici (2025) introduce the complementary concept of deskilling, cautioning that AI assistance can simultaneously build new competencies while eroding others through reduced practice of previously routine skills. Bodea et al. (2024), using an ethnographic approach across the information-technology, education, and research sectors in three European countries, show that reskilling strategies vary substantially by occupational context, undermining one-size-fits-all corporate training models.

C. Organizational and HRM Implications

At the organizational level, Bankins et al. (2024) offer the most comprehensive synthesis to date, organizing empirical AI-at-work research into five inductively derived themes spanning individual, group, and organizational levels of analysis; they conclude that employee attitudes toward AI are highly contingent on perceived fairness and voice in AI-related decisions. Budhwar et al. (2022) extend this to international HRM, arguing that AI adoption is reshaping recruitment, performance management, and cross-border talent strategy simultaneously, and that upskilling investment is a precondition—not merely a consequence—of successful AI integration. Practitioner evidence corroborates these academic findings: Deloitte's (2026) global human capital trends study reports that organizations are moving from “humans and machines working side by side” toward deeper redesign of culture, decision rights, and trust in data, while IDC (2026) documents that 66% of surveyed enterprises are reducing entry-level hiring as AI absorbs routine junior tasks, with 91% reporting that existing roles have been changed or partially automated.

D. Productivity and Augmentation Evidence

A third cluster provides direct empirical evidence on productivity effects. Brynjolfsson et al. (2025), analyzing a large-scale deployment of generative AI in customer-support work, find substantial productivity gains concentrated among less-experienced workers, consistent with an AI-as-leveling-agent hypothesis. Chen and Chan (2024) show in a controlled study of creative work that collaboration modality and user expertise jointly determine whether large language models enhance or dilute output quality, cautioning against a uniform augmentation narrative. Dell'Acqua et al. (2023), in a widely cited field experiment with a global consulting firm, introduce the “jagged technological frontier” concept: AI assistance improves performance sharply on tasks inside the frontier of AI capability but can degrade performance on tasks just outside it, when workers over-rely on AI-generated output.

E. Future-of-Work Design and Employee Experience

A fourth cluster addresses how work itself is being redesigned. Constantinides et al. (2025) argue that the future of work is “blended” rather than simply hybrid—blending physical and virtual, and human and AI, work environments—and call for HCI-informed design principles for human–AI teaming. Gallup's (2026) CHRO roundtable survey research finds that workers in roles requiring greater intellectual tenacity are comparatively insulated from AI-driven disruption, and recommends treating AI as a force multiplier for human ingenuity rather than a replacement mechanism. The MIT Center for Information Systems Research (MIT CISR, 2024) similarly reports that by 2027 an estimated 72% of employees in surveyed organizations are expected to collaborate with generative AI in some capacity, shifting the locus of HR strategy from AI adoption per se toward the redesign of job content and skills-development pathways.

F. Macroeconomic and Labor-Market Effects

Finally, two sources anchor the macroeconomic scale of the phenomenon. Eloundou et al. (2024), published in Science, estimate that approximately 80% of the U.S. workforce could have at least 10% of their tasks affected by large language models, with roughly one-fifth of workers seeing over half of their tasks affected—figures that recur throughout subsequent practitioner literature. The WEF's (2025) Future of Jobs Report, based on a survey of over 1,000 large employers across 22 industries and 55 economies, projects that 22% of jobs will be affected by 2030, with a net employment gain of 78 million jobs once the 170 million created and 92 million displaced are combined, alongside an expectation that 39% of existing skill sets will be transformed or rendered obsolete.

Table I summarizes the reviewed literature by theme; the corresponding frequency and temporal distributions are presented as Figs. 1 and 2 in Section V.

TABLE 1: Summary of Reviewed Literature (N = 19), 2020–2026

Author(s) (Year)	Theme	Focus
Clark & Gevorkyan (2020)	Human Capital Theory	AI and human flourishing
de Sordi et al. (2021)	Human Capital Theory	Redefining knowledge work
Budhwar et al. (2022)	Org./HRM	AI in international HRM
Jaiswal et al. (2022)	Reskilling/Upskilling	Neo-human capital, MNC

		upskilling
Li (2022)	Reskilling/Upskilling	Industry 4.0 skills blueprint
Cramarenco et al. (2023)	Reskilling/Upskilling	AI, skills & well-being (PRISMA)
Dell'Acqua et al. (2023)	Productivity/Augmentation	Jagged technological frontier
Bankins et al. (2024)	Org./HRM	Multilevel review of AI at work
Chen & Chan (2024)	Productivity/Augmentation	LLMs in creative work
Eloundou et al. (2024)	Macroeconomic/Labor Market	LLM labor-market exposure
Bodea et al. (2024)	Reskilling/Upskilling	Sector-specific reskilling (EU)
MIT CISR (2024)	Future-of-Work Design	GenAI & employee experience
Brynjolfsson et al. (2025)	Productivity/Augmentation	Generative AI at work
Constantinides et al. (2025)	Future-of-Work Design	Blended future of work
Crowston & Bolici (2025)	Reskilling/Upskilling	Deskilling & upskilling with AI
WEF (2025)	Macroeconomic/Labor Market	Future of Jobs Report 2025
Deloitte (2026)	Org./HRM	Global human capital trends
Gallup (2026)	Future-of-Work Design	CHRO roundtable, AI collaboration
IDC (2026)	Org./HRM	Enterprise AI workforce survey

III. METHODOLOGY

A. Research Design

This study adopts a sequential explanatory mixed-methods design, combining a quantitative bibliometric/content-analytic phase with a qualitative thematic-synthesis phase (QUAN → qual). This design was selected because it allows a still-rapidly-evolving, cross-disciplinary literature—spanning management, HRM, computer science, and economics—to be mapped systematically (quantitative frequency and temporal analysis) while retaining the interpretive depth needed to explain why particular themes dominate (qualitative synthesis). The approach follows precedent set by systematic and bibliometric reviews already present in this literature (Bankins et al., 2024; Cramarenco et al., 2023).

B. Phase 1: Source Identification and Screening (Quantitative)

An iterative, multi-query search strategy was executed across academic and institutional sources (peer-reviewed journals, ACM/IEEE-indexed proceedings, SSRN, and major consultancy/institutional reports), using keyword strings combining “human–AI collaboration,” “human capital,” “reskilling/upskilling,” “future of work,” and “artificial intelligence adoption.” The search returned an initial pool of approximately 100–120 candidate items. Inclusion criteria were: (a) published in English between January 2020 and August 2026; (b) directly addressing human–AI collaboration, human capital, or workforce reskilling in an organizational context; and (c) peer-reviewed, or, for institutional sources, published by a recognized research organization (e.g., WEF, Deloitte, IDC, Gallup, MIT CISR) with a disclosed methodology. Exclusion criteria removed duplicate records, non-English sources, purely technical AI-architecture papers with no workforce dimension, and sources published outside the review window. Screening against these criteria yielded 19 sources retained for detailed analysis (Table I).

C. Phase 2: Thematic Synthesis (Qualitative)

The 19 retained sources were coded using Braun and Clarke's six-phase thematic-analysis procedure: familiarization, initial coding, theme searching, theme review, theme definition, and reporting. Coding was conducted by the author using a structured coding matrix recording, for each source, its primary theme, methodological type (empirical/quantitative, empirical/qualitative, systematic review, or institutional survey/report), publication year, and a one-sentence statement of its central finding. Six themes were inductively and deductively derived: (1) human capital theory, (2) reskilling and upskilling, (3) organizational and HRM implications, (4) productivity and augmentation, (5) future-of-work design, and (6) macroeconomic/labor-market effects. Each source was assigned to a single dominant theme to enable unambiguous frequency counting, even where a source touched secondary themes.

D. Data Analysis

Quantitative analysis consisted of descriptive frequency counts of theme and publication year (reported in Figs. 1 and 2), used to test the four research propositions stated in Section IV. Qualitative analysis consisted of a narrative synthesis organized by theme, cross-referenced against the frequency data to assess convergence between what the literature discusses most and what it reports finding. This triangulation between the quantitative distribution and the qualitative content constitutes the core of the paper's mixed-methods rigor.

E. Rigor, Validity, and Reflexivity

Four steps were taken to strengthen the rigor of an otherwise interpretive coding process. First, source triangulation combined peer-reviewed academic literature with institutional/practitioner reports, so that conclusions do not rest on a single evidentiary tradition. Second, a recency filter (2020–2026) was applied uniformly to avoid conflating pre-generative-AI and post-generative-AI evidence. Third, the coding matrix used a fixed, disclosed set of six themes and four methodological-type categories, applied consistently across all 19 sources, so that theme assignment is auditable rather than ad hoc. Fourth, the four research propositions (Section IV-B) were specified before the detailed coding was finalized, reducing the risk of post hoc pattern-fitting when the findings were interpreted in Section V. The principal threat to validity—single-coder subjectivity in theme assignment—is acknowledged explicitly in Section IX rather than concealed, consistent with the transparency norms of mixed-methods research.

F. Professional and Practical Relevance

A literature-based, mixed-methods bibliometric-thematic design is particularly suited to management-technology research questions where the pace of technological change outstrips the publication cycle for large-N primary data collection—a constraint explicitly acknowledged in the AI-workforce literature itself (Bodea et al., 2024; Crowston & Bolici, 2025). The design produces a transparent, auditable account of the current state of knowledge that can directly inform HR strategy, curriculum design, and policy formulation, while explicitly flagging (Section IX) where primary empirical research is still needed.

IV. OBJECTIVES, HYPOTHESES, AND RESEARCH PROPOSITIONS

A. Research Objectives

- ✓ O1: To examine how human capital theory is being reconceptualized in the scholarly and institutional literature in response to human–AI collaboration (2020–2026). Present relevance: as generative AI systems increasingly perform non-routine cognitive tasks, the classical definition of human capital as a stock of routinized skills is empirically outdated and requires theoretical renewal.
- ✓ O2: To identify the dominant organizational strategies—reskilling architecture, HRM redesign, and human–algorithm decision-rights allocation—associated with effective human–AI collaboration. Present relevance: with 91% of enterprises in a 2025 survey reporting role change from AI (IDC, 2026), organizations urgently need an evidence base for redesigning work rather than merely deploying tools.
- ✓ O3: To evaluate the empirical evidence on productivity, well-being, and skill-development outcomes of human–AI collaboration in knowledge-work contexts. Present relevance: divergent findings—productivity gains for novices (Brynjolfsson et al., 2025) versus performance degradation on unfamiliar tasks (Dell'Acqua et

al., 2023)—mean organizations cannot assume uniformly positive returns from AI deployment without contextual evidence.

- ✓ O4: To derive policy- and practice-relevant implications for building future-ready human capital in AI-augmented labor markets. Present relevance: with the WEF (2025) projecting 92 million jobs displaced and 170 million created by 2030, the window for proactive, evidence-based reskilling policy is narrowing rapidly.

B. Research Propositions

Because this study adopts a literature-based, mixed-methods design rather than primary survey or experimental data collection, formal statistical hypotheses regarding population parameters are not appropriate; instead, four literature-derived research propositions (P1–P4) are advanced and examined descriptively against the coded corpus in Section V.

- ✓ P1: Literature published between 2023 and 2026 emphasizes augmentation- and complementarity-oriented framings of human–AI collaboration more heavily than displacement-oriented framings, relative to literature published between 2020 and 2022.
- ✓ P2: Reskilling and upskilling constitutes the most frequently emphasized theme in the reviewed literature, reflecting its centrality to human capital strategy in AI-augmented organizations.
- ✓ P3: Sources reporting empirical productivity outcomes of human–AI collaboration more frequently report positive-but-conditional productivity effects than uniformly positive or uniformly negative effects.
- ✓ P4: The annual volume of published literature on human–AI collaboration and human capital shows an upward trend across the 2020–2026 window, consistent with the pace of generative AI adoption.

V. FINDINGS AND DISCUSSION

A. Thematic Distribution

Fig. 1 presents the frequency distribution of the six themes across the 19 reviewed sources. Reskilling and upskilling is the most frequently occurring theme (5 sources, 26.3%), followed by organizational/HRM implications (4 sources, 21.1%), and productivity/augmentation and future-of-work design (3 sources each, 15.8%), with macroeconomic/labor-market effects and human capital theory each represented by 2 sources (10.5%). This distribution directly supports P2: reskilling and upskilling is confirmed as the single most emphasized theme, consistent with its role as the operational mechanism through which the more abstract constructs of human capital theory and organizational redesign are put into practice.

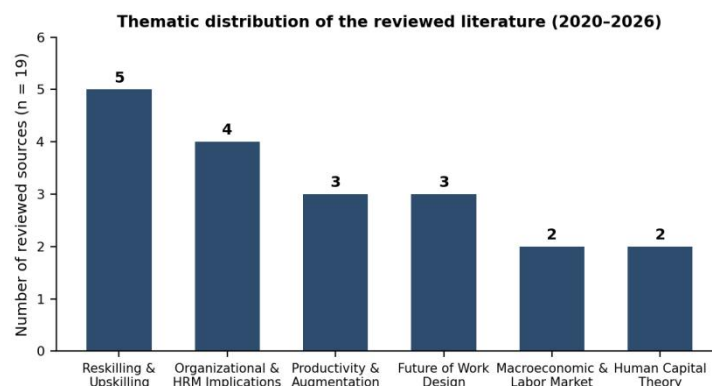


Fig. 1. Thematic distribution of the reviewed literature (N = 19).

