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"Research Framework about Impact of Big Data Analytics on Manager's Performance FacingVolatile, Uncertain, Complex, and Ambiguous Environment"

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Abstract: The Big data analytics BDA is an emerging science to deal the management affairs (Baltaci & Balci, 2024). On the other side researchers investigate of the leader's competencies in the environment of volatility, uncertainty, complexity, and ambiguity VUCA context. The business manager needs to understand the skill of BDA to enhance their performance where Volatility, Uncertainty, Complexity and Ambiguity in all spheres affecting environment. There is a marked gap in academic literature on thebig data analytics impacting manager's performance facing highly volatile, uncertain, complex, and ambiguous environment in corporate sector. Big data analytics has been considered a primary capability that can improve a manager's performance (Ghasemaghaei, M "et.al." 2017, 2025). The study will follow a co-relation analysis style to learn the impact of big data analytics on the screenthe size that influence Leader's competencies to perform in Banks, FMCGs, manufacturing concerns, and medical health care set ups in an exceedingly VUCA context. The study will be quantitative and empirical in nature. The sample size of the research will be 1000 (respondents) for survey questionnaire.

Keywords: performance, exceedingly, VUCA

1. Introduction

Big data analytics (BDA) is emerging as a major force among scholars and practitioners (Sivarajah. "et. al.", 2017, 2025). Big data analytics (BDA) is referred as a strategic approach to ensure management, processing and analysis of the 5 V data-related dimensions (i.e., volume, variety, velocity, veracity and value) to generate workable ideas for providing sustainable value, measuring performance toolsand establishing competitive advantages (Fosso Wamba. "et al.", 2015, 2024).

Big data analytics has become a major source of competencies that does help to upgrade the firm's performance (Ghasemaghaei, M. "et.al.", 2017, 2024). Big data in management decision-making has beenable to highlight values recently (Mikalef, P."et al.", 2018, 2024), and the large number of organizations putting money in big data analytics to enhance their competitive advantage and performance is improving (Contentious, I.D. "et al.", 2015, 2025). The firms are trying to take full benefits of the fast- expanding data volume, velocity, and variety, techniques and technologies for storing, analyzing, and visualizing data are required, but there has been noticeably less research attention on how firmscan embrace these technologies for further improvement (Mikalef, P."et al.", 2018, 2024).

Volatility, Uncertainty, Complexity and Ambiguity, the acronym VUCA, was first derived and usedin the United States of America to interpret military conditions battlefield. Recently, the concept isbeing used to understand the critically acclaimed digital economy terms competitive environment (Bennett & Lemoine, 2014, 2025) in which organizations and institutions learn to combat the change (Heugens & Lander, 2009, 2024). Desai (2010, 2024) presents the idea that technology has immensely contributed and digital advancement has brought about revolution to rephrase interactive technologies, has been prime reason for the favorable incorporations for the stakeholders.

In highly volatile, and uncertain environment, no business entrepreneur can emphasize on intra

organizational learning rather they should concentrate mutually creative and collaborative learning(Desai, 2010; Baltaci & Balci, 2017, 2025) inside and outside of the organizational boundaries. Bartscht (2014) believes that business entrepreneur should keep searching ways to deal volatile and uncertain set up, learning different situations to combat the potential threats of the environment. Highly uncertain and ambiguous environment, usually the organization works to improve situational understanding of the environment and thus minimize the effects of volatile change (Bartscht, 2015).

1.1. Problem Statement

Owing to different socio-cultural variables, the leadership competencies that have been studied in the context of aVUCA may not be applicable in the medical and health care setups of Pakistan. This presents a need for undertaking quantitative research that measures the impact of big data analytics BDA on manager' performance facing highly volatile, uncertain, complex, and ambiguous environment.

1.2. Significance of the Research

Academic literature is a bound with research pertaining to all the variables identified for this study. However, to the best of the researchers' knowledge, this research gap where implications of big dataanalytics BDA on manager's performance facing VUCA context in the corporate sector. To delve further into the research, a systematic review of literature on all the variables to this study will be conducted.

The purpose of this study is to learn the impact of big data analytics on manager's performance VUCA context. The context of academic leaderships in a VUCA and the sophisticated surrounding, on time made decisions in the times of VUCA proves problem oriented as authors study the responses of leaders in time of turbulence and provide doable answers that make workforce agile without having an example of leader's readiness for VUCA (Bennett & Lemoine, 2014; Du & Chen, 2018; Horney & O'Shea, 2015, 2025).

