Impact of Big Data & Analytics (BD&A) Learning Intentions with Moderating effect of Transformational Leadership as Jordan SME Perspective

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Abstract: As innovation and advancement change at excessive speed, past information might be delivered, outdated and unimportant in the period of the computerized economy and the "Industry 4.0". In a request for associations to be monetarily and operationally versatile, they should accept arising advances, for example, Mobile, Social Media, Big Data and Analytics (BD&A), the Internet of Things (IoT), Cyber Security, and Artificial Intelligence (AI) or danger being forgotten about in the opposition. The selection of these advancements saw a modest bunch of once-powerful associations; for example Kodak, Blackberry, Nokia and Blockbuster is uprooted by Google, Netflix, Uber, Amazon, and Waze. In the homegrown setting, development from the SME area stemmed by most recent information retention and dissemination is crucial not exclusively to the SMEs themselves, however maintaining Jordan's provincial and worldwide upper hand and economic achievement. This applied article broadens the Unified Theories of Acceptance and Technology (UTAUT) with groundbreaking administration (TL) as a directing variable on exploring factors affecting Big Data and Analytics (BD&A) learning aims among Jordan SME chiefs. The foreseen discoveries will give a rule to strategy creators, particularly towards advancing HR change zeroing in on BD&A or other arising innovations and BD&A program suppliers.

Keywords: Perciver Risk**,** Digital Economy; Small and medium-sized enterprises; Digital Disruption; Learning Intentions; Big Data; UTAUT, Transformational Leadership (TL), Jordan.

1. Introduction

Howard Dresner (Power, 2003), an expert of Gartner Research Group, stated that Big Data and Analytics (BD&A) are considered as hot subjects in both scholastic and industry since the

presentation of Business Intelligence (BI). BI is one of the archetypes to BD&A; both are considered the liked and cunning device for information-driven for the sole purpose of giving brilliant business benefits (Buchanan and O'Connell, 2006; Haddad et al., 2018; Abd-Elaziz et al., 2015). BD&A has been a marvel as it establishes a new model that assist in decision making (Sivarajah et al., 2017) that empower the companies to concentrate and store information from inner frameworks as well as with external information sources (Morabito, 2015, for example, web-based media stage locales, online news, web journals, web substance, information produced from interconnected gadgets known as the web of things (IoT), and other outside customary and current data sets (Joshi, 2017).

As advancement and creativity evolve at extreme speed, it can be outdated and irrelevant to the previously learned experience. The emergence of the web and other new technologies such as email, social media(Ameen, Almari, & Isaac, 2019(Abd-Elaziz et al., 2015; Abou-Shouk and Khalifa, 2017; Al-Shamsi et al., 2018; Khalifa and Abou-Shouk, 2014; Khalifa and Fawzy, 2017; Khalifa and Hewedi, 2016; Khalifa and Mewad, 2017), Big Data and Analytics (BD&A). The Internet of Things (IoT), Cyber Security, and Artificial Intelligence (SMACIT) (Ross et al., 2016) had utterly transformed the business landscape across the globe from manufacturing to services industries that exploit new technologies to bring innovative & creative products with unique business models to retain the in the market among competitors (Al-Shamsi, Ameen, Isaac, Al-Shibami, & Sayed Khalifa, 2018). Large companies, e.g., Blackberry, Nokia, Kodak, and Blockbuster, were replaced by modern technologies like Google, Netflix, Uber, Amazon, and Waze. For that purpose, to survive in the modern digital times, companies and people need to adopt a change to retain their position in the market among competitors. Conversely, with efficient use of modern technologies, HR should be outfitted with essential information like the use of the computer (Morabito, 2015), critical thinking (Wamba et al., 2017), and choosing the best alternatives (Haddad et al., 2018 b). Bughin et al. (2018) stated that employees working in companies would need digital education to improve and transform fundamental tools or approaches to developed ones. In alignment with McKinsey Global Insititute, there are a few essential abilities that misfit employees' information against the modern economic advancements, in which data analytics holds the topmost position.