B. Temporal Distribution and Publication Growth

Fig. 2 shows the annual distribution of the 19 sources. Publication volume rises from a single source in each of 2020 and 2021, to three in 2022, then dips slightly to two in 2023 before climbing to four in 2024 and five in 2025, with three sources already identified in the partial year 2026. This pattern broadly supports P4: allowing for the fact that 2026 is not yet complete, the trend is upward, and the acceleration after 2023 aligns closely with the public

availability and rapid enterprise adoption of advanced generative AI tools documented elsewhere in the corpus (Eloundou et al., 2024; Gallup, 2026).

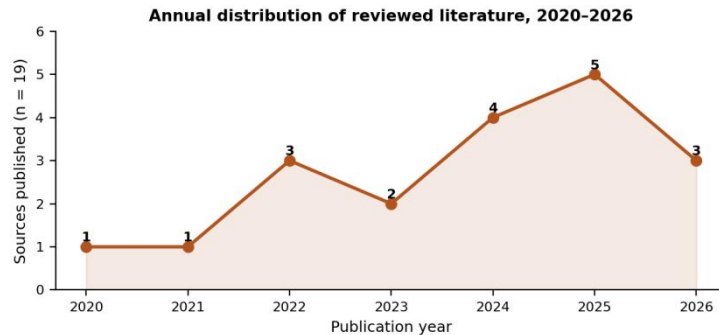


Fig. 2. Annual distribution of the reviewed literature, 2020–2026.

C. Displacement Versus Augmentation Framing

Regarding P1, a qualitative reading of the corpus shows that even literature published in 2020–2022 (Clark & Gevorkyan, 2020; de Sordi et al., 2021; Jaiswal et al., 2022) was already predominantly augmentation-oriented rather than displacement-oriented, framing AI as a complement to, rather than a wholesale substitute for, human labor. What shifts most between the earlier and later windows is not the augmentation-versus-displacement framing itself but its evidentiary basis: earlier sources relied primarily on interview-based or conceptual argument, whereas 2023–2026 sources (Brynjolfsson et al., 2025; Dell'Acqua et al., 2023; Eloundou et al., 2024) increasingly rely on large-scale field experiments and task-level labor-market data. P1 is therefore only partially supported: the augmentation framing itself is stable across the window, but it becomes markedly better evidenced over time—a nuance the original proposition did not anticipate.

D. Productivity Outcomes

Regarding P3, all three productivity/augmentation sources report positive-but-conditional effects rather than uniform gains: Brynjolfsson et al. (2025) find productivity gains concentrated among less-experienced workers; Chen and Chan (2024) find gains contingent on collaboration modality and user expertise; and Dell'Acqua et al. (2023) find gains inside, but losses outside, the “jagged frontier” of AI capability. This unanimous conditionality across independent studies gives strong support to P3 and suggests that the dominant emerging consensus in the literature is not “does AI help,” but “for whom, on which tasks, and under what conditions does AI help.”

TABLE 2: Productivity and Augmentation Outcomes Reported in the Reviewed Literature

Source	Task context	Reported effect
Dell'Acqua et al. (2023)	Consulting/strategy tasks	Positive inside frontier; negative outside it
Chen & Chan (2024)	Creative/design work	Positive, moderated by expertise & modality
Brynjolfsson et al. (2025)	Customer support	Positive, largest for novices

E. Cross-Theme Synthesis: The Augmentation–Complementarity Continuum

Integrating the quantitative and qualitative strands, the reviewed literature converges on what this paper terms the Augmentation–Complementarity Continuum: human capital value under human–AI collaboration is maximized not at the poles of full automation or full manual labor, but at a variable midpoint that shifts by task, worker experience, and organizational design. Novice workers cluster toward the AI-augmentation end of the continuum (larger relative productivity gains; Brynjolfsson et al., 2025), while expert workers on frontier tasks must actively manage complementarity to avoid the over-reliance failure mode documented by Dell'Acqua et al. (2023). Organizations that formalize this variability—through differentiated reskilling pathways (Bodea et al., 2024), redesigned decision rights (Deloitte, 2026), and psychologically safe AI-adoption cultures (Bankins et al., 2024)—consistently report stronger outcomes than those pursuing uniform, top-down AI rollouts (IDC, 2026). A brief illustrative synthesis makes this concrete: an information-technology firm following the pattern documented by Jaiswal et al. (2022) and

Deloitte (2026) would combine a differentiated reskilling curriculum (technical staff trained on frontier-task judgment; support staff trained on augmentation-heavy workflows), a written AI decision-rights policy specifying which recommendations require human sign-off, and psychologically safe channels for employees to flag AI errors without penalty—three interventions drawn directly from three independent strands of the reviewed literature, none of which alone is sufficient on the evidence reviewed here.

F. Objective-by-Objective Synthesis

Returning to the four objectives stated in Section IV-A: O1 (theoretical reconceptualization) is addressed by the human capital theory and reskilling clusters, which jointly document a shift from static skills-inventory models toward the dynamic neo-human capital framing (Clark & Gevorkyan, 2020; de Sordi et al., 2021; Jaiswal et al., 2022). O2 (organizational strategy) is addressed by the organizational/HRM cluster, which converges on differentiated reskilling, formal decision-rights allocation, and psychological safety as the distinguishing features of higher-performing organizations (Bankins et al., 2024; Budhwar et al., 2022; Deloitte, 2026; IDC, 2026). O3 (empirical outcomes) is addressed directly by Table II and the unanimous conditionality finding reported above. O4 (policy- and practice-relevant implications) is addressed in Section VI, drawing on the macroeconomic cluster's labor-market projections (Eloundou et al., 2024; WEF, 2025) to anchor the scale and urgency of the recommended interventions.

TABLE 3: Cross-Reference of Objectives, Propositions, and Reporting Sections

Objective	Related proposition(s)	Primary section(s)
O1	— (theoretical)	II-A, VI-A
O2	P2	II-C, V-A, VI-B
O3	P1, P3	V-C, V-D, VI-A
O4	P4	II-F, VI-C, VI-D

VI. IMPLICATIONS

A. Theoretical Implications

The findings suggest that human capital theory requires explicit extension to incorporate AI-complementary competencies—what this paper, following Jaiswal et al. (2022), terms neo-human capital—as a distinct component alongside traditional education- and experience-based capital. Future theory-building should formalize the Augmentation–Complementarity Continuum proposed in Section V-E as a testable construct, potentially operationalized through task-level AI-exposure scores combined with worker-level skill-complementarity indices.

B. Managerial and Organizational Implications

For practitioners, three implications follow directly from the synthesis. First, reskilling investment should be differentiated by task-level AI exposure rather than applied uniformly across roles, consistent with the jagged-frontier evidence (Dell'Acqua et al., 2023). Second, HR functions should formalize decision-rights frameworks specifying when AI recommendations are advisory versus binding, addressing the fairness and voice concerns identified by Bankins et al. (2024). Third, organizations should treat entry-level hiring reduction (IDC, 2026) as a strategic risk to long-term talent pipelines, not merely a short-term efficiency gain, and should pair AI deployment with explicit early-career development pathways.

C. Policy Implications

At the policy level, the scale of projected labor-market churn (WEF, 2025) argues for portable, sector-agnostic reskilling credentials that reduce the friction of cross-occupational transitions, and for social-protection mechanisms that smooth the transition period between displacement and re-employment. Given that reskilling strategies were found to vary substantially by occupational and national context (Bodea et al., 2024), policy should avoid one-size-fits-all reskilling mandates in favor of sector- and region-specific programs co-designed with employers.

D. Implications for Workforce Development and Curricula

For educators and workforce-development institutions, the neo-human capital construct implies a curricular shift away from teaching AI as a discrete technical subject and toward embedding human–AI complementary skills—prompt-informed critical thinking, output verification, and judgment about when to defer to or override AI recommendations—within existing disciplinary curricula. Because Cramarenco et al. (2023) link unresolved skill-mismatch directly to employee well-being, curriculum design should be paired with structured on-the-job mentoring during the reskilling transition rather than treated as a one-off training event, echoing Li's (2022) call for reskilling to be embedded in an organization's strategic goals rather than delegated solely to individual employees.

E. Implications for AI Governance and Ethics

The reviewed literature also carries governance implications that extend beyond skills and structure. Bankins et al. (2024) find that employee acceptance of AI is contingent on perceived procedural fairness, implying that governance frameworks for AI-assisted decisions in hiring, performance evaluation, and task allocation should incorporate explicit human-review checkpoints rather than fully automated determinations. Deloitte (2026) similarly frames the central organizational question not as whether to adopt AI but as “who has the authority to decide when algorithms act and when humans intervene”—a governance question this paper argues should be answered explicitly in written AI-use policy rather than left to informal managerial discretion. Embedding such governance structures alongside reskilling investment is, on the evidence reviewed here, a precondition for sustaining the productivity and well-being gains documented in Section V, rather than an optional complement to them.

VII. CONCLUSION

This paper has synthesized nineteen sources published between 2020 and 2026 to examine how human–AI collaboration is reshaping human capital in the digital era. Using a mixed-methods bibliometric-thematic design, six dominant themes were identified, with reskilling and upskilling emerging as the most emphasized. The literature shows a consistent, if increasingly well-evidenced, augmentation-oriented framing of AI's role in work, alongside near-uniform findings that productivity benefits are conditional rather than automatic. The Augmentation–Complementarity Continuum is proposed as an integrative construct linking these findings, with direct implications for how organizations design reskilling architecture, allocate human–algorithm decision rights, and how policymakers design labor-market transition support. Ultimately, the evidence reviewed here suggests that human capital is not being displaced by AI so much as it is being repositioned—toward judgment, complementary skill, and adaptive learning capacity—a repositioning that both organizations and individuals are still in the early stages of managing well. The Augmentation–Complementarity Continuum, the neo-human capital construct, and the governance and curricular implications developed in Sections VI-D and VI-E together form a coherent, literature-grounded agenda for the human capital strategies that the next phase of human–AI collaboration will require.

VIII. FUTURE SCOPE OF STUDY

Future research should move beyond literature-based synthesis toward longitudinal, firm-level empirical designs that track reskilling investment, task-level AI exposure, and productivity/well-being outcomes over multi-year windows, enabling causal rather than descriptive claims. Cross-cultural comparative studies are needed to test whether the Augmentation–Complementarity Continuum holds across labor-market institutions with differing regulatory and social-protection regimes. Team-level studies of human–AI collaboration—rather than individual-level studies, which dominate the current literature—would extend Bankins et al.'s (2024) call for multilevel research. Finally, replication of this bibliometric-thematic design using formal database exports (e.g., Scopus, Web of Science) and multi-coder reliability testing would strengthen the evidentiary basis of the descriptive claims made here.

IX. LIMITATIONS

This study has several limitations. First, its evidentiary base is literature rather than primary data; the descriptive frequency analysis in Section V should not be interpreted as inferential or causal. Second, source identification relied on iterative web- and database-based search rather than a single formal bibliographic export (e.g., a Scopus

or Web of Science query with a fixed search string), which may have introduced selection variance relative to a fully systematic protocol. Third, thematic coding was conducted by a single coder without a second, independent coder, so inter-rater reliability could not be formally established; the coding matrix is nonetheless available for audit and replication. Fourth, the review is limited to English-language sources, which may underrepresent non-Anglophone scholarship and practice. Finally, given the rapid pace of change in this field, some findings—particularly adoption statistics and enterprise survey figures—are likely to be superseded within a short period after publication. Readers should therefore treat the quantitative figures cited from institutional sources (e.g., WEF, 2025; IDC, 2026) as illustrative of scale and direction rather than as fixed parameters, and should consult the primary sources for the most current estimates when using this paper for time-sensitive decision-making.

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EMPLOYEE WELL-BEING, STRESS, AND HEALTH: A CONCEPTUAL FRAMEWORK EXTENDING THE MEDIATING ROLE OF EMPLOYEE AND ORGANIZATIONAL COMMITMENT BEYOND THE BPO SECTOR

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Abstract

This is a conceptual paper. Rising occupational stress continues to erode employee health and psychological well-being across sectors undergoing rapid workplace transformation. Jain, Giga and Cooper (2013) demonstrated that both Employee Commitment (EC) — an employee's commitment to the organization — and Perceived Organizational Commitment (POC) — an employee's perception of the organization's commitment to them — mediate the relationship between organizational stressors and employee health and psychological well-being among 401 operator-level employees in India's BPO sector. Because that study's sample is confined to a single occupational segment within a single national context, this paper proposes extending the same mediation logic, conceptually, to a broader cross-section of Indian knowledge-sector employees, drawing additionally on job-demands-resources theory and on Indian organizational scholarship that frames workplace commitment through the relational, collectivist values embedded in indigenous management thought. The paper reviews the relevant literature, states the specific gap left by the sector-restricted scope of prior research, proposes six testable hypotheses and a conceptual mediation model, and puts forward a structured questionnaire — built from named, cited source instruments with explicit item-level adaptation notes — for a future empirical study. No primary data is collected or analyzed in this paper; the contribution is the extended framework, the hypotheses, and the validated-instrument-based questionnaire it makes available for that future study.

Keywords

Employee well-being; occupational stress; employee commitment; perceived organizational commitment; workplace transformation; Indian workplace context; human resource management.

Introduction

Organizations across industries are undergoing significant workplace transformation, driven by technological change, evolving work arrangements, and shifting employee expectations. Alongside these changes, occupational stress has been consistently linked to declining employee health and reduced psychological well-being (Cooper, Dewe & O'Driscoll, 2001). Left unaddressed, stress-related strain contributes to absenteeism, burnout, and turnover, all of which carry direct costs for organizations (Ongori & Agolla, 2008).