1.3. Research Objective

This research is aimed to achieve the objectives in learning the extent of impact of big data analytics have on manager's performance who are performing VUCA centered environment. The study will bring out the specific traits and skills of manager's performance utilizing big data analytics in VUCA context.

1.4. Research Questions

Specifically, we are interested to learn *why*, *how*, and *when* business managers respond to big data analytics source to perform effectively? This larger issue may be further divided in to the following questions regarding the study variables.

1. What is the significance of big data analytics in business management?
2. What is the impact of big data analytics BDA on manager's performance?
3. Are there certain impacts of Bid data analytics on the employee individual outcome?
4. Is the Big data analytics a source to improve the manager's performance?

Review of the LiteratureBig Data Analytics (BDA)

Big data as a high volume, high velocity, and high variety of raw information needs a cost-effective and innovative information analysis technique to capture insights for decision making (Gillon, K. et.al. 2014, 2025). Consequently, the topic of big data analytics arises when the concern is analyzing raw data that have not been processed for use and from which hidden information has not yet been extracted. Currently, big data analytics has been considered the predominant method for analyzing big data because of its superior ability to capture huge amounts of raw information and apply the best analytical practices to measure it. It has become a tool by which companies gather varied data and use automatic data analytics to inform appropriate decisions that had previously depended on the judgment and perceptions of decision makers (Gillon, K.et.al. 2014).

Digital Leadership

Digital inclusion and the nature of digital transformation are rapidly and fundamentally changing existing businesses and organizations alike (Collin, 2015, 2025). The digitalization process, and its implications, described as "digital transformation" (Berman, 2012; Bounfour, 2016, 2025; Chew, 2015; Coyle, 2006; Housewright & Schonfeld, 2006), is therefore also the subject of discussions and debates in the review of general business and current business professionals (Andervin and Jansson,2016; Bonnet et al., 2014; Rogers, 2016; Westerman et al., 2014, 2025). We now enter into a rare gap between leadership studies and digitalization, as described above, digital transformation involves the reconstruction of contexts and organizational structures (Berman & Marshall, 2012; Chew, 2015; Housewright & Schonfeld, 2006; Rogers, 2016, 2025).

Volatile, Uncertain, Complex, and Ambiguous (VUCA)

Volatility refers to large scale, frequent change does have unpredictable nature of events (Bennett & Lemoine, 2014). Generally, in balanced economies, organizations and institutions banked on experience, working norms, learning curve and measurement scale to evaluate performance but volatility is more serious as VUCA work environment is controlling economical, business, and education proceedings to associate all the stakeholders inside and outside border, pushing them to enter into learning sphere and innovation process (Felin & Powell, 2016).

Uncertainty indicates lack of knowledge related to the frequency and significance of environmental change (Bennett & Lemoine, 2014). To understand an uncertain environment, organizations should proactively explore cause and effect factors impacting the uncertain environmental situation (Bartscht, 2015). Bennett and Lemoine (2014) note an uncertain situation is simply a lack of knowledge and therefore can be pre-empted by simply gathering more knowledge.

Drucker (2012) refers to the complex environment as a" threshold of chaos", characterized by technological disruption and globalization. Bennett and Lemoine (2014) define complexity as elaborate networks of interconnected parts being convoluted and multiform. Complexity is iterations of simple patterns (Bartscht, 2015) combined in a multitude of interconnections creating potential for information overload (Bennett & Lemoine, 2014).

Ambiguity identifies a lack of knowledge of cause and effect where there is no precedent on whichto base predictions (Bennett & Lemoine, 2014). Ambiguity typically involves new situations which are typically characterized by new strategies, products, markets or technological innovation.

Authors in the VUCA domain show that latest competencies such as clarity (Johansen, 2012), cognitive readiness (Bawany, 2016), sense making (Salicru, 2018), dilemma flipping (Johansen & Euchner, 2013), readiness (Burt, Mackay, van der Heijden, & Verheijdt, 2017), and new models, such as the proficientapproach (Horney & O'Shea, 2015), should take the place of old leadership style that organizations are to sustain and grow in a VUCA environment.

2.1.1 Sustainable Strategic Management

Among factors of economic growth intellectual potential has increasing influence on social and economic development (Androniceanu et al., 2020; Bilan et al., 2020; Kinnunen et al., 2019; Mendy& Widodo, 2018). Several authors consider that small and medium-sized enterprises are the main contributor to the economic growth (Krisnaresanti et al., 2020; Dvorský et al., 2020; Bilas et al., 2020). Sustainable Strategic planning in management is termed as top-level managerial practice where different sets of processes are observed so that bundle of strategies that will contribute maybe achieved (Raúl, 2007). Several definitions of sustainable strategic planning's have been presented in the literature; Grant (2003) offers a detailed extensive review of the strategic planning from back history starting from "long range planning" till the present theories between "strategic management" and "strategic thinking".