2. Jordon's Vision 2020

Though growth in Jordan has dramatically improved from 2000-2006, since 1980, 0.3 percent every year as per individual. Thus, it is not adequate for raising the lifestyle of people for a country. To achieve Jordan's Vision (JV) target, Jordon needs to sustain an average GDP of 3.5% every year for the future of at least 20 more years. Thus, it has an impact on the economy of the country in terms of creating job opportunities along with living standards. Significant recommendations by JV need Jordan to profoundly change its economy as opposed to proceeding with gradual change, applying a bunch of ways to deal with arranging, grabbing attention in more FDI to enhance local sources of revenue, and making genuine organizations among public and private areas.

3. Research Background

Big Data has generated criteria for research on market drivers affecting the acceptance of Big Data and its prospects for people in all its efforts. Therefore, the paper concentrates on SMEs in Jordan, expecting better outcomes in providing higher and improved Big Data services and raising the interaction among SMEs. Furthermore, the research analyzes the relationship between Big Data and SMEs globally, specifically in Jordan. Besides, it further examines the limitations and restrictions of SMEs for adopting Big Data. The study utilized secondary data and approach to present a broader analysis of the problems related to Big Data and the problems in Jordan for SMEs.

The study is dependent upon academic articles, project reports, and government and company-based records. The research found that Jordan has been underwriting thoroughly in establishing its ICT sector, targeting enhancement in the performance of its organization of both sectors, private and official, in terms of efficiency, accuracy, and satisfaction. On the other hand, Jordan should have supposed to reduce the limitations for embracing Big Data, especially in small-sized enterprises, to improve companies' performance in terms of efficiency and effectiveness. It will help Jordan transform quality information, raising the degree of customer-based quality using ICT to enhance grabbing consumers' and other companies' attention.

4. Objectives of Study

The research's objective is to identify the driving forces among SME executives among BD &A education in Jordan and the moderating impact of Transformational Leadership (TL). BD &A is considered one of the significant emerging technologies in the modern digital era. It has arisen as the most influenced information system (IS) and information technology (IT) fields. Besides, various earlier IS/IT, psychology, and sociology aspects did not examine the learning aims, particularly regarding long-lasting students concerning BD&A; however, more coordinated toward customer possible utilization or selection, and buy purpose of buying IS/IT innovations.

Furthermore, there are restricted studies that exclusively light upon those aspects that impact learning intentions and the influential role of leadership to encourage long-lasting learning regarding decision-making. Moreover, the research also incorporates the influence of TL theory in terms of its construct have moderating impact on the variable of UTAUT.

Therefore, this research has the following objectives:

- To examine the influence of UTAUT variables on BD&A learning intention against the executives of SME in Jordan
- To analyze the moderating role of TL on the variable of UTAUT in terms of TL effect the BD&A against the executives of SME in Jordan

5. Hypotheses Construction

5.1 Big Data & Analytics

Jain (2018) stated that Big Data term as the vast data files which are commonly used for handling framework data and investigation indicate as the sequential methodology of gathering, preparing, and breaking down data with the help of other different exploration approaches without depending on the size and intensity to enhance the degree of perceptions for decision making for strategically, tactically and operational (Neetu Jain, 2018; Wamba et al., 2017). Therefore, BD&A can demonstrate the systematic method for collecting data in huge quantity; for gathering, preparing, and analyzing with the sole purpose of making decisions (Sivarajah et al.,2017).

5.2 Behavioral Intentions on Learning and Adoption

Schunk, Meecce, and Pintrich (2014) stated that learner intentions had been intensely studied and explored by sociology, education, psychology researchers, and experts. Furthermore, Cook and Artino (2016) said that one of the useful results for the fruitful aims is the utilization of specific subjects that learners are intrigued to attempt. Expectancy-value, characteristics, social cognitive, goal-orientation, and determination are the five boundaries to analyze behavioral intentions. It leads to four general themes; competence is the perception that the student is capable of handling tasks, value-forwarded outcomes of work-related responsibilities or other assessed products, attributes-factors, e.g., incidents that influence individual's conduct concerning learning, and presence of psychological processes that compromises interactions among learner and on a larger scale (Cook & Artino, 2016 Khalifa and Abou-Shouk, 2014).

Additionally, IT/IS inspires and encourages intentions, the degree of decision-making in terms of training, studying, and adopting are dependent on concepts initiated from psychology, social sciences, and management (Idris, Moghavvemi, & Musa, 2015). Fishbein and Azbein (1975) presented a theory of reasoned action (TRA), Davis (1989) introduced the technology acceptance model (TAM) as are few of those significant concepts. Additionally, Taylor and Tood (1989) presented a mixture of TAM and TPB, along with Venkates and Davis (2000), who explained the unified theory of acceptance and use of technology (UTAUT).