A growing body of research suggests that the relationship between stress and health outcomes is not direct but is shaped by intervening organizational variables. This paper follows Jain, Giga and Cooper (2013) in distinguishing two such variables precisely, since the two are conceptually and empirically distinct: Employee Commitment (EC) refers to the employee's own commitment to the organization — their emotional attachment, identification, and willingness to stay. Perceived Organizational Commitment (POC) refers to the employee's perception of the organization's commitment to them — the degree to which they believe the organization values, supports, and cares about them. These two terms are used consistently with this meaning throughout the paper and are not used interchangeably.

This paper has three objectives: (1) to review the literature connecting occupational stress, EC, POC, and employee well-being; (2) to identify the specific gap left by the sector-restricted scope of existing mediation research; and (3) to propose a conceptual framework, testable hypotheses, and a structured survey instrument for extending and testing this mediation model in broader occupational contexts within India.

Because this paper is submitted under an Indian Knowledge Systems (IKS) track, it is worth being explicit about where indigenous thought enters the argument, rather than asserting the connection loosely. Indian management scholarship — notably the Indian-ethos-in-management literature associated with Chakraborty (1995) — argues that Western commitment constructs, built around individual exchange and attachment, do not fully capture the

more relational, community-oriented sense of belonging (sometimes discussed under the Sanskrit notion of *Atmiyata*, or felt kinship, in Indian organizational writing) through which Indian employees often experience their relationship with an employer. This paper does not test that cultural claim empirically; it uses it narrowly, to justify why EC and POC — rather than stress reduction alone — are plausible protective mechanisms specifically in the Indian workplace contexts (both the original BPO sample and the broader sectors this paper proposes studying) that this framework addresses.

Literature Review

Occupational Stress and Employee Health

The theoretical foundation for organizational stress research traces back to Selye's (1936) general adaptation syndrome, which established stress as a physiological response to environmental demands. Lazarus and Folkman (1984) extended this into the transactional model, framing stress as arising from an individual's appraisal of demands relative to their coping resources. Cooper, Dewe and O'Driscoll (2001) synthesize this literature into an organizational framework identifying workload, role ambiguity, relationships, and organizational structure as principal sources of occupational stress. Maslach, Schaufeli and Leiter (2001) link chronic, unmanaged occupational stress to burnout, characterised by emotional exhaustion, depersonalization, and reduced personal accomplishment.

Job Demands and Resources

Bakker and Demerouti's (2007) Job Demands-Resources (JD-R) model offers a widely used framework for understanding how job characteristics affect employee well-being: high job demands (workload, time pressure, emotional labour) drive strain and exhaustion, while job resources (autonomy, support, feedback) buffer against these effects and foster engagement.

The JD-R model is relevant here because it implies that organizational-level resources — of which EC and POC may each be one — can transmit or buffer how stressors translate into health outcomes, rather than stress operating as a uniform, unmediated cause of poor well-being.

Commitment and Well-being

Meyer and Maltin (2010) reviewed the literature connecting employee commitment and well-being, distinguishing affective, continuance, and normative commitment. Their review found affective commitment to be the most consistently positive predictor of well-being, while continuance commitment (staying out of necessity) showed weaker or even negative associations. The specific measurement of these components traces to Meyer and Allen's (1991) Three-Component Model of organizational commitment, from which this paper's EC items are adapted (see Section 6.4).

Commitment as a Mediator of Stress and Health

Jain, Giga and Cooper (2013) tested this mediating relationship directly. Using the ASSET organizational stress screening tool (Cartwright & Cooper, 2002; Johnson & Cooper, 2003; Faragher, Cooper & Cartwright, 2004) and structural equation modelling on a sample of 401 BPO operator-level employees in India, they found that both EC and POC significantly mediated the relationship between organizational stressors and employee health and psychological well-being.

Indian Organizational Context

Chakraborty's (1995) work on Indian ethos in management argues that relational and community-oriented values shape how Indian employees experience workplace belonging, offering a cultural rationale — used narrowly, not as an empirical claim tested in this paper — for why POC in particular may carry weight in Indian organizational settings beyond what Western commitment theory alone predicts.

Synthesis

Taken together, this literature suggests a testable pathway: occupational stressors act on employee health and well-being, and this relationship may be transmitted through EC and POC. What remains untested is whether this

pathway, established for operator-level BPO employees, extends to other occupational segments — the gap this paper's hypotheses, framework, and questionnaire are designed to make testable.

Research Questions and Hypotheses

Building on the literature above, this paper proposes the following hypotheses for future empirical testing:

H1: Occupational stress is negatively associated with employee well-being.

H2: Occupational stress is negatively associated with employee commitment (EC).

H3: Employee commitment (EC) is positively associated with employee well-being.

H4: Perceived organizational commitment (POC) is positively associated with employee well-being.

H5: Employee commitment (EC) mediates the relationship between occupational stress and employee well-being.

H6: Perceived organizational commitment (POC) mediates the relationship between occupational stress and employee well-being.

Proposed Conceptual Framework

Building on Jain, Giga and Cooper's (2013) model and the JD-R framework (Bakker & Demerouti, 2007), this paper proposes the following mediation model, corresponding directly to H1 –H6 above, for empirical testing across broader occupational contexts:

Occupational Stress (OS) → Employee Commitment (EC) → Employee Well-being (EWB)
Occupational Stress (OS) → Perceived Organizational Commitment (POC) → Employee Well-being (EWB)

The model proposes that the strength of the mediating effect will vary by commitment type — consistent with Meyer and Maltin's (2010) finding that affective commitment is a more consistent predictor of well-being than continuance commitment — and by occupational segment, given that autonomy and job resources differ substantially between operator-level, knowledge-work, and hybrid/remote roles.

Methodology

This paper is a conceptual paper. It does not collect, analyze, or report primary or secondary empirical data; its contribution is the extended theoretical framework (Section 5), the hypotheses (Section 4), and the structured, source-cited questionnaire (below), which are intended as the design foundation for a subsequent empirical study, not as findings in themselves. For that future study, the recommended target population is employees across at least two occupational segments beyond the original BPO sample — for example, IT/knowledge-work employees and employees in hybrid or remote arrangements within India

— using stratified random sampling and structural equation modelling (following Jain et al.'s methodological precedent), with sample size determined by power analysis appropriate to the number of latent constructs in the model.

Proposed Questionnaire

The instrument below operationalizes the constructs in the proposed model (Section 5).

Unless noted otherwise, items use a 5-point Likert agreement scale (1 = Strongly Disagree ... 5

= Strongly Agree). The Well-Being section (7.5) uses the WHO-5 Index in its official, unmodified form with its own 6-point frequency scale, since altering WHO-5's wording or scale would invalidate its published scoring norms. The table below shows exactly which source each construct is adapted from and what, if anything, was changed.

Item-to-Source Mapping

Construct	Source instrument	Adaptation applied	Items
Occupational Stress	ASSET Organisational Stress Screening Tool (Cartwright & Cooper, 2002; validated for Indian context by Jain et al., 2013)	Selected 8 representative items across ASSET's workload, role clarity, control, and work-life-balance subscales; reworded to first-person Likert statements for this paper's shorter format (ASSET's full form has considerably more items).	B1 –B8
Employee Commitment (EC)	Meyer & Allen (1991) Three-Component Model — Affective and Continuance Commitment subscales	4 items adapted from the Affective Commitment subscale, 2 items adapted from the Continuance Commitment subscale; wording simplified, subscale labelled in parentheses for transparency.	C1 –C6
Perceived Org. Commitment (POC)	Eisenberger et al. (1986) Survey of Perceived Organizational Support (SPOS), short-form items, as used alongside EC by Jain et al. (2013)	5 representative items selected from the standard SPOS short-form pool; wording lightly simplified for a general working population.	D1 –D5
Well-Being	WHO-5 Well-Being Index (World Health Organization, 1998)	Used exactly as published — official 5 items, official 6-point (0–5) frequency scale, official 2-week recall window, official scoring (raw score x4 = 0–100 scale). No wording or scale changes.	E1 –E5

Section A: Respondent Profile

Age group

Gender

Industry/Sector

Job level (Entry / Mid / Senior / Managerial)

Work arrangement (On-site / Hybrid / Remote)

Total years of work experience

Tenure with current organization

Section B: Occupational Stress

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Strongly Agree.

#	Statement	SD(1)	D(2)	N(3)	A(4)	SA(5)
1	I feel overwhelmed by the volume of work I am expected to complete.	1	2	3	4	5
2	I have a clear understanding of what is expected of me in my role.	1	2	3	4	5
3	I feel that my job negatively affects my physical health (e.g., fatigue, headaches, sleep disturbance).	1	2	3	4	5
4	I experience anxiety or tension because of situations at work.	1	2	3	4	5
5	I have adequate control over how I organize and carry out my work.	1	2	3	4	5
6	My workload interferes with my personal or family life.	1	2	3	4	5
7	I receive adequate support from my supervisor when work becomes demanding.	1	2	3	4	5
8	I feel emotionally drained by the end of a typical workday.	1	2	3	4	5

Section C: Employee Commitment (EC) — Commitment TO the Organization

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#	Statement	SD(1)	D(2)	N(3)	A(4)	SA(5)
1	I feel a strong sense of belonging to my organization. (Affective)	1	2	3	4	5
2	I would be happy to spend the rest of my career with this organization. (Affective)	1	2	3	4	5
3	I feel personally invested in the success of my organization. (Affective)	1	2	3	4	5
4	I speak positively about my organization to people outside it. (Affective)	1	2	3	4	5
5	I feel obligated to stay with my organization because of what it has invested in me. (Continuance)	1	2	3	4	5
6	Leaving my organization now would require considerable personal sacrifice. (Continuance)	1	2	3	4	5

Section D: Perceived Organizational Commitment (POC) — the Organization's Commitment TO the Employee

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#	Statement	SD(1)	D(2)	N(3)	A(4)	SA(5)
1	My organization genuinely cares about my well-being.	1	2	3	4	5
2	My organization values my contribution to its success.	1	2	3	4	5
3	My organization is willing to help me when I need a special favour.	1	2	3	4	5
4	My organization would forgive an honest mistake on my part.	1	2	3	4	5
5	My organization takes my professional development seriously.	1	2	3	4	5

Section E: Employee Well-Being (WHO-5 Index, official form)

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WHO-5instrument,andmustnotbealterd.

#	Statement	At no time (0)	Some of the time (1)	Less than half the time (2)	More than half the time (3)	Most of the time (4)	All of the time (5)
1	I have felt cheerful and in good spirits.	0	1	2	3	4	5
2	I have felt calm and relaxed.	0	1	2	3	4	5
3	I have felt active and vigorous.	0	1	2	3	4	5
4	I woke up feeling fresh and rested.	0	1	2	3	4	5
5	My daily life has been filled with things that interest me.	0	1	2	3	4	5

Scoring (official WHO-5 method): sum the six raw item scores (range 0–25), then multiply by 4 to obtain a percentage score from 0 (worst imaginable well-being) to 100 (best imaginable well-being). A score below 50 conventionally indicates a need for further assessment of depressive symptoms.

Discussion and Implications

If H1 –H6 are supported in a future empirical study extending this framework beyond the BPO sample, the implications for HR practice would be significant. Rather than treating stress reduction as the only lever for protecting employee well-being, organizations undergoing

workplace transformation could invest deliberately in strengthening EC and POC — through transparent communication, perceived organizational support, and participatory decision-making — as a complementary pathway to safeguarding employee health. This would reframe commitment-building initiatives (recognition programs, career development, inclusive management practices) not merely as retention tools but as well-being interventions in their own right. These implications remain conditional on the hypotheses being tested and supported; they are not asserted as established findings in this paper.

Conclusion, Limitations, and Future Scope

This is a conceptual paper. It synthesizes existing evidence on occupational stress, EC, POC, and well-being to propose an extended mediation framework, six testable hypotheses, and a structured, source-cited instrument for testing that framework beyond the operator-level BPO context in which it was originally established by Jain, Giga

and Cooper (2013). Its principal limitation is the absence of primary data: the proposed model, hypotheses, and questionnaire are a design foundation for a subsequent quantitative study, not validated findings. Future research should pilot the questionnaire for reliability (Cronbach's alpha) and construct validity, administer it across multiple Indian occupational segments, and use structural equation modelling to test H1 –H6, determining whether — and how strongly — EC and POC mediate the stress–well-being relationship outside the BPO sector, including in hybrid and remote work arrangements.

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AN INTEGRATED TECHNOLOGY AND TECHNOLOGY ACCEPTANCE MODEL OF E-COMMERCE ADOPTION AND PERFORMANCE IN WOMEN-OWNED GARMENT MICROENTERPRISES IN INDIA

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Abstract

Objective: To investigate the effects of relative advantage, compatibility and complexity on perceived usefulness and ease of use on women-owned garment micro small businesses in India for adoption of e-commerce. These factors are incorporated to measure the subsequent effect of digital transformation on the operational performance and revenue growth.

Methodology: The methodology is based on the structural equation modeling technique using survey data of entrepreneurs to make it easier to interpret the relationship between the characteristics of innovation and the results of entrepreneurship.

Results: Results show that these technological properties strongly influence the effectiveness of digital integration, and that limited sample sizes highlight the need for more extensive long-term research.

Implication: This research helps enrich the discourse of digital entrepreneurship as it shows the relevancy of technology adoption as a key factor in the garment microenterprise sector's financial and non-financial performance.

Keywords: e-commerce, women entrepreneurship, technology acceptance model, garment, micro enterprises and digital performance.