2.1.2 Ability to cope new situation

Organizations invest smartly to deal the vibrant VUCA uncertainty ahead, needs a unique style of facingand coming out with winning idea (Bennett &

Lemoine, 2014; Du & Chen, 2018; Horney O'Shea, 2015). Researches in VUCA brings out the stated information that remains prepared as for as leaders are concerned to compete persistently in order to bring change by upgrading organizational leaders' preparedness, awareness, and their approaches towards new and complicated management situation(Choain & Malzy, 2017).

2.1.3 Ability to foresee in future

Perrenoud (1999) shared explained the future and unseen events leads to another phase of competency; it is the case of contingency learning. Thus, in this situation, unseen or future scenariosare generally new (second scenario); slowly, the events appear "rather unexpected". This process produces the timeline; different work strategies are planned, at first with random option, and later, reformed after execution. Finally, a repertory of appropriate "know-how" is created and can be usedin the right situation.

2.1.4 Distinctive value-based leadership

The need for effective leadership in managing these tensions is therefore imperative (Smith et al. 2010). Under the umbrella term of 'collective leadership' (Ospina and Foldy, 2015), many leadership scholars have rejected a leader-centered perspective and redefined leadership as a property of the collective, be it a group, an **organization** or a social system (Cunliffe and Eriksen, 2011; Gronn, 2015; Raelin, 2016; Uhl-Bien, 2006). The Leadership through Person lens highlights leadership as an individual activity: "An exercise by a person who encompasses various qualities or traits that have been traditionally associated with 'leaders'" (Grint, 2005, p. 33).

2.1.5 Sustainability

The concept of sustainable development always been under serious discussion, and against the climatic changes, sustainability while development in the area for sustainability was not able to mark an impression (Cohen et al. 1998; Robinson, 2004). When research moves on, the idea of corporate sustainability is yet to developed (Bansal & Hoffman, 2012; Whiteman et al. 2013; Bergels & Bowen).

The sustainability school of thought refers to an organization affairs, operations and interactions with stakeholders that deal a multitude of interdependent objectives at the organizational, environmental and societal levels (Hahn, Figge, Aragón-Correa & Sharma, 2017). As per latest study by Accenture (2019), almost 100% business owners and CEOs in grand organizations acknowledge that sustainability will be new super imposed strategy in future market for business success.

2.1.6 Corporate Social responsibility

The significance of acceptable corporate social responsibility (CSR) practices that are emphasized on sustainability is highly relevant. With the help of the CSR, a firm adopts dedication to social community and stakeholders to add value for the developing sustainability and social enhancement for the community through welfare operations, initiating both national and international regulations,

along with establishing good mannered attached with ethical behavior and facilitating crystal clear just management.

2.1.7 Stakeholders pressure

At present literature features to the favorable relevant contribution of stakeholder immense pressure in upgrading the whole outcome of the organizations (Yu, J.2016). Stakeholders are individuals, groups, and institutions with a direct or indirect interest in the outcomes of an organization. While some stakeholders have an interest in form of monetary shape in organizations, few pursue to secure the interest of the society and environment. (Konadu et al 2020) believing other different external stakeholders: customers, suppliers, competitors, industry associations, local communities, environmental organizations, regulators/legislators, media, and shareholders' funds.

2.1.8. Competitiveness

The major challenge at hand for the companies is to understand the certain factors and to conduct analyses to ensure its management strategically (Camison & Fores, 2015). In literature, Organizational Competitiveness (OC) are

considered as hard measuring device to calculate the performance as techniques have not been unanimously agreed by the researchers yet, however somestudies lead to the idea that OC as one-dimensional construct, whereas in the last ten years, and researchers have agreed that OC as multidimensional concept. Competitive Intelligence CI throws light on having close look on a competitor to gain competitive advantage.

It helps the organization in achieving competitive positioning and strategic judgement on factors that will impact the business internal and external environment by constituting appropriate plans in the short and long term (Ghannay & Mamlouk, 2015).Competitive Intelligence application was analyzed in the American and Brazilian hospitality industry, and the outcome proposed that CI awareness among hotel managers is still low, suggesting that more investigations are required for better implementation of CI on this sector (Köseoglu et al., 2018).