Earlier literature (Rondan-Cataluña, Arenas-Gaitán, & Ramírez-Correa, 2015) showed that the UTAUT construct produces a higher degree of explanation grounds for learners' attitude toward learning and accepting change. In addition to BD &A, the UTAUT construct is revised in terms of analyzing those aspects that surround modern technologies (Zuiderwijk, Janssen, & Dwivedi, 2015), administration eagerness to embrace BD&A (Brünink, 2016), and empowering business change while using BD&A as the key factors (Ballmert, 2017).

5.3 UTAUT framework

Earlier UTAUT research showed the significance of learning intentions, technology acceptance, and duration of acknowledgment that place to be an essential pointer of use and achievement (Venkatesh, Thong, and Xu, 2016). However, BD&A is the type of IS/IT acceptance, the accomplishment of technology; consequently, their achievement should be an influential factor for the executives and students while pondering about the usage of learning (Head, Hoeck, and Garson, 2015).

i. Performance Expectancy:

Venkastesh et al. (2003) stated that performance expectancy is explained as the person's belief in any method, approach, or construct that can enhance work quality. Earlier studies (Bawack & Kala Kamdjoug, 2018; Bouznif, 2017; Zuiderwijk et al., 2015; Mutahar, Daud, Ramayah, Isaac, & Abdulsalam, 2018; Mutahar, Daud, Ramayah, Isaac, & Alrajawy, 2017a) recommended that performance expectancy holds an essential place among other constructs. As indicated by Davis (1989) and Venkateshet al. (2003), the critical factor that would impact people into getting the hang of, utilizing, and utilizing specific advances is the conviction that such advances can fundamentally hoist the nature of work and increment work execution. This investigation recommends that with the resilient individual belief of BD&A's positive effect on their work and performance, there will be a definite learning goal towards BD&A. Therefore, it is proposed:

H1. Execution anticipation impacts the BD&A learning goals among Jordann SME chiefs.

ii. EFFORT EXPECTANCY

Davis (1989) stated that performance expectancy positively impacts learning, but its implementation could be canceled using technology. Earlier studies (Akbar, 2013; Bawack & Kala Kamdjoug, 2018; Madigan et al., 2016; Mutahar, Daud, Ramayah, Isaac, & Alrajawy, 2017b; Mustafa, M., & Abbas 2021) recommended the easiness that technology brings, have a direct influence on its usage. Crawford (2014) and Prasad (2016) hypothesize that BD&A is moderately simple to use with satisfactory activity-based learning, notwithstanding the unpredictability in setting up the innovation and information readiness. In addition to the above statement, this examination proposes the accompanying theory:

H2. Effort expectancy has a positive effect on the BD&A learning intentions among Jordann SME executives

iii. Social influence:

Research (Venkatesh et al., 2003; Alrajawy, Daud, Isaac, Mutahar, 2017, and Mustafa & Alzubi 2020) studied that people socially impact other people or groups to learn, accept or utilize the modern technology, specifically if the technology is beneficial (Brünink, 2016). Nicolaus et al. (2016) stated that worldwide managers of industries acknowledge BD&A as a fundamental technique that acts as a backbone for today's economy. However, successful companies or managers who have embraced IS/IT has an influential impact on others (Bergeron et al., 1995; Popovic et al., 2016). Literature (Bringula et al., 2018; Furaiji et al., 2012; Kulviwat, II, and Al-Shuridah, 2009;Alrajawy et al., 2018; Mustafa, M., & Alzubi 2020) stated that there is a positive influence of peer/friends suggestion on a person's intention to behavior. This research proposes that a person's social impact has an essential effect on the BD&A learning intention between SME high management in Jordon.