1. Introduction

E-commerce adoption is a critical approach for women entrepreneurs of garment microenterprises in India to overcome the market barriers and to usher in the digital transformation in a competitive global market (Perna, 2026). By taking advantage of digital platforms, these enterprises can go beyond traditional geographical boundaries, which helps reduce the systemic issues that are common among small-scale entrepreneurs in emerging markets (Indiani et al., 2025). The technological characteristics of digital tools, including relative advantage, compatibility, and complexity, significantly affect how useful and easy they are to use, which in turn impacts their ability to effectively incorporate E-commerce into their operations (Wimolsophonkitti and Naipinit, 2024). The present study shows that the innovation features shape the adoption path and that, in turn, influence the scalability and competitive performance of these enterprises (Martini et al., 2023). Thus, the intention of this research was to propose a conceptual model with exogenous constructs of relative advantage, compatibility and complexity that act as mediators in the decision making process of MFI women entrepreneurs (Malaquias et al., 2023). Moreover, this study assumes that the technology adoption is a key factor in the improvement of enterprise performance and is regarded as a critical success factor in enterprise growth (Li, Liow and Yuan, 2022). The study builds on this and tests nine hypotheses to assess the direct impact of digital engagement on operational efficiency and long-term financial viability (Yadav et al., 2023).

In particular, this study assumes that the relative advantage and compatibility of the digital platforms significantly increase the perceived usefulness among these micro-entrepreneurs, while the increase in perceived complexity significantly decreases ease of use among these micro-entrepreneurs. Moreover, it is believed that the effective incorporation of these technologies greatly enhances the outcomes of operations of these garment enterprises, which consequently leads to better economic performance and penetration in the market. In terms of innovation characteristics, this research helps bridge the gap between digital literacy and the firm outcomes, providing clarity on the causal mechanisms that link digital literacy and platform integration to sustainable entrepreneurial growth (Hossain et al., 2024). Besides these innovation attributes, the study also explores the effect of an owner's technical skills and the digital financial environment as the moderators of the technology adoption (Peter, Geetha and Gupta, 2024; Rasaputhra et al., 2024). This research can validate these relationships to draw actionable conclusions that

can help create digital ecosystems to enable the empowerment of micro-entrepreneurs in emerging economies (Mustafa et al., 2022).

2. Literature Review

The study of technology adoption in SMEs has developed to include multiple theories, such as the Diffusion of Innovations theory and the Technology Acceptance Model, to take into account the intricacies of digital transformation (Yuwono, Suroso and Novandari, 2024). Recent research has focused on the use of basic information systems in developing environments, but the adoption of more complex systems is often shaped by the perceived usefulness and operational fit of these systems (Nazir et al., 2024; Díaz et al., 2024). In particular, resource-poor small businesses may not have the in-house skills or the budgets to undertake a digital transition, and the ease of use and fit of a platform becomes essential for positive outcomes (Campanella et al., 2025).

2.1 Technology Factors

Complexity, which is the perceived difficulty in understanding and using a new digital system, means that the higher the level of intricacy the more cognitive effort and technical skill is required (Al-shanableh et al., 2024). On the other hand, perceived usefulness and ease of use are important cognitive barriers that link these innovation attributes to actual behavioral intention (Huang et al., 2026). By highlighting the strategic position of digital platforms in delivering superior performance compared to traditional market channels, relative advantage directly contributes to perceived usefulness. Relative advantage directly contributes to perceived usefulness by demonstrating the strategic importance of digital platforms. At the same time, compatibility is also one of the fundamental factors that influence adoption, inasmuch as it makes digital tools fit more easily into the prevailing organisational habits, making the tool more easy to use for the user. However, higher complexity can pose significant challenges, reducing perceived usefulness and ease of use for micro-entrepreneurs who may face difficult learning curves with more complex digital tools (Al-shanableh et al., 2024). These systemic challenges underscore the importance of ensuring digital tools are designed to meet the specific resource challenges of micro-enterprises to reduce the cognitive burden on these businesses and facilitate the adoption of e-commerce tools.

2.1.1 Relative Advantage

The relative advantage of digital platforms in terms of perceived economic benefits and time-saving gives relative advantage that moves the entrepreneur's assessment toward higher utility. This perceived benefit will push users to see the integration of the platform as a better option for their traditional workflows, thus strengthening the sense of superiority of the technology with respect to business scalability (Berman, Schallmo and Kraus, 2024). Furthermore, the integration of such innovations with the existing operational habits and cultural norms of women's businesses is crucial for continued digital interaction, and makes it more likely that platforms are not just promising rewards but are also viable and sustainable. Compatibility and simplicity are fundamental drivers, as they eliminate the need to navigate complex digital interfaces and make it easier for semi-literate or resource-constrained entrepreneurs (Masa'deh et al., 2024; Abandu et al., 2026). In addition, empirical studies indicate that high POS is associated with positive attitudes toward technology and high attitudes toward technology is significantly related to the BEI.

H1- Relative advantage has a significant impact on perceived usefulness

H2 - Relative advantage has a significant impact on ease of use

2.1.2. Compatibility

The alignment means that digital tools are not considered stressors, but rather seamless extensions of existing business processes, thereby helping to overcome the gap between real-world experience and technological need (Duygan, Fischer and Ingold, 2022). The internal dynamics of the firm alignment is not the only factor that encourages the use of such platforms, other industry trends and external factors, such as of suppliers and customers, also motivate entrepreneurs to use such platforms in order to be competitive in their particular niche market (Fatima and Raza, 2022). Moreover, the social networks and/or formal education that these entrepreneurs have in their environment can also enhance the effect of compatibility, since the more educated they are the easier it will be to adapt to digital business approaches. Moreover, ICTs can be strategically used, along with strong psychological coping mechanisms, to support women entrepreneurs in facing the gender-specific challenges of digital transition (Srivastava and Pandita, 2025).

H3 – Compatibility has a significant impact on perceived usefulness

H4 - Compatibility has a significant impact on ease of use

2.1.3 Complexity

Complexity is generally regarded as a disadvantage, but in some cases a complex functionality can actually be advantageous if it offers specific advantages that directly answer to the specific logistical challenges of garment micro enterprises. These features, therefore, can be an enabler for an easier learning curve when designed to facilitate operational efficiency, rather than being obstacles (Tortorella et al., 2022). Technological interfaces that are intuitive can alleviate cognitive load, thereby improving self-efficacy and performance of the firms (Cao et al., 2026). Furthermore, digital engagement and knowledge of financial literacy serve as variables of mediation which allow women entrepreneurs to use technical capabilities and enhance firm performance.

H5 – Complexity has a significant impact on perceived usefulness

H6 - Complexity has a significant impact on ease of use

2.2 TAM Constructs

According to the TAM, innovation attributes to innovation adoption behavior are primary cognitive factors that have a mediating effect on perceived usefulness and perceived ease of use (PUEO) (Shahzad et al., 2024). The creation of expectation that technology can provide positive outcomes for the business directly influences entrepreneurial intentions to use digital platforms (Ilyas et al., 2023). Meanwhile, perceived ease of use has a positive effect on these behavioral intentions by diminishing the psychological and technical barriers impeding regular use of the system, thereby guaranteeing sustainable platform use (Tong and Xiong, 2022). This cognitive match between what users believe and what the system can do highlights that user-driven perceptions are the key to a successful trial to long-term digital adoption. Furthermore, this process is strengthened in that users feel more confident in managing digital activities effectively, suggesting that perceived behavioral control is an important mediator between user innovativeness and continued use of e-commerce platforms (Rodríguez et al., 2025).

H7 – Perceived usefulness has a significant impact on e-commerce adoption

H8 – Ease of use has a significant impact on e-commerce adoption

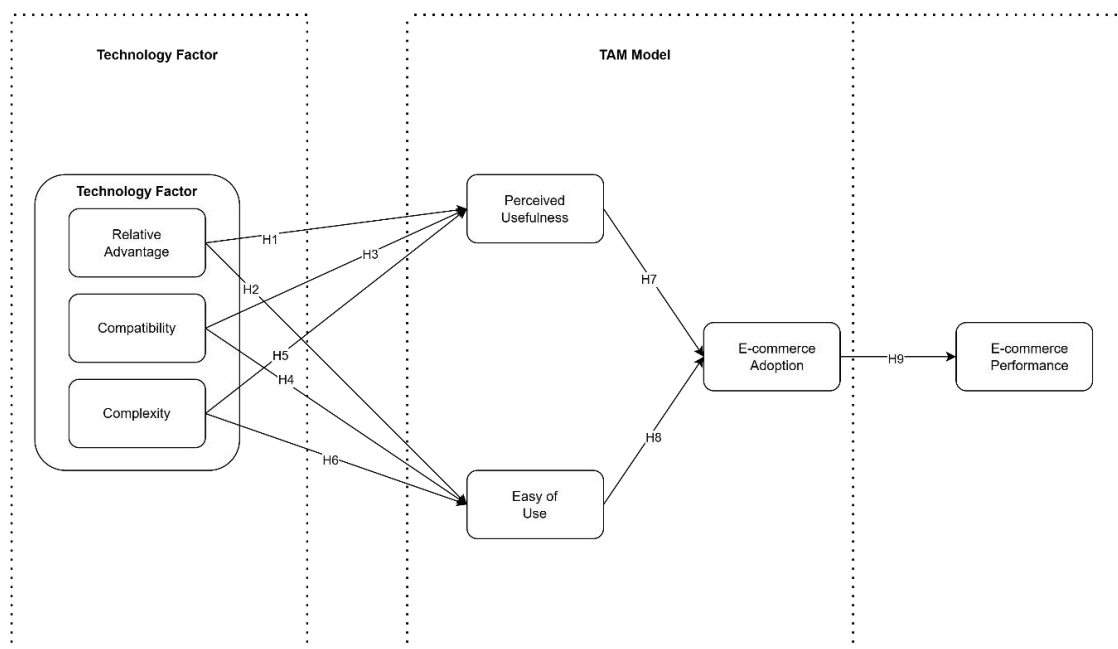


Figure 1: Measurement Model

2.3 E-commerce adoption

The positive impact of these micro-enterprises using digital storefronts is on their increased operational transparency and reach to customers – contributing to better revenue growth and competitiveness (Sugiharto, 2024). The shift ensures a more efficient supply chain and lowers transactional expenses, giving these enterprises the stability they need to thrive amid the fluctuating dynamics of conventional retail settings. Furthermore, the adoption of these platforms enables greater market access and service delivery, enabling garment micro-enterprises to continue to perform and overcome the geographic and temporal restrictions. Studies have found that this systematic use of e-commerce channels is a positive driver of firm performance and that the practices of digital capability are directly associated with realized organizational outcome, which is statistically significant (Hussain et al., 2022). Furthermore, digitalisation of these business processes is a key enabler, helping to translate business operational inputs into tangible improvements in firm agility and strategic decision-making performance. Improvements in digital skills can come in the form of more effective marketing and long-term business viability as entrepreneurs use the tools to expand their customer base. (Kreiterling, 2023).

H9 – E-commerce adoption has a significant impact on e-commerce performance.

3. Methodology

The study is a quantitative, cross sectional kind of research design, which is used to test the proposed theoretical model in the empirical context with main setting being the Indian Garment industry. The target population includes garment micro-enterprise owners and key employees, and a convenience sampling technique was used to ensure that the sample included a representative cross-section of participants from varied geographic clusters. Data collection: A structured survey instrument was designed that includes a 7-point Likert scale to assess the nuanced sentiment of the respondents on technological integration. A two-step process, including an expert review and pilot testing, was carried out before the survey instrument was sent out to confirm construct reliability and maintain the context-relevance of the survey.

4. Data Analysis

A primary data collection method was used for obtaining data through 157 micro-enterprises in the Garment sector of Gujarat State. As for the quantitative data, these were analyzed by an analysis of covariance based on structural equation modeling to test the direct and indirect hypothesized relationships in the research framework.

4.1 Reliability

Indicator reliability was assessed by examining the factor loadings to see if they meet the criterion of 0.70; internal consistency was assessed using Cronbach's alpha and composite reliability coefficients.

Table 1: Composite Reliability

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Compatibility	0.937	0.94	0.96	0.889
Complexity	0.955	0.955	0.971	0.917
E-commerce Adoption	0.911	0.913	0.937	0.789
E-commerce Performance	0.941	0.945	0.958	0.85
Ease of Use	0.951	0.952	0.968	0.911
Perceived Usefulness	0.953	0.953	0.97	0.914

Relative Advantage	0.939	0.94	0.961	0.892
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4.2 Discriminant Validity

In order to confirm the discriminant validity, the square root of the Average Variance Extracted for each construct was compared to the inter-construct correlation for each construct using the Fornell-Larcker criterion.