Another research on an Iranian insurance organization, contextual factors such as awareness, culture, structure, and process can influence in developing a competitive advantage, while awareness and culture factors displayed the most significant effect (Seyyed Amiri et al., 2017). The awareness from training and education can boost the obligation of CI achievements since it uplifts the harmony between strategic management and CI (Du Plessis & Gulwa, 2016). Therefore, creating awareness in the early stage of CI implementation is crucial before embarking on the CI process.

2.1.9. Entrepreneurial skills

Having a clear vision about the venture's future can provide founders with a roadmap for developing their firm under the uncertainty characterizing entrepreneurial environments. Prior entrepreneurship research has mainly taken a leadership perspective and studied the motivational and inspirational effects of communicating the founders' visions to followers. However, this perspective is likely to insufficiently capture visions from the founder's personal perspective. Specifically, the founders' preferences and needs may influence their entrepreneurial vision despite not being communicated to others (Preller et al., 2018).

The performance of any organization depends in large part on the level of skill its leaders possess when it comes to implementing strategies (Almatrooshi et al., 2016). Organizational performance and leadership competencies correlate with a leader's social, cognitive, and emotional intelligence (EI) competencies (Ryan et al., 2012).

2.1.10. Emotional intelligence

EI can be defined as a constellation of emotional perceptions assessed through questionnaires and rating scales (Petrides, Pita & Kokkinaki, 2007); a set of self-perceived abilities or perceptions concerning the way individuals identify, make use of, deal with, and process emotions (Andrei et al., 2016). EI is especially important for frontline employees in the service industry broadly and in the hospitality/hotel industry particularly, since these employees are situated in the boundary spinning positions and have direct interactions with customers (Prentice et al., 2013).

An objective view without judgments and remorse is the beginning of a successful path ofpersonality development. There is no perfection, only tools, techniques, and a strength that will lead to self-improvement (Gilar-Corbi et al. 2018). Although EI seems to be associated with performance and effective outcomes in project environments, evidence of its impact is, nonetheless, limited (Ashkanasy & Dorris, 2017; Maqbool et al., 2017).

2.1.11. Talent Management

Talent philosophies can be defined as the 'fundamental assumptions and beliefs about the nature, value, and instrumentality of talent that are held by a firm's key decision makers' (Meyers & van Woerkom, 2014). In other words, talent philosophies capture how senior (HR) managers define talent, who they regard as talented, how valuable they consider talented employees to be, and how they think talented employees should be deployed to maximize performance.

Management competencies are defined as the right combination of behaviors, skills, and knowledge possessed by an individual and maybe a source of

sustained organizational performance (Gunawan& Aungsuroch, 2017). Management competencies are also said to be a set of skills, knowledge, attitude, and behavior that a person requires to be effective in a wide range of jobs and various typesof organizations (Manxhari, Veliu, & Jashari, 2017).

The different meanings ascribed to TM can be attributed to differences in individual perspectives on the nature, value, and instrumentality of talent (Gallardo-Gallardo, Dries, & Gonzalez-Cruz, 2013; Swailes, Downs, & Orr, 2014)—referred to as 'talent philosophies' (Meyers & van Woerkom, 2014). Talentphilosophies have been proposed to vary along two dimensions.

2.1.12. Knowledge Sharing

Strong evidence shows the positive effect of sharing information on employee performance. The most common findings are that the use of integrated information and expert opinion agreed to share information improves efficiency in performance, problem solving and decision-making, leading to improved staff performance (Kang et al., 2008; Masa'deh et al., 2016; Reychav & Weisberg, 2009; Zhu, 2016).

The basis of the concept of each learning strategy is that although clear information can be officially transmitted, the expansions of each learning require that certain information be transferred as well. As the transmission of confidential information, especially what is on the minds of experts, "cannotbe documented and can only be seen through its use and can only be obtained by practice" (Grant, 2006, p. 111). Strong evidence shows the positive effect of sharing information on employee performance.

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2.1.13. Innovation

Business models are formulated as an expert of the three interrelated key elements: value proposition, value creation, and value capture (Clauss, 2017; Clauss et al., 2019a). These elementsare configured as a mutually imposing on the system that explains the organizational business logic (Martins et al., 2015; Teece, 2010). In the last twenty years, latest technological advancements havecome on front to lead the innovation process in all elements of the business model.

These attach new market places where value can be offered (e.g., e-commerce), unique methods to create latest endorsements (e.g., selling services instead of products) and novel opportunities to generate revenues are attracted (e.g., paying per use) (Massa et al., 2017).

These developments show that business opportunities vast the scope of product and process innovation as key elements (e.g., revenue models) of a firm's business model are being changed (Foss & Saebi, 2017).