H3. Social influence has a positive impact on the BD&A learning intentions among Jordann SME executives.

iv. Facilitating Conditions:

Studies (Lee et al., 2018; Vela, 2017; Verma, 2017) showed that facilitating circumstances provides education, leadership, framework, and direction as these activities encourage and support IS/IT utilization. As far as the utilization of IS/IT is concerned in the companies, decision support system (DSS), business intelligence (BI), and BD&A technologies acquisition,

both technology, and managerial competencies are required to certify its beneficial incorporation (Işik, Jones, & Sidorova, 2013). Vela (2017) and Lee et al. (2018) recommended that encouraging conditions positively influence the objective to lead the accurate utilization of BD&A and IS/IT improvement. However, it proposes :

H4:Facilitating conditions have a positive influence on BD&A learning intentions between SMEs executives in Jordan.

v. Transformational Leadership

In the modern era of computers, market approaches are transforming rapidly to survive technological improvement difficulties (Chepkasova & Macalintal, 2016). These improvements prove as a triggering element for marketers along with their business as ignoring these factors will not conceivably stop existing (A. H. Aldholay, Isaac, Abdullah, and Ramayah, 2018; A. Aldholay, Isaac, Abdullah, Abdulsalam, and Al-Shibami, 2018; Gago-areces, 2017). Under these circumstances, operational guidance is essential to motivate, invigorate and impact on employees among incorporating effective modification in the business (Chepkasova & Macalintal, 2016; Gago-areces, 2017). James (1978) presented Transformational Leadership (TL), an initiative leadership approach that leads to change in markets' current atmosphere.

Theory of TL was incorporated earlier to examine the impact of leadership by an individual or complete combination of individual innovations and encouragement (Bongiorno, Rizzo, & Vaia, 2018; Jyoti & Dev, 2015), supportable presentation (Jiang et al., 2017), comfort (Jacobs et al., 2013), and mental pressure (Franke & Felfe, 2011). Implementing TL aspects will Incorporating TL factor will unconsciously enhance individuals encouragement towards learning BD&A. With the upgradtion of the UTAUT constructs, this study presents the following hypotheses concerning the moderating effect of TL as a single variable on the BD&A learning intentions among Jordan SME executives:

H1.a: Transformational leadership enhances the positive effect of the performance expectancy on the BD&A learning intentions among Jordan SME executives.

H1.b: Transformational leadership enhances the positive effect of the effort expectancy on the BD&A learning intentions among Jordan SME executives.

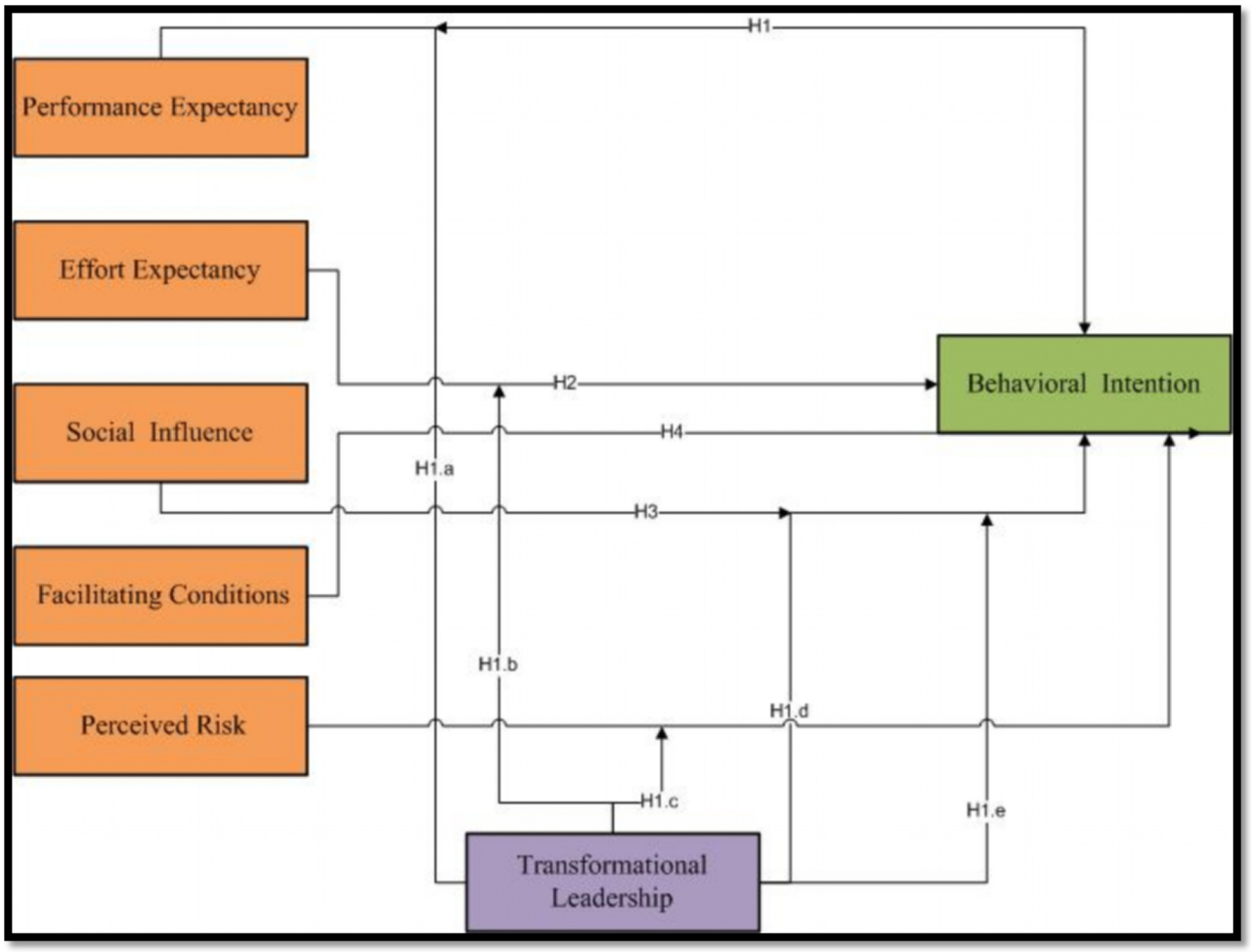
H1.c: Transformational leadership enhances the positive effect of the Percieved risk on the BD&A learning intentions among Jordan SME executives.