Fornell-Larcker criterion

Table 2: Discriminant Validity: - Fornell-Larcker Criteria

	Compatibility	Complexity	E-commerce Adoption	E-commerce Performance	Ease of Use	Perceived Usefulness	Relative Advantage
Compatibility	0.943						
Complexity	0.877	0.957					
E-commerce Adoption	0.806	0.843	0.888				
E-commerce Performance	0.669	0.736	0.705	0.922			
Ease of Use	0.845	0.868	0.834	0.668	0.954		
Perceived Usefulness	0.842	0.867	0.87	0.728	0.857	0.956	
Relative Advantage	0.871	0.908	0.861	0.724	0.85	0.866	0.944

4.4 Structural Equation Model

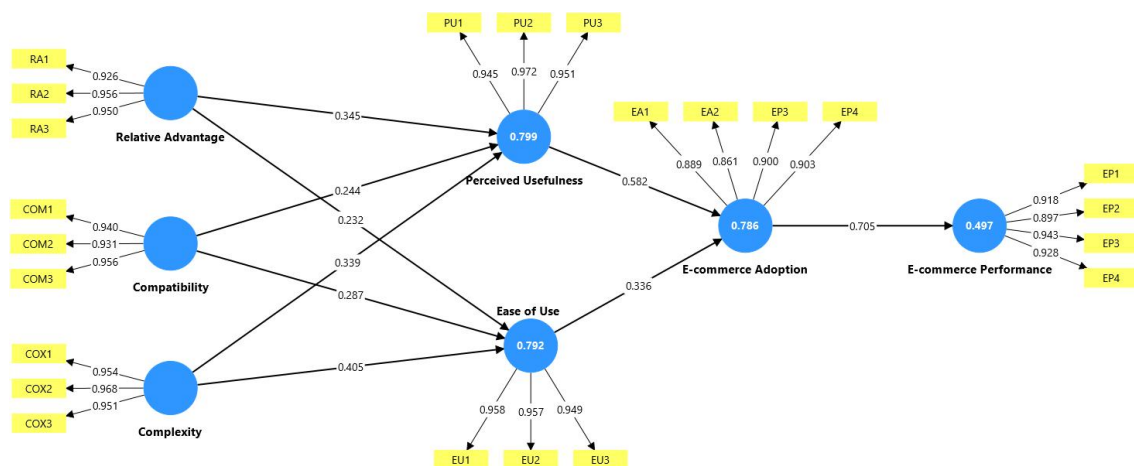


Figure 2: Structural Equation Model

Table 3: Path analysis

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Validation
Compatibility -> Ease of Use	0.287	0.290	0.096	2.987	0.003	Support
Compatibility -> Perceived Usefulness	0.244	0.246	0.100	2.452	0.014	Support
Complexity -> Ease of Use	0.405	0.402	0.108	3.736	0.000	Support
Complexity -> Perceived Usefulness	0.339	0.334	0.122	2.791	0.005	Support
E-commerce Adoption -> E-commerce Performance	0.705	0.704	0.057	12.453	0.000	Support
Ease of Use -> E-commerce Adoption	0.336	0.338	0.077	4.355	0.000	Support
Perceived Usefulness -> E-commerce Adoption	0.582	0.580	0.076	7.644	0.000	Support
Relative Advantage -> Ease of Use	0.232	0.232	0.106	2.181	0.029	Support
Relative Advantage -> Perceived Usefulness	0.345	0.348	0.120	2.876	0.004	Support

4.5 R – Square & Adjusted R- Squared.

Results of the structural model analysis showed that the integrated framework accounted for a large percentage of the variance in the model's outcome variables (Alalwan et al., 2022). This predictive power further indicates the strength of the model, which aligns with empirical findings that indicate that a high structural model fit is predictive of reliable insights into behavior in digital ecosystems (Singh et al., 2024).

Table 4: R-squared and Adjusted R-squared

Constructs	R-square	R-square adjusted
E-commerce Adoption	0.786	0.783
E-commerce Performance	0.497	0.494
Ease of Use	0.792	0.788
Perceived Usefulness	0.799	0.795

4.6. Model Fit

A Standardized Root Mean Square Residual of 0.054 and a Normed Fit Index of 0.912 support the validation of the model fit with the empirical data and support the proposed structural model as a good approximation of the empirical data.

Table 5: **Model fit**

	Saturated model	Estimated model
SRMR	0.044	0.075
d_ULS	0.544	1.54
d_G	0.9	0.999
Chi-square	788.559	820.352
NFI	0.852	0.846

5. Findings And Discussion

The empirical findings validate the statistical significance of hypothesized paths supporting the integrated model of e-commerce adoption in WGMEs. In particular, relative advantage and compatibility were found to be predictors of perceived usefulness, further highlighting the importance of perceived strategic value in technological integration. The results from this study indicate that the concepts of compatibility and relative advantage, as catalysts for perceived utility, are indeed important for promoting the adoption of technology in micro-enterprises, but complexity with regard to ease of use is also a factor. Moreover, the positive relationship between the adoption of e-commerce and the performance of enterprises further confirms that the use of technology is an important source of growth in the informal garment sector.

The results of the path analysis also verify that perceived usefulness still has the strongest direct effect on intentions to adopt, more than ease of use (Dingel et al., 2024). This outcome resonates with the existing technology adoption research, which often finds perceived usefulness to be the key for organizations to involve with digital systems (Mujalli et al., 2024). Besides, the identified correlation between adoption and the performance of the firms, shows that digital transformation is not just a technical adjustment but a strategic move for gaining competitive advantage in the micro-enterprise environment (Asa, Nautwima and Johannes, 2026). The high path coefficient of 0.705 between the adoption and performance could support the claim that digital infrastructure is a basic condition to improve the operational efficiency and market reach. Moreover, the model's explanatory power of the outcomes on a firm level are similar to the recent findings of digital transformations, in which structural integration is directly linked to better resource optimizations. These findings corroborate previous empirical studies conducted in the SME setting and show that structural technology alignment is a good predictor of both behavioral intent and actual performance. The results are consistent with previous research that showed that together with the organizational capabilities, technological factors influence e-commerce usage and technology directly contributes to improved business performance. In particular, the results confirm that building strong internal digital assets is a key part of SMEs' efforts to convert the technology potential into market value (Thaha et al., 2022). In this context, micro-entrepreneurs with a positive attitude towards the use of digital tools, seeing them as more functional and easy to use, are more likely to be able to make the most of these systems to improve their competitiveness.

6. Implications And Limitations

In practice, by focusing on user-centric design to reduce complexity and improving digital literacy, policymakers and developers can help to make it easier for women entrepreneurs to integrate their platforms. Moreover, structured training should be provided for stakeholders to help them overcome logistical challenges, including the proper availability of the courier services, so that the uptake of e-commerce is matched by real gains in delivery efficiency and performance of enterprises. The results are, however, limited by the cross-sectional, self-reported nature of the study, which could lead to response bias and the ability to make inferences for longitudinal growth over time. Moreover, the study's specific focus on the Indian garment industry might limit the generalizability of these findings to other industries and/or regions with different socio-economic infrastructures. Longitudinal designs should be used in future research to explore the sustainability of these digital gains and the cross-cultural application of the proposed model should be expanded to include more contexts. Furthermore, future studies should

incorporate the concepts of perceived behavioral control and subjective norms to better capture social factors that impact technology adoption decisions in the micro-enterprise context. This synthesis transcends the traditional measures of adoption, uncovering how perceived utility and operational compatibility act as a catalyst for resilient performance. These results serve as a blueprint for future research to help close the gap between the more technical measures of adoption and the broader socio-economic factors of digital entrepreneurship. Entrepreneurship courses need to go beyond teaching technical skills to incorporate sections on strategic thinking and adapting performance, enabling entrepreneurs to integrate digital tools into their business operations.

7. Conclusion

The findings of this research also reaffirm that the performance of e-commerce in women entrepreneurs' garment micro-enterprises is not only dependent on the ease of access to the platform, but also depends on the interaction between perceived utility, digital fluency and organizational agility. This paper is a contribution to the literature of digital entrepreneurship by validating these relationships and verifying that the design of the supporting systems and infrastructure synergies directly benefit women's businesses in addressing traditional market constraints. In conclusion, the adoption of digital solutions in India demands a comprehensive policy framework that combines increased financial support (including low-interest loans) and investment in quality digital infrastructure in rural areas. The interventions should be complemented by ongoing e-knowledge building and ongoing training of entrepreneurs with the competencies necessary to use digital tools effectively for continuous innovation. Policymakers can then enable these businesses to manage the complexity of today's fintech and digital marketplaces through private-public partnerships to guarantee access to affordable and secure digital tools. In the end, it will foster a strong ecosystem that allows women entrepreneurs in the handicraft and garment industry of India to flourish from subsistence to sustainable, competitive enterprises. Such coordinated action to address institutional gaps and the policy constraints of a regressive nature is crucial to increase women entrepreneurs' decision-making power. This will help create a more inclusive digital economy, aligned with overall sustainable development objectives. However, tackling these challenges is still crucial, as the sustainability of women's businesses can be fragile and without structural support and institutional mechanisms change, it could only be a dream. Policy measures should hence focus on closing the digital divide in local educational systems and in systems of financial inclusion, which can play a key role in improving the performance and sustainability of women's businesses.

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WORK–LIFE BALANCE AMONG WOMEN EMPLOYEES IN PUBLIC SECTOR BANKS: A CONCEPTUAL PERSPECTIVE ON EMPLOYEE WELL-BEING AND WORKPLACE TRANSFORMATION

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ABSTRACT

Work–life balance (WLB) has emerged as an important concern in contemporary workplaces, particularly for women employees who frequently manage professional responsibilities alongside family and personal commitments. The banking sector is characterized by customer-oriented services, performance expectations, workload pressures, technological changes and evolving work practices, making WLB an important dimension of employee well-being and workplace effectiveness. This conceptual paper examines work–life balance among women employees in public sector banks from the perspectives of employee well-being, human resource management and workplace transformation. The paper is based on a structured review and synthesis of existing literature on work–life balance, women employees, organizational support, workplace culture, employee well-being and HR practices. The reviewed literature indicates that workload, extended working hours, family responsibilities and work–family interference can create challenges for women employees, whereas organizational support, family-friendly policies, flexible working arrangements, supportive management and an inclusive workplace culture can facilitate better balance and well-being. The paper proposes a conceptual framework in which gender-related conditions and workplace demands interact with inclusive organizational resources to influence work–life balance and, consequently, employee well-being. The paper further argues that workplace transformation should not focus only on organizational efficiency and technological change but should also incorporate employee-centric HR practices and well-being. Thus, WLB can be viewed as an important component of human capital development and inclusive workplace transformation in the Indian banking context.

Keywords: Work–Life Balance(WLB), Women Employees, Public Sector Banks (PSBs), Employee Well-being, Human Resource Management, Workplace Transformation, Organizational Support, Inclusive HR Practices

INTRODUCTION

Work–life balance (WLB) has emerged as an important concern in contemporary workplaces as employees increasingly navigate professional responsibilities alongside family, personal and social commitments. Maintaining an appropriate balance between these different domains is important not only for employees' well-being but also for effective organizational functioning. When work and personal responsibilities become difficult to manage simultaneously, employees may experience stress, role conflict and difficulties in fulfilling their multiple responsibilities. The issue of work–life balance is particularly significant for women employees because their participation in professional employment often exists alongside family responsibilities and socially constructed expectations related to household management and caregiving. The interaction between professional and personal responsibilities can therefore create distinctive challenges. WLB should consequently be understood not only as an individual's ability to manage multiple responsibilities but also in relation to the organizational environment in which employees perform their work. The banking sector represents an important context for examining WLB because of its service-oriented and increasingly technology-driven nature. Bank employees are required to manage customer-related responsibilities, administrative tasks, performance expectations, organizational targets and changing work practices. These workplace demands may interact with personal and family responsibilities, particularly for women employees who may simultaneously experience gender-related expectations outside the workplace. Public sector banks provide a particularly relevant setting because their formal organizational structures, employment systems, service responsibilities and HR practices create a distinctive environment in which women employees negotiate professional and personal responsibilities. The changing nature of workplaces also makes employee well-being increasingly relevant to human resource management. Workplace transformation cannot be understood only in terms of technology, productivity or organizational restructuring. It also involves changes in employee roles, expectations, working arrangements, organizational culture and the ways in which employees

experience their work. From this perspective, WLB becomes an important component of workplace transformation because organizational changes can either support employees in managing their professional and personal responsibilities or create additional pressures. An inclusive organizational perspective is therefore important. Organizational support, managerial understanding, flexible working arrangements, family-friendly policies, appropriate leave provisions and a supportive workplace culture can create conditions that enable employees to manage competing responsibilities more effectively. Thus, WLB should not be viewed solely as an individual's responsibility; rather, it can be understood as an outcome shaped by the interaction of individual, gender-related and organizational factors. Against this background, the present paper develops a conceptual perspective on work–life balance among women employees in public sector banks, with particular emphasis on employee well-being and workplace transformation. The paper integrates gender-related conditions, workplace demands and inclusive organizational resources within a broader human resource perspective. It seeks to demonstrate that employee well-being should remain an important consideration in organizational transformation and that sustainable workplace development requires attention to both organizational effectiveness and employees' quality of working life.

BACKGROUND OF THE STUDY

Women's increasing participation in the workforce has strengthened the need for organizational environments that enable employees to manage professional and personal responsibilities effectively. However, employment does not necessarily remove traditional gender expectations. Existing literature indicates that women may continue to experience substantial family responsibilities and work–family interference, while limitations in employer and co-worker support may affect their ability to use family-friendly policies effectively. These issues are particularly relevant in the banking sector. Women employees in banks operate within structured organizational systems while simultaneously managing personal and family responsibilities. Work overload, long or unpredictable working hours, performance pressure, customer-oriented demands and family responsibilities can create difficulties in maintaining WLB. At the same time, supportive management, flexibility, employee assistance, leave policies and social support can facilitate better balance. The public sector banking environment provides an important context because formal HR policies and institutional procedures may influence employees' experiences of work and personal life. However, the existence of formal policies does not automatically ensure their effective utilization. Employees' awareness of policies, managerial support and workplace culture can collectively determine whether organizational practices actually contribute to employee well-being. Therefore, WLB needs to be examined not merely as an individual time-management issue but as a broader employee well-being and workplace transformation concern. A workplace that supports employees' personal and family responsibilities may contribute to healthier employee experiences, stronger organizational commitment and more inclusive participation in the workforce.