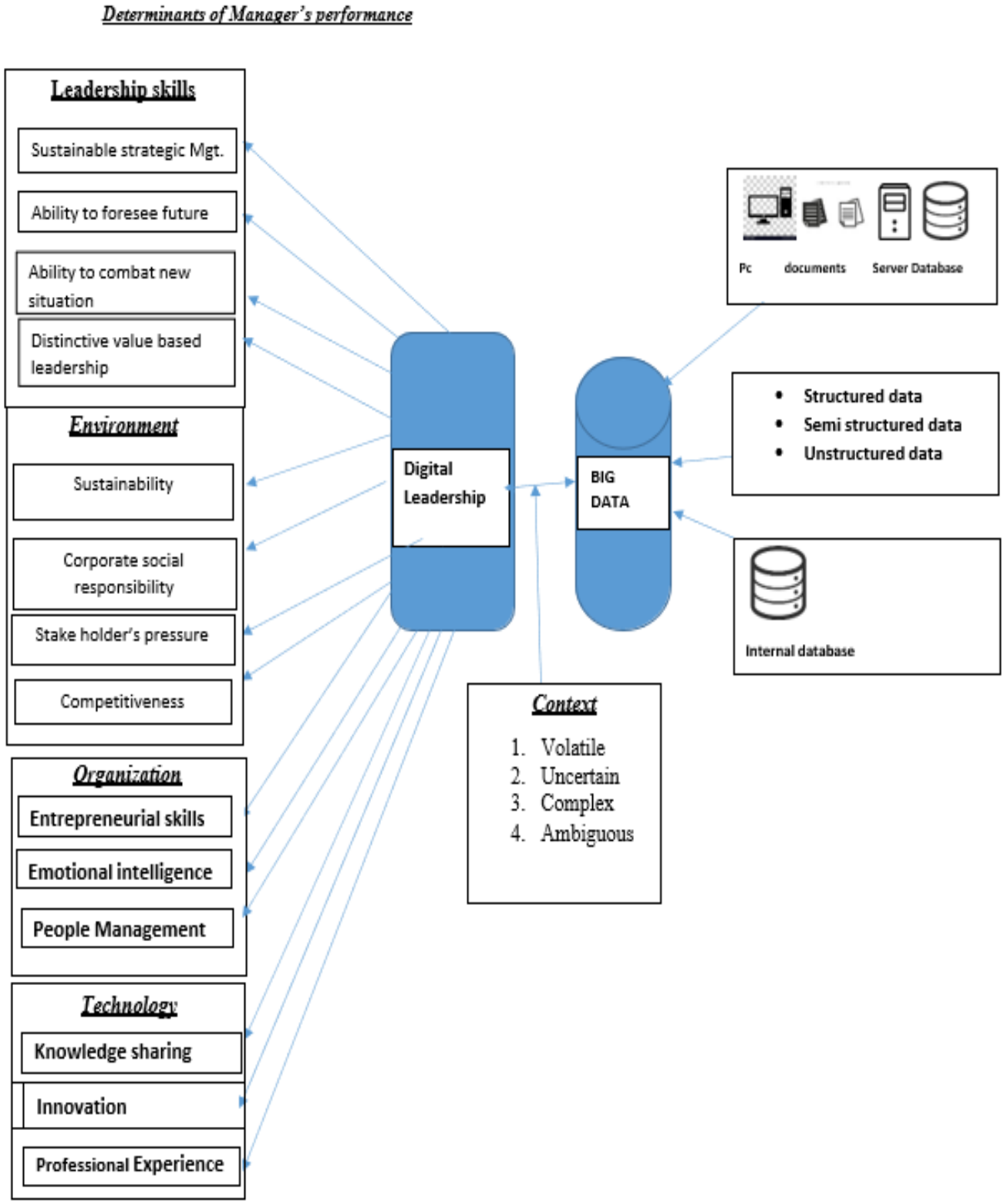
2.1.14. Professional Experience

Furthermore, we posit that the effect of coopetition experience on firm profitability is contingent ona firm's technological investments. Recent studies stress that information technology (IT) and R&Dare the two most important technological investments for firms' learning abilities in technological settings (e.g., Bardhan et al., 2013; Ravichandran et al., 2017), as they are key sources of information-processing and knowledge absorption capacities and constraints. Hence, we focus on IT and R&D investments as core contingencies in this study.

