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MEDIATING ROLE OF VOLATILE, UNCERTAIN, COMPLEX, AMBIGUOUS CONTEXT WHILE INFLUENCING OF TECHNOLOGICAL AND COMPETITIVE ALIGNMENT CAPABILITY ON NAVIGATION LEADERSHIP IN HEALTHCARE SECTOR OF PAKISTAN.

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Abstract

Purpose: This study intends to investigate the influence of technological and competitiveness alignment capability and volatile, uncertain, complex, and ambiguous (VUCA) as mediating agent on navigation leadership in private hospitals of healthcare sector in Pakistan. Utilizing ventakraman's model of strategic alignment capability and volatility-ambiguity theory by Warren Bennis and Burt Nanus, the research hopes to identify the impact of technology and competitiveness and volatile, uncertain, complex, and ambiguous context as mediating impact on navigation leadership in healthcare sector in Pakistan.

Design/Methodology/Approach: A total of 400 healthcare executives from the healthcare industry participated in this study by completing an online self-filled questionnaire. The collected data underwent various statistical analyses, including normality tests, reliability assessments, correlation analyses, and descriptive examinations. These analyses were employed to determine the connection between independent variables (technological and competitive alignment capability) and the dependent variable of navigation leadership along with volatile, uncertain, complex, and ambiguous context as mediating variable.

Findings: The research paper serves as a determining framework of influence of technological and competitive alignment capability and volatile, uncertain, complex, and ambiguous context as moderator on navigation leadership. Healthcare leaders have the potential to significantly enhance their productivity, making valuable contributions to their respective fields in the healthcare profession. The study underlines the significance of addressing these sensitive elements of healthcare sector to enhance the performance in the Pakistan healthcare sector.

Practical Implications: This study offers valuable insights for healthcare leadership within the developing countries like Pakistan healthcare industry. By recognizing and fostering influence of technological and competitive alignment capability and vuca mediation on navigation leadership

in healthcare sector can create an environment where healthcare leaders are more inclined to increase their productivity and positively impact overall healthcare sector success.

Originality/Value: The originality of this study lies in its application of venkatraman's model of strategic alignment capability and *volatility-ambiguity theory by Warren