OBJECTIVES OF THE STUDY

The present conceptual paper has the following objectives:

- To examine the concept of work–life balance among women employees in the banking sector and review its relationship with employee well-being.
- To identify the major gender-related, workplace and organizational factors influencing work–life balance among women employees in public sector banks.
- To examine the role of human resource practices, organizational support and inclusive workplace practices in promoting employee well-being.
- To develop a conceptual framework integrating gender-related conditions, workplace demands, inclusive organizational resources, work–life balance, employee well-being and workplace transformation.
- To highlight the implications of an employee-centric approach to workplace transformation for women employees in public sector banks.

RESEARCH METHODOLOGY

The present study is conceptual in nature. It does not involve primary data collection or statistical testing. The paper is based on a structured review and conceptual synthesis of existing literature relating to work–life balance, women employees, banking, organizational support, workplace culture, flexible working arrangements, human resource

practices and employee well-being. Recent studies published primarily during 2023–2026 were considered alongside established theoretical contributions to develop the conceptual argument. The literature was examined thematically to identify recurring workplace demands, organizational resources, employee well-being concerns and research gaps. The analysis particularly focuses on how organizational conditions influence women's ability to manage professional and personal responsibilities and how supportive HR practices can contribute to employee well-being and inclusive workplace transformation. The purpose of the study is not to empirically test relationships but to develop a theoretically informed conceptual framework that can guide future empirical research.

RESEARCH PROPOSITIONS

Proposition 1

Gender-related expectations and caregiving responsibilities are likely to influence the work–life balance of women employees in public sector banks.

Proposition 2

Higher workplace demands, including workload, working hours, performance expectations and job-related pressures, are likely to negatively influence the work–life balance of women employees in public sector banks.

Proposition 3

Inclusive organizational resources, including managerial support, flexible working arrangements, family-friendly policies and supportive workplace culture, are likely to positively influence work–life balance and employee well-being.

Proposition 4

An inclusive and employee-centred organizational environment that addresses gender-related conditions and workplace demands through supportive HR resources is likely to enhance work–life balance and contribute to positive employee and organizational outcomes.

Proposition 5

Workplace transformation that combines organizational effectiveness with employee well-being is likely to create more sustainable and inclusive working environments for women employees in public sector banks.

CONCEPT OF WORK–LIFE BALANCE

Work–life balance refers to the extent to which individuals are able to manage the demands and expectations associated with work and other important life domains. It is broader than the absence of work–family conflict because it also involves positive functioning across different areas of life. Greenhaus and Beutell's (1985) work on work–family conflict provides an important foundation for understanding imbalance. They identified time-based, strain-based and behaviour-based conflict as mechanisms through which one role can interfere with another. Clark's (2000) Work/Family Border Theory further explains how individuals move between work and family domains and manage boundaries between them. For women employees, these theoretical perspectives are particularly relevant because professional and family domains may involve competing expectations. A woman employee may be expected to meet organizational performance requirements while also fulfilling family responsibilities. Consequently, organizational conditions can either increase or reduce the difficulty of managing these boundaries. From the perspective of the present conference theme, WLB can therefore be considered an important element of employee well-being and human capital development. An organization that enables employees to manage different life domains effectively may be better positioned to create a supportive, inclusive and sustainable workplace.

WOMEN EMPLOYEES AND WORK–LIFE BALANCE

Women employees experience work–life balance within a broader gendered social context. Although women's participation in professional employment has increased, they may continue to encounter expectations related to household management, caregiving and family responsibilities. The simultaneous management of professional and personal roles can therefore create additional demands and pressures. The experience of WLB is not uniform for all

women. Family structure, caregiving responsibilities, marital and parental roles, workplace expectations and the availability of organizational and social support may influence how women experience and manage the boundaries between their professional and personal lives. For women employees in the banking sector, these challenges may become particularly significant because professional responsibilities involve customer service, workload, performance expectations, working schedules and changing organizational requirements. When these demands overlap with family and personal responsibilities, maintaining an effective balance may become more difficult. Therefore, WLB among women employees should be understood as a multidimensional phenomenon involving the interaction of individual and family responsibilities, workplace demands and organizational conditions. Supportive and inclusive workplace practices can consequently contribute to better WLB and improved employee well-being.

THEORETICAL FOUNDATION

The present conceptual paper is grounded in theoretical perspectives that explain the relationship between work demands, family responsibilities, personal resources and work-life balance. Together, these perspectives provide a basis for understanding how women employees manage competing roles and how organizational conditions can influence their well-being.

Work-Family Conflict Theory

Work-Family Conflict Theory provides a foundation for understanding situations in which demands from work and family roles are incompatible. Conflict may occur when the time, energy or behavioural requirements of one role make it difficult to fulfil another. Within the present framework, the theory explains how workplace demands can create difficulties in managing family and personal responsibilities.

Work/Family Border Theory

Work/Family Border Theory focuses on the boundaries individuals create and manage between their work and family domains. In the context of women employees, the theory provides a basis for understanding how professional and personal responsibilities are managed across different life domains. It also highlights the importance of workplace conditions that facilitate effective boundary management.

Conservation of Resources Theory

Conservation of Resources Theory provides a resource-based explanation of WLB. Individuals seek to acquire, maintain and protect valuable resources, while the loss or threat of resources can create stress. Within the present framework, resources include time, energy, social support, autonomy and organizational support. Workplace demands may consume these resources, whereas supportive HR practices may help employees preserve and manage them effectively.

THEORETICAL INTEGRATION

The three theoretical perspectives complement one another. Work-Family Conflict Theory explains pressures arising from competing work and family demands, Work/Family Border Theory explains the management of boundaries between professional and personal domains, while Conservation of Resources Theory explains the importance of resources available to employees. Together, they provide a theoretical foundation for examining how gender-related conditions, workplace demands and inclusive organizational resources influence work-life balance and employee well-being among women employees in public sector banks.

REVIEW OF LITERATURE

Workload and Working Hours

Workload is one of the frequently identified challenges associated with WLB. Excessive workload and extended working hours reduce the time available for family and personal activities and may increase stress. Studies included in the original paper identify prolonged working hours and workload as important challenges for women employees in banking. From an employee well-being perspective, workload is therefore not merely an operational issue. Persistent workload pressure can influence employees' time, energy and ability to recover from work demands. Consequently, workload management becomes an important component of employee-centred workplace

transformation. **Prathiba and Raja (2023)**, in their study of women employees in the banking sector, reported that prolonged working hours negatively affected the personal lives of women employees. **Vikas and Mathur (2024)** similarly incorporated workload into their conceptual framework of WLB among women employees in the Indian banking industry. Their study proposed a negative relationship between workload and WLB. More recent research on banking employees continues to identify extended working hours, workload and stress as important WLB challenges.

Organizational Support

Organizational support can play an important role in helping employees manage competing responsibilities. Supportive managers may provide flexibility, understanding, reasonable scheduling and assistance during periods of family difficulty. Existing literature identifies organizational support as an important factor influencing WLB among women employees in banking. Organizational support should therefore be considered not merely as an HR facility but as an organizational resource that can contribute to employee well-being and a more supportive workplace environment. **Vikas and Mathur (2024)** identified organizational support as one of the important factors influencing WLB among women employees in banking. The importance of supportive leadership is also demonstrated in recent international research.

Family-Friendly Policies

Family-friendly policies may include leave provisions, flexible working arrangements, childcare-related support and other measures designed to help employees manage family responsibilities. However, policy availability alone may not be sufficient. Existing literature highlights the gap that may exist between the formal availability of policies and women's actual ability to use them effectively. This suggests that successful workplace transformation requires not only appropriate policies but also managerial support and a workplace culture in which employees can use these provisions without negative perceptions. **Vyas (2023)** highlighted the gap between the existence of family-friendly policies and women's actual ability to use them effectively, particularly because of insufficient employer and co-worker support.

Workplace Culture

Workplace culture determines how organizational policies and employee needs are interpreted in everyday work situations. A culture that values employees' personal lives may make it easier for women to utilize available WLB practices. Research identified in the paper highlights the relationship between workplace culture and organizational factors among women employees in Indian banks. This supports the inclusion of workplace culture as an important component of an inclusive and employee-oriented organizational environment. **Herenz and Rani (2025)** examined workplace culture and WLB among women employees in public and private banks in India. Their findings reported a strong relationship between workplace culture and organizational factors, highlighting the relevance of organizational conditions to women employees' professional well-being.

Flexible Working Arrangements

Flexible working arrangements have received increasing attention following the COVID-19 pandemic. Flexibility can reduce commuting time and provide employees with greater control over when and where work is performed. However, flexibility can also create blurred boundaries between work and personal life. The literature reviewed in the paper indicates that the relationship between flexible working arrangements and well-being can be complex and may depend on gender and psychosocial conditions. Therefore, flexibility should be implemented carefully, with attention to workload, employee autonomy and boundaries between work and personal life.

Work-Life Balance and Employee Well-being

The relationship between WLB and employee well-being represents the strongest connection with the Jain conference's Employee Well-being sub-theme. The literature reviewed in the paper indicates positive relationships between WLB and psychological well-being, resilience, life satisfaction and job satisfaction. Research on HR practices also emphasizes the importance of organizational practices in supporting employee well-being. Thus, WLB should not be treated as an isolated HR issue. It can be positioned as an important component of employee well-being and an essential consideration in developing inclusive workplaces. **Liswandi and Muhammad (2023)**, through a systematic review of 30 studies, reported positive relationships between WLB and psychological well-

being, resilience, life satisfaction, job satisfaction and other positive employee outcomes. **Bhoir and Sinha (2024)** conducted a systematic literature review of HR practices and employee well-being and emphasized the growing importance of organizational HR practices in supporting employee well-being. **Nambiar (2025)**, studying women employees in government and commercial banks, reported comparatively better WLB and welfare ratings among government-sector employees and highlighted the role of structured organizational policies.

SYNTHESIS OF LITERATURE

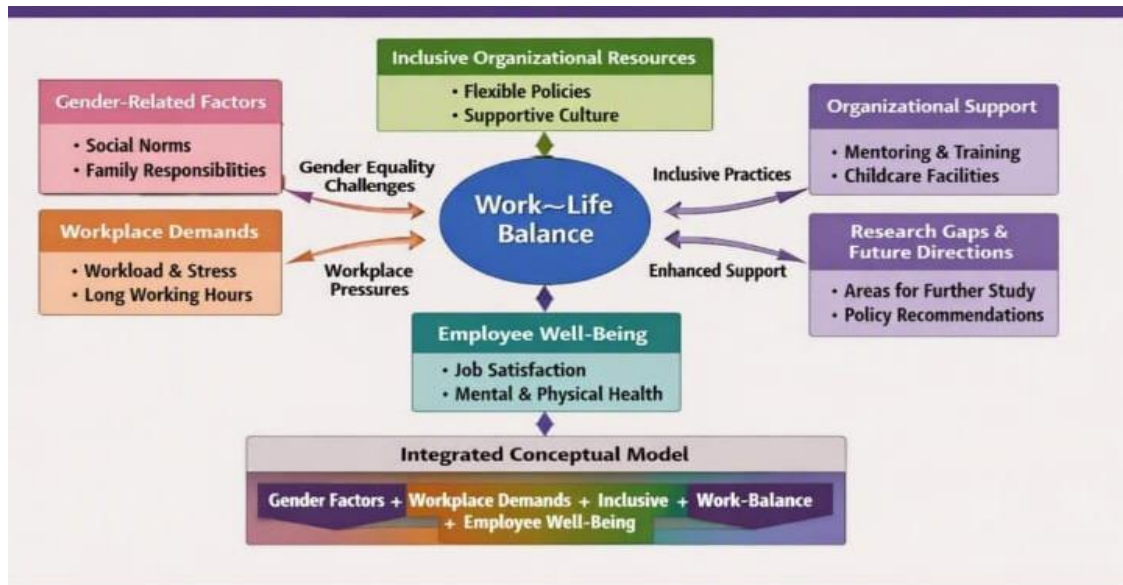
The reviewed literature indicates that WLB among women employees is influenced by a combination of workplace, organizational and personal factors. In the banking sector, workload, extended working hours, performance pressure and family responsibilities emerge as important challenges affecting women's ability to maintain balance between professional and personal life. At the same time, organizational support, supportive management, family-friendly policies, flexible working arrangements and a positive workplace culture can facilitate better WLB. The literature also establishes an important connection between WLB and employee well-being, with better WLB associated with psychological well-being, life satisfaction, job satisfaction and other positive employee outcomes. However, existing research frequently examines workplace demands and organizational resources separately. There is therefore scope for a broader conceptual integration of these factors as interconnected elements of an inclusive workplace. The present paper contributes by integrating gender-related conditions, workplace demands, inclusive organizational resources, WLB and employee well-being within the specific context of women employees in public sector banks.

RESEARCH GAP

The literature review identifies the following gaps:

- Although several recent studies examine WLB among women employees in banking, fewer studies conceptually integrate WLB with the broader employee well-being perspective.
- Organizational support, flexible working arrangements, leave policies and supportive management are frequently examined as separate predictors. There is scope to conceptualize them collectively as inclusive organizational resources.
- Existing research frequently focuses on individual experiences of WLB. Greater conceptual attention is required to understand how organizational structures and workplace culture influence women's ability to achieve balance.
- Public sector banks remain an important context because their formal organizational structures and HR systems provide a distinctive setting for examining WLB and employee well-being.
- Emerging changes in work arrangements and digitalization create a need for continued conceptual examination of how workplace transformation may influence WLB and employee well-being among women employees.