Moreover, we follow up on the call to conduct further research on coopetition experience that identifies contingencies and examines how they affect value creation through coopetition (Gnyawali and Ryan Charleton, 2018: 2530) by focusing on a firm's IT and R&D investments — the two most important technological investments a firm can make to develop its internal learning abilities.

it is important to stress that, as prior studies indicate (e.g., Gnyawali and Park, 2011; Park et al., 2014), experience may result in cognitive frames and behavioral routines that, besides allowing for more productive coopetition relationships, can also generate greater additional benefits at the firm level (Gnyawali and Ryan Charleton, 2018). For example, due to "experience spillovers" (Zollo and

Reuer, 2010), frames and routines developed in one coopetition setting may prove useful in other coopetition settings (Gnyawali and Park, 2011).



2.2 Research Model (Leadership Skills, Environment, Organization, & Technology Model)

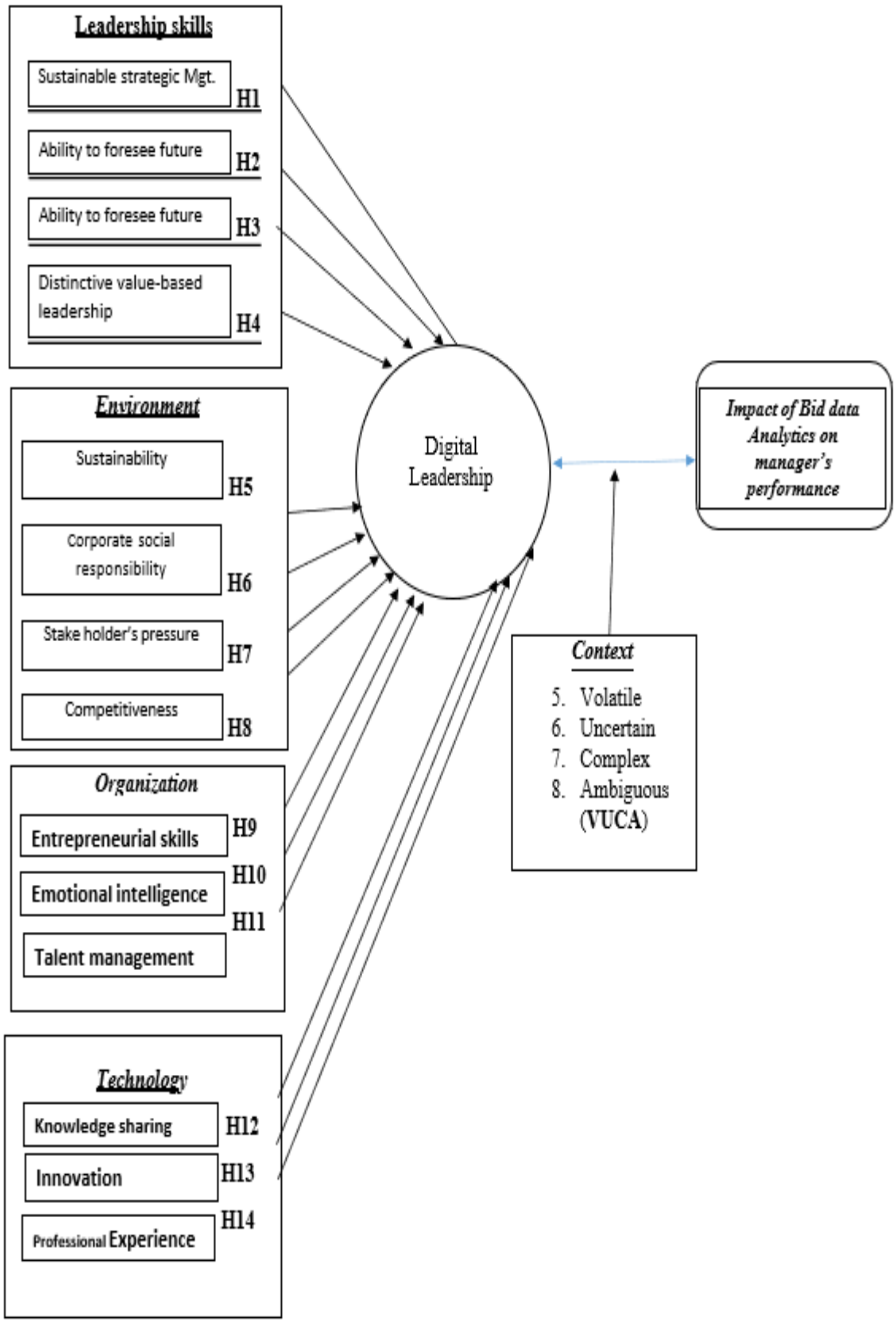


Figure 5: Model of Big data impacting organizational performance

2.2 Research Model (Leadership Skills, Environment, Organization, & Technology Model)

Leadership skills

Sustainable strategic Mgt.