H1.d: Transformational leadership enhances the positive effect of the Social Influence on the BD&A learning intentions among Jordan SME executives.

H1.e: Transformational leadership enhances the positive effect of the facilitating conditions on the BD&A learning intentions among Jordan SME executives.

6. Conceptual Framework

Venkastesh et al. (2003) proposed a framework comprising UTAUT with Transformational Leaders as a moderating variable (Fig 6) presents an analysis of BD &A is an independent variable with SME executives in Jordan in term of influencing intention (A. H. Aldholay, Abdullah, Ramayah, Isaac, & Mutahar, 2018; A. H. Aldholay, Isaac, Abdullah, Alrajawy, & Nusari, 2018; Mutahar, Daud, Ramayah, Isaac, & Aldholay, 2018).



7. Limitation & Recommendation

The sample size used for the study belongs to Jordan, particularly Amman. The results of the survey will be used for related innovations of technology. Moreover, examining UTAUT's four constructs in another culture, tradition, or leadership style that impact forming a learner's attitude concerning BD&A can be investigated for future studies. The data collected through a cross-sectional research approach. Future studies can concentrate on the longitudinal system as it enhances interdependences and link among the variables of a proposed framework (Isaac, Abdullah, Ramayah, & Mutahar, 2017; Isaac, Abdullah, Ramayah, Mutahar, & Alrajawy, 2017; Isaac, Abdullah, Ramayah, & Mutahar Ahmed, 2017). Future researchers can use the proposed framework can be explored in the cross-cultural sector for future studies as aligning to earlier literature (Isaac, Abdullah, Ramayah, & Mutahar, 2017a; Isaac, Abdullah, Ramayah, & Mutahar, 2017b; Isaac, Masoud, amad, & Abdullah, 2016).

8. Conclusion

Companies need to pay attention to research and improve efficiency and effectiveness (Osama Isaac, Abdullah, Ramayah, Mutahar, & Alrajawy, 2018; Osama Isaac, Abdullah, Ramayah, & Mutahar, 2018). The current study is restricted to grabbing those aspects that have an impact on the intentions of learners along with the role of leadership and its effectiveness in terms of long-lasting learning into to enhancing the degree of decision-making for BD&A. the study fulfilled the unexplored topics by proposing the revised framework for UTAUT, with a moderating construct of TL in terms of examining the impact of BD&A concerning SME's executives. The results of using this framework are significant as validated research has shown that transformational leaders encourage the ingenuity of workers that will bring meaningful organizational change (Franke & Felfe, 2011; Jacobs et al., 2013; Jiang et al., 2017). As such, these research results can help policymakers and training providers while laying out the accurate action plan to incorporate.

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