CONCEPTUAL FRAMEWORK



Source: Developed by Researcher based on Literature Review

CONCEPTUAL ANALYSIS

Based on the literature synthesis, WLB among women employees in public sector banks can be understood as the outcome of the interaction between gender-related conditions, workplace demands and inclusive organizational resources. Gender-related conditions may increase the complexity of managing professional and personal responsibilities because women may continue to experience expectations related to caregiving and household responsibilities. Workplace demands such as workload, working hours and performance expectations can further increase pressure. However, organizational resources may help women manage these competing demands. Managerial support, flexible working arrangements, leave provisions, family-friendly policies and supportive workplace culture can provide resources that facilitate better work-life management. From the perspective of workplace transformation, these organizational resources become particularly important because changes in work practices should not be evaluated only through efficiency and productivity. Their implications for employee well-being and work-life balance should also be considered. Therefore, WLB should not be viewed solely as an individual's ability to manage time. It is also influenced by organizational structures, HR practices and workplace culture. When employees receive adequate organizational resources, they may be better able to manage work and personal responsibilities, thereby supporting their overall well-being.

IMPLICATIONS FOR EMPLOYEE WELL-BEING

The proposed framework has several implications for employee well-being.

First, better WLB may contribute to psychological well-being by reducing excessive role pressure and allowing employees adequate time for recovery and personal activities.

Second, supportive organizational practices may contribute to job satisfaction because employees may perceive that their organization recognizes their personal and family needs.

Third, effective WLB practices may contribute to organizational outcomes such as commitment, retention and productivity.

Fourth, an inclusive approach to WLB may contribute to gender equality by creating workplace conditions in which women can participate and progress professionally without being disproportionately burdened by competing responsibilities. Thus, employee well-being should be regarded as an integral outcome of effective human resource management rather than as an additional organizational benefit.

IMPLICATIONS FOR PUBLIC SECTOR BANKS

Based on the conceptual framework, public sector banks may consider the following areas:

- Supportive leadership: Managers should recognize employees' legitimate family and personal responsibilities.
- Flexible work practices: Where operationally feasible, flexibility should be considered for suitable roles.
- Effective leave policies: Leave provisions should be accessible and implemented without creating negative perceptions about employees.
- Workload management: Excessive workload and unnecessary working-hour extensions should be monitored.
- Employee well-being programmes: Banks can strengthen counselling, employee assistance and stress-management initiatives.
- Supportive workplace culture: Employees should feel comfortable communicating genuine work-life difficulties.
- Gender-sensitive HR practices: HR policies should consider the different pressures experienced by employees with caregiving responsibilities.
- Managerial awareness: Supervisors should be trained to implement WLB policies consistently and fairly. These measures can help transform WLB from an individual coping issue into an organizational well-being priority and make workplace transformation more employee-centred and inclusive.

FUTURE RESEARCH DIRECTIONS

The conceptual framework provides several directions for future empirical research.

- Future studies may empirically examine the relationship between workload, organizational support, workplace culture, flexible working arrangements and WLB among women employees in public sector banks.
- Researchers may examine whether employee well-being mediates the relationship between WLB and outcomes such as job satisfaction, organizational commitment and turnover intention.
- Comparative research between public and private sector banks could identify whether differences in organizational structures and HR practices influence WLB.
- Future studies may examine whether factors such as caregiving responsibility, age, hierarchical position and family support moderate the relationship between workplace conditions and WLB.
- Finally, post-pandemic changes such as digital banking, hybrid work and technology-enabled work may provide new directions for examining the relationship between workplace transformation, WLB and employee well-being.

CONCLUSION

Work-life balance among women employees in public sector banks is an important employee well-being, human resource management and workplace transformation issue. The reviewed literature demonstrates that women employees may face challenges arising from workload, working hours, performance expectations, family responsibilities and work-family interference. At the same time, organizational support, supportive management, family-friendly policies, flexibility and a positive workplace culture can facilitate better WLB. The present paper contributes a conceptual perspective by integrating these factors rather than treating them as isolated variables. The proposed framework places gender-related conditions and workplace demands on one side and inclusive organizational resources on the other, with WLB functioning as a central mechanism influencing employee well-being. The central argument is that WLB should not be considered solely an individual responsibility. Organizations, particularly public sector banks, have an important role in creating working environments that enable employees to manage professional and personal responsibilities effectively. Workplace transformation should therefore move beyond organizational efficiency alone and incorporate employee well-being, inclusive HR practices and

sustainable working conditions. An employee-well-being-oriented approach to WLB can contribute not only to women's quality of working life but also to organizational sustainability, employee satisfaction, retention and inclusive workplace development. Thus, human capital development and workplace transformation are strengthened when organizational effectiveness is pursued alongside employee well-being.

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THE DHARMIC LEADER: AN INDIAN KNOWLEDGE SYSTEMS FRAMEWORK FOR RESPONSIBLE BUSINESS

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ABSTRACT

Responsibility theory defines an organizational leader's duties toward their customers; however they don't define where those responsibilities come from – by way of “accountable” (claims) versus “ethical”. The question is This research addresses if knowledge system of india provides a gap for norms. Reviewing sixty sources, it finds that dharmic leadership is philosophical but not practical; Indian leadership metrics incorporate western concepts; validated indian constructs are only tested on a personal basis. The paper introduces a five dimensional model – svadharma, nishkama karma, sthitaprajna, lokasangraha and trusteeship - and states five propositions relating to it's relationship with commitment, fulfillment of needs; citizenship behavior; retention intent and perceived responsible business attitude. The data gathered wasn't retained after testing so this hypothesis remains open-ended; it's an initial spec of what that thing does (the construct) and then how to test them on those specifications. dharmic management, indian knowledge system, ethical company administration & trustee's role karma-yogas.

INTRODUCTION

Organisational behaviour is now an issue for everybody instead of being just concerned within organizations; there are also leaders' roles that have been identified here and then. Maak and Pless shifted leadership from the leader-follower pair to the broader stakeholder network; Voegtlin, Patzer and Scherer redefined it as an organizational process carried out by globalization. The change was more explicit than usual for institutions of indian society. The Companies Act 2013 made corporate social responsibility expenditure mandatory for qualifying firms –the first such mandate anywhere- and the Securities and Exchange Board of India later introduced Business Responsibility and Sustainability Reporting for large listed companies. Nevertheless much of this knowledge has been imported for fulfilling these duties. The Indian manager's performance is judged according to standards set for him by north america and europe; this country has had an ancient history with its own system called 'Knowledge System' which was recognized as such under national education policy. The problem is specific. Leadership responsibility theories have defined a framework for duties; however they are not as effective at defining their origin point. Relational stakeholder accounting grounds obligations on relationships between stakeholders; it is also implicit that they have power over claims. The discursive account is based on negotiation of consensus; this assumes equal participation which is usually not available within organizational structures due to hierarchy. Ethical leadership is a well-defined concept within this family; it is defined by promoting socially acceptable behavior without defining its appropriateness; Klerk, however states that it still lacks an adequate definition.

It can also be seen by example here. According to Mohapatra, indian companies' csr is mostly an expense as per legislation since laws mandate expenditures yet do not provide justification thereof. It reduces to a degree of accountability that depends upon an outside party's claims &/or penalties for non-compliance; this occurs at their weakest point when they matter most (wherever). Does this book give to what's needed by Indians culturally speaking.

REVIEW OF LITERATURE

Sixty sources from 1980-2026 were analyzed for thirteen themes through keywords cluster analysis instead of searching one database at a time since these are scattered throughout management, ethics, psychology and Indology fields. There are also two characteristics to this collection as it contains mainly concepts/hermeneutics instead of data; there are many more articles published abroad compared those that have been circulated within their respective countries (region).

Maak and Pless are still important to us on the Western side, where they define “responsible leadership” as relationship-building within stakeholders' networks. Voegtlin and colleagues provide the main alternative by

providing an explanation for it through discussion of deliberations, offering various levels of outcomes architecture. Brown and colleagues formulated the adjacent concept of ethical leadership and its assessment standard; this was an intentionally non-content neutral definition that is currently addressed by this paper's approach to define it as 'a gap for normativity'. Klerk describes defining expansion and considerable similarity between responsible, moral, service-oriented and genuine leaders; this is still undefined so there are opportunities to develop an alternative definition.

Mishra and Kalagnanam give the most comprehensive account of dharmic leadership where "dharma" is defined as duty based ethics which are situationally relevant; however these concepts have been implemented rather than practiced by them. Simpson and Pina e Cunha provide the most comprehensive peer-reviewed Gita based intervention that develops an integrated leadership paradigm where leaders and followers are ontologically merged instead of being hierarchical figures. Krishnan, Jain and Maheshwari provide the developmental framework for this kind of study that is missing from many others; they synthesize the gita with patanjali's yoga sutras to form an example of how a ruler can be dharmic. Kaipa states 'working from the Mahabharata', distinguishing between wisdom and intelligence as a leader whereas failure occurs due not because of technical competence but also due to lack thereof for purposes set by him/her.

Karma-yoga is more scientifically developed than any other approach; it serves as a model to be used herewith. Karma yoga was introduced by Mulla and Krishnan who published it in the Journal of Business Ethics as an alternative to Kohlberg's stages of moral development. Navare and Pandey conducted a complete multi-study scale development – item generation from classical sources, expert review, exploratory and confirmatory factor analysis, and predictive validity – showing that a Sanskrit-based measure could be valid today. The process of two steps that originate as per customs and thereafter validated through disciplinary standards was followed at this place. Belwalkar and Vohra describe the main organizational approach to lokasangraha; while Anuradha and Kumar is an example for an organization's view on the three aspects of a trinuumal system.

On governance and trustee relations, Muniapan and Shaikh defined the Arthashastra as a source of corporate governance principles, describing an accountability framework for rulers as servants; audits; duties-of-care which preceded those set forth by today's standards. Balakrishnan, Malhotra and Falkenberg show rigorously that Gandhian trusteeship is an actual third paradigm rather than a variant of stakeholder or stewardship theory since it shifts the ethical issue from the allocation of excess to the position of the owner. Chakrabarty provides this balance, as trustee systems were based upon free moral change rather than coercion, they had no means of enforcement either.

There are also two more literature for this study. Banerjee defines the epistemological norm by stating that non-western information entered through an unchanged system perpetuates its own form of knowledge as claimed by displacing it; Bhawuk provides an operational solution to derive constructs from primary Sanskrit texts. Comparatively, Cheng and colleagues found that an indigenous Asian concept – Chinese paternalistic leadership - could have full psychometric validity and international citation; however they warned about culture specificity of content that cannot be transferred directly.

The gap follows. The concept of dharmic leadership is philosophical and not practicalized; where Indian leadership was evaluated then it was imported and where Indian knowledge constructs were validated they were tested only on an individual basis without testing their relation to organizational responsibility business completely untested.

HYPOTHESIS, OBJECTIVES, VARIABLES

This research aims for five particular goals that are concerned with how dharmic /iisk based management affects various outcomes separately. All variables are constants for this experiment, whereas outcomes vary between them. Every other hypothesis is an important positive effect whereas every null statement says zero effects (significant)

#	Objective — to examine the impact of dharmic/IKS-based leadership on...	Dependent variable	Hypothesis
1	...employees' organizational commitment	Organizational Commitment	H1 / H01
2	...employees' job satisfaction	Job Satisfaction	H2 / H02
3	...employees' organizational citizenship behaviour	Organizational Citizenship Behaviour	H3 / H03
4	...employees' retention intention	Retention Intention	H4 / H04
5	...the organisation's perceived responsible business orientation	Responsible Business Orientation	H5 / H05

Table 1. Objectives, hypotheses and variables

Independent variable for this study was “dharmic / Isk based leadership” which is an aggregate measure of five parameters assessed through an instruments designed specifically to measure it. The variable is a composite measure for all measurements (Likertscale) at an individual level, which has been defined as an employee.

CONCEPTUAL FRAMEWORK

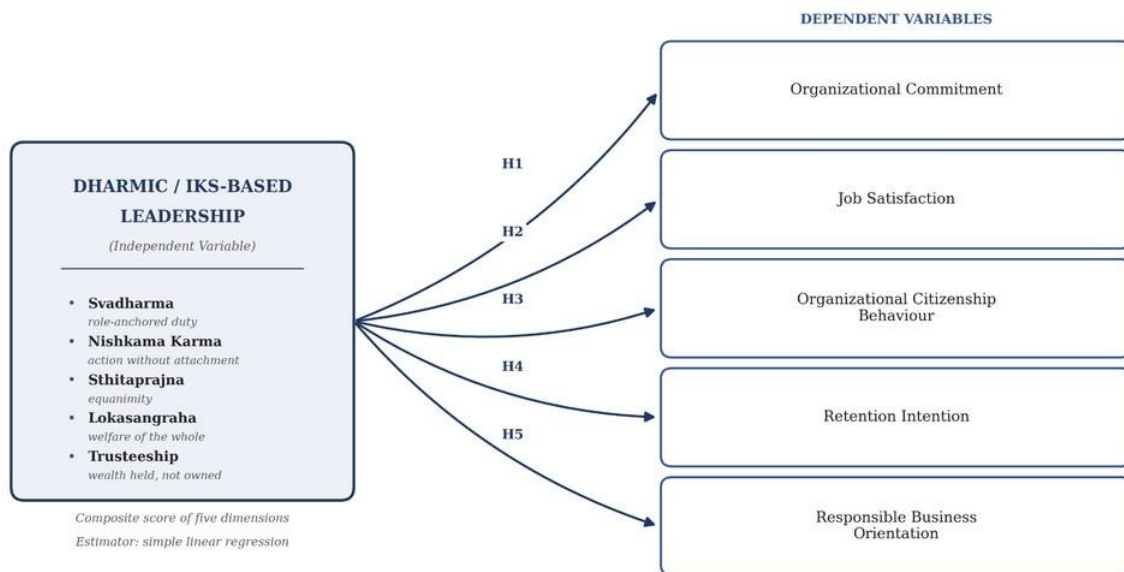


Figure 1. The Dharmic Leader – conceptual framework

Employee-referenced outcomes (H1-H4) and organisation-referenced outcome (H5). Unit of analysis: the individual employee.