H1

Sources	Dimensions					
	VUCA				Big data Analytics	Digital leadership
	Volatile	Uncertain	Complex	Ambiguous	Big dataBDA	Digital leadership
Felin & Powell, (2016)	?	?	?	?		
Bennett & Lemoine, 2014	?	?	?	?		
artscht,(2015)	?	?	?	?		
Salicru, (2018)	?	?	?	?		
Mikalef, P.“etal.”, (2018)					?	
Deaton,(2018)					?	?
Rogers, (2016)					?	?
Frequency	**4**	**4**	**4**	**4**	**3**	**2**

Sources	Dimensions													
	Leadership				Environment				Organization			Technology		
	ble strategicMgt.	Ability to foresee future	y to cope newsituation	ctive value basedleadership	Sustainability	orporate socialresponsibility	Stakeholders' pressure	Competitiveness	Entrepreneurial skills	Emotional Intelligence	Talent Management	Knowledge sharing	Innovation	Professional Experience
Armenia Andronicean u (2021) Raúl,et.al (2007)	☑													
hoain &Malzy, (2017)	☑	☑	☑											
Helen Lingarda et.al (2021)		☑	☑											
Raelin,(2016)				☑	☑	☑								
Aragón-Correa & S., (2017)	☑				☑	☑								
t . et'al;(2018)				☑			☑							
hadu et al (2020)								☑	☑		☑			
Öseoglu etal., (2018)									☑					
ller et al., (2018)	☑									☑				
Gilar-Corbiet al. 2018									☑		☑			
Gunawan & Aungsuroch, (2017)												☑	☑	
Masa'deh etal., (2016), Zhu, (2016)		☑											☑	

ıss et al.,2019														
Gnyawali &R. C.(2018)														
Frequency	**4**	**3**	**2**	**2**	**2**	**2**	**1**	**1**	**3**	**1**	**2**	**1**	**2**	**2**

Hypothesis

- **H01** Manager's performance will have no significant impact of big data analytics forsustainable strategic management skills.
- **H11** Manager's performance will have significant impact of big data analytics forsustainable strategic management skills.
- **H02** Manager's performance will have no significant impact of big data analytics forability to cope new situation.
- **H22** Manager's performance will have significant impact of big data analytics for ability tocope new situation
- **H03** Manager's performance will have no significant impact of big data analytics forability to foresee future.
- **H13** Manager's performance will have significant impact of big data analytics for ability tocope new situation.
- **H04** Manager's performance will have significant impact of big data analytics for hisdistinctive value based leadership skills.
- **H14** Manager's performance will have significant impact of big data analytics for his abilityto cope new situation
- **H05** Manager's performance will have no significant impact of big data analytics for his ability to manage sustainability.
- **H15** Manager's performance will have significant impact of big data analytics for his abilityto manage sustainability.
- **H06** Manager's performance will have no significant impact of big data analytics for his ability to manage corporate social responsibility.
- **H16** Manager's performance will have significant impact of big data analytics for his abilityto manage corporate social responsibility.
- **H07** Manager's performance will have no significant impact of big data analytics for his ability to handle stakeholder's pressure.
- **H17** Manager's performance will have significant impact of big data analytics for his abilityto handle stakeholder's pressure.
- **H08** Manager's performance will have no significant impact of big data analytics for his competitiveness.
- **H18** Manager's performance will have significant impact of big data analytics for his competitiveness.
- **H09** Manager's performance will have no significant impact of big data analytics for his entrepreneurial skills.
- **H19** Manager's performance will have significant impact of big data analytics for his entrepreneurial skills.
- **H010** Manager's performance will have no significant impact of big data analytics for hisability of emotional intelligence.
- **H110** Manager's performance will have significant impact of big data analytics for his ability of emotional intelligence.
- **H011** Manager's performance will have no significant impact of big data analytics for hisability of Talent Management.
- **H111** Manager's performance will have significant impact of big data analytics for hisability of Talent Management.
- **H012** Manager's performance will have no significant impact of big data analytics for hisability of knowledge sharing.
- **H112** Manager's performance will have significant impact of big data analytics for his ability of

knowledge sharing.

- **H013** Manager's performance will have no significant impact of big data analytics for hisability of innovation.
- **H113** Manager's performance will have significant impact of big data analytics for his ability of innovation.
- **H014** Manager's performance will have no significant impact of big data analytics for his professional experience.
- **H111** Manager's performance will have significant impact of big data analytics for hisprofessional experience.

Research Methods

3.1 Research Design

'The ideas and models evolved because the analysis created progress each in terms of literature review and field work on Leadership competencies to perform in VUCA context.'

The variables for the study were taken from (Raú, 2007), where Sustainable Strategic leadership was studied (Bennett & Lemoine, 2014; Du & Chen, 2018; Horney & O'Shea, 2015) for ability to cope new situations, Cloutier et al., 2005, Denis et al., 2007, Ouellet, 2009) ability to foresee future and distinctive value based leadership (Ospina & Foldy, 2015) while knowledge sharing from (Kang et al., 2008; Masa'deh et al., 2016; Reychav & Weisberg, 2009; Zhu, 2016), sustainability (Mahajan & Bose 2018), Stakeholder's pressure (Hongio Tiyan. "et.al." 2018), Corporate Social Responsibility (Oladipu N. Olaniyan. "et.al." 2021), Innovation (Francesco Ciampi. "et.al." 2021) and Competitiveness (OLANIPEKUN, Wahid Damilola. "et.al.", 2015).The said study will be carried out in Lahore from 10 banks, 5 FMCGs companies, and 5 medical colleges and 10 hospitals from 2021-22.

3.2 Population

The study will be conducted in medical and health care set ups. In this regard medical colleges and health care setups such as tertiary care hospitals will be population for this particular study. Population will be targeted in form of chairman, Directors, Principals, and Leaders in all department of medical colleges and hospitals.

3.3 Sampling

Probability sampling will be used whereas stratified random sampling technique will be adopted. Since it is quantitative research, so probability sampling is expected to provide accurate representation of the data. Stratified sampling could be a sampling technique within which the population is split into teams known as strata. "The plan behind proportional sampling is that the groupings are created so that the population units inside within a group are similar." (Salkind, 2007). The sample size of the research will be 1000 (respondents) for survey questionnaire.

3.4 Analysis Techniques

Data analysis is done keep the main objective of the research in consideration. The author will analyze the data efficiently so that the available data get the best use of it. The author will use quantitative approach in case of research method and probability sampling in analyzing the information. Data analysis will be done through proper statistical illustration and calculation to get the exact result. The author will use various tools and software such as Microsoft Excel, SPSS and other related applications to analyze the data properly and statistically.

In presenting the findings of the research the author will utilize various software and application as well such as various illustrations to exemplify the findings through pie chart, graph chart, bar chart and many other illustrative tools.

For measurement of the variables, a structured questionnaire with 5-point Likert scale will be used for collecting the quantitative data from the medical and health care professionals.

The Means, Standard Deviations, Pearson's Correlation and Discriminant Validity tests will be carried out. Multiple Regression Analysis will be used to predict the dependent variable (VUCA leader's Competencies VU) using the independent variables (strategic sustainable leadership; SSL, Ability to cope new situation; NS, Ability to foresee future; FF, Distinctive value-based leadership; VL, and Knowledge Sharing; KM. The SPSS 23.0 software will be used for analysis of data.

3.5 Ethical Consideration

The access to information and ethics are critical and crucial aspects for success of research work. The researcher will use secondary data to understand existing contextual and theoretical frameworks whereas will use primary data to compare with theoretical frameworks derived from literature review to understand contemporary situation of the impact of big data on manger's performance in volatile, uncertain, complex, and ambiguous environment.

The confidentiality will be respected in accordance with data protection act. The purpose of the study already explained; even it is disclosed to the participants that participation is entirely voluntary. Sufficient time will be given to the participants to understand the matter to answer (Marshall and Rossman, 2006).

3.1 Expected Outcomes

The study outcomes are aimed to produce set of traits that help le and workable traits, for business managers with the hand on experience using big data analytics to achieve desired performance their such as sustainable strategic management, ability to work in new situation, ability to foresee future, and distinctive value-based leadership along with knowledge sharing that might enable leaders to perform in volatile, uncertain, complex, and ambiguous environment.

3.7. Time line for the study

The study will be conducted from August 2025-January 2026. The study is expected to generalize sofar as the outcomes are concerned in coming decade that will be extremely volatile,

Uncertain, complex, and ambiguous in nature. The study will particularly offer medical and hospitalleaders to face the dynamic situation.

3.8 Conclusion

The study outcome intends to contribute in the body of knowledge incorporating real time business manager issues facing VUCA context. This study is going to offer some determinants for the mangers working under highly complex and vibrant context. However, author intends to work on the line of

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