Figure 1. Dharmic Leader Conceptual model. A dharmic sense of duty is based upon status as part and parcel to relationships; it's owed by leaders not because other people are demanding anything for them but simply due their positions/status/relationships alone. One independent

variable measured on five dimensions; five dependent variables; five hypothesized relationships, each estimated by simple linear regression.

METHODOLOGY

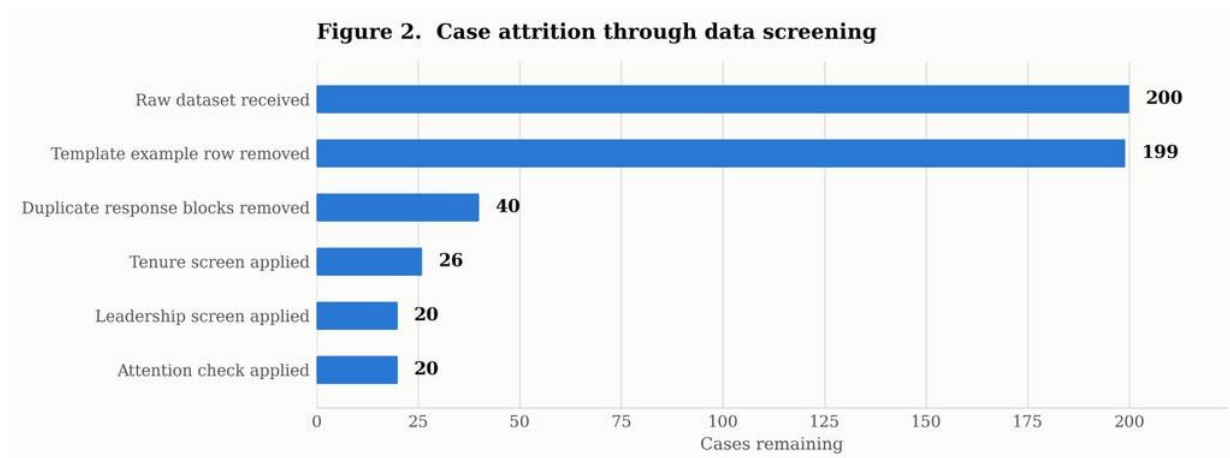
- quantitative; cross sectional analysis and prediction correlation study design research. No manipulations of data nor randomization; hence it is an observational study that does not show cause-effect relationships though correlations exist between variables studied here.
- Research approach - deductive. Derived from source; five hypothesis proposed beforehand and primary data gathered for testing these hypotheses.
- Construct derivations – the indigenous psychology protocol of Bhawuk construct is constructed from the primary source, as it was described by that same author prior to mapping those constructs onto organizational categories.
- A Unit of Analysis is an employee.
- Instrument – structured, self-administered questionnaire; consent page, two screening questions, nine demographics, twenty-five point Likert scale, ten for the independent variable, two per dependent variable, one embedded attention check. Negative scoring for two things goes up first when a composite is calculated.
- Minimum 6 month's experience, having an experienced management staff member available for observation purposes. People who fail both proceed onward.
- Outcomes Outcome measure – established, pretested validated tools for each of the five outcomes thus making all new findings due to predictors not out results measurements alone.
- Sampling method- non-probability purposive sampling with quota control; there is no sampling frame for Indian organizational employees.
- Tier 1, ownership type at an equal split between family-owned and professionally managed companies; Tier 2, hierarchical level in a 30-50-20 ratio; Tier 3, sector, gender, tenure and organization size tracked within tolerance ranges.
- Sample target - 200 usable responses. Power analysis for one predictor at a medium effect size requires a minimum of about 55 cases; the greater target is determined by the need to factor-analyze a new measure.
- Statistical tool - five simple linear regressions of the form $DV = \beta_0 + \beta_1(DL) + \epsilon$, estimated separately for each

outcome.

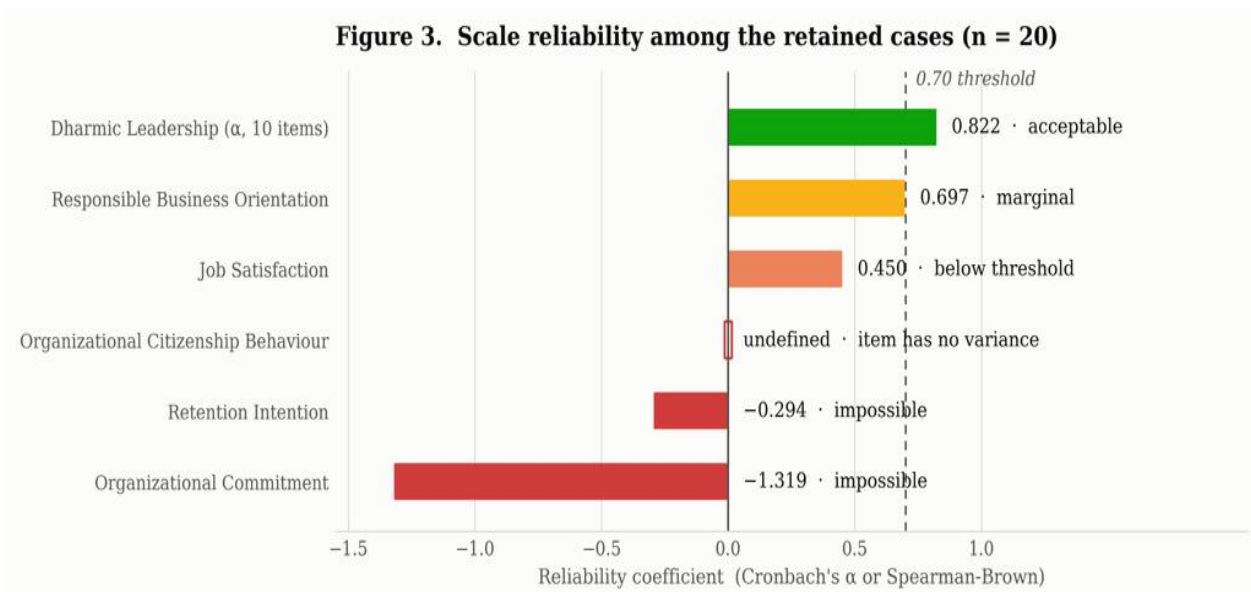
- Significance - $\alpha = 0.05$, with a Bonferroni-corrected $\alpha = 0.01$ reported alongside, since five tests are conducted on the same predictor and sample.
- Voluntary, anonymous participation; informed consent obtained; no identification data collected.

DATA ANALYSIS

The data filtering process preceded hypothesis test; it determined which analyses could be performed. One of 200 raw rows was a template for an instrument's sample record. The remaining 199 contained only 25 distinct twenty-item responses, arranged in consecutive blocks – the longest running to 44 identical rows. Since twenty-five point items generate approximately 95 trillion possible patterns, independent responses do not repeat this way. Removing duplicates left 40 cases; the tenure screen reduced this to 26, the leadership screen to 20, and the attention check left 20.



The reliability test for the returned samples showed that two out of four score dimensions are not valid. The dharmic leadership scale had a Cronbach's alpha of 0.822 and an Spearman-Brown coefficient for responsibility score was 0.697. Organizational commitment returned -1.319 and retention intention -0.294, while citizenship behavior is not defined since there are no variances for any item. Reliability coefficients are not allowed to have a value below zero since they measure one thing's score on another item – so it would mean if two tests had similar scores then their results were going backward which is illogical without any context given about these particular measures of performance.



Two further obstacles compound this. Five items exhibit zero variance across all retained cases, and because both trusteeship items are constant, the trusteeship dimension of the independent variable has a standard deviation of exactly zero — one of the five dimensions of the focal construct does not vary at all. In addition, all twenty retained cases record professionally managed ownership, leaving the family-owned arm empty, and $n = 20$ falls below the minimum of approximately 55 established by the power analysis.

A variable with no variance cannot correlate with anything and cannot enter a regression. The five hypotheses therefore remain untested, and no regression coefficients, significance values or hypothesis decisions are reported. This is stated as a result of the analysis rather than omitted from it.

FINDINGS

This research does not yield results of substance nor does it make claims concerning relationships among dharmic leaders' effectiveness to outcomes.

- It may also be defined precisely by means of primary data sources. The dharmic leadership model consists of five parts that can be traced back to their respective concepts; it has definitions, expressions as managers do things (nishkama karma) vs indifference/svadharmas/thitaprajna/exclusions. It's an initial specification that allows for measurements to be made on it.
- There are research gaps that exist, they remain unresolved to this day. The research shows how dharmic leadership is defined theoretically and not practically; it's measured by Indians who use western concepts of management whereas validated indian variables were tested only at a person level.
- A two item scale of outcomes would not work well here. Cronbachs alpha can't assess them; they're not stable on spearman-brown models of reliability nor do they fall completely because any given variable has no variability like it did for citizenship behaviors.
- The embedded screening should also occur during data gathering instead of being a statement alone. Since it wasn't terminated by end-of-inclusion of non-participants then their data was included without being identified until later stages during analyses.
- The ten item dharmic leadership test has some potential as it returned a Cronbach's alpha value of 0.822 for its validated items that were kept together. It's just a sign of small samples and zero variances so don't take it as bad news either.

SUGGESTIONS

To continue with further research on these issues we need to collect your information from an application designed for screening purposes; then it will automatically drop out if they are not eligible applicants (and won't have any response entered back here) whereas currently people enter their answers directly here instead of entering them again which were found defective earlier than before. Every score level must also include a minimum of three scores per item, or an entire tested tool. The ten item Ethical Leadership Scale should be included as it takes two minutes for respondents' responses and allows us to conduct a discriminant validity test that proves our research's originality claim. Diagnostic screening tests ought to run every week on collections instead of just before finalizing them so that you know if your data has gone bad already (before fixing). An adequate, albeit small target set would include an honest sample size of 80 that has good psychometrics for doing all analyses well so it's more valuable to use this group rather than going big on too many samples which will not pass through screeners easily enough either.

To establish a theoretical foundation for this study (and subsequent studies), we need to identify its variables by means of exploratory and confirmatory factors analyses conducted among non-representative data sets priorly then apply these findings towards more meaningful applications thereof later on. Then test it's unique conditional prediction — that of an ethical leader versus responsibility would have been more effective when there was no external pressure nor regulation like so because then you're going to need some kind of obligation based approach rather than claims based ones. Perceptual results must also include reporting standards like Business Responsibility and Sustainability Reporting disclosure quality and compare it to that of other cultures' forms of leadership such as Confucian paternalistic leadership.

LIMITATIONS

- One major problem was because of its inability to withstand a routine filter process for analysis purposes. Of two hundred rows, twenty were kept, and those contained five zeros variables, three scales with impractical or undefined reliability, and no variance on the main stratification variable. The retained sample is less than what's needed to conduct a power analysis; it's also much lower than that of factors tests, there were no cases reported from our company (family-owned), so none out of these five variables have been tested yet.
- There are some constraints on it irrespective from information accuracy. It's a survey study therefore even if you have good information then this will be about relationships not causes. The independent variable and all five outcomes are self-reports from the same person at one time point, therefore there will likely be some error-of-measurement due to variation of methods used for measurement over time (or another data set). Linear regression does not include a variable of control; therefore it must be verified by means of demographics and organizational data provided for this study's analysis. Fifth is a level of organizational performance that can be assessed by perceptions (not actuality) as 'perceived responsibility' for businesses.
- Limitations of measuring and sample size also matter significantly enough. The dharmic leadership instrument has been designed recently but there's no established psychometric properties for it, therefore we cannot say whether these five factors can be separated empirically either as a single item under each dimension (two items per dependent variable) nor does this show any evidence towards being discriminant valid compared to ethics leadership which is still theoretical without empirical support. The purposeful sample selection strategy ensures representation is not achieved; therefore all samples were beyond this range of tolerances from their respective quotas.

CONCLUSION

The purpose is finding out if a "native" (indigenous) sense based on traditional values for leaders as defined within Indian culture can be considered a standard part which ethical management theories are expected to have provided yet haven't given any answer here. Three are made by it which don't rely upon their results empirically speaking. This defines a framework for dharmic leadership as it is broken up across five components that can be traced back through specific concepts; these are also stated clearly within this definition along with their respective limitations (exclusions). This locates it correctly as to where responsibility lies; this does not mean there was an error with studying leadership responsibilities nor do we have any questions remaining concerning their existence – just whether someone's duty exists at all. It is an acceptable approach as per Bhawuk's derivation method thus making these parameters within their natural range instead of fitting them according to existing western standards that addresses Banerjee's complaint through procedures not assertions alone.

The issue that still exists to be tested empirically. Data obtained was not retained for testing; there were also no tests of these five hypotheses at all times. It's been reported instead of being hidden through concealment; it also provides evidence for our research methods regarding what these tools should have gone through during testing procedures.

It's based upon an easy statement that has big implications for us. Obligation isn't about obligation to you if it's your responsibility to other people then you need no audience; regulators nor stakeholders who have power over them but just understanding their responsibilities are needed for being responsible leaders. It's a long-standing concept within Indian society that isn't well-known to leaders; this particular theory has more merit because it predicts things that aren't predicted by current major trends. This paper shows how we could have written out precisely enough so as not only to test but also prove that there was some validity behind this concept of "management" which had been circulating within Indian business literature over several years prior its introduction here today.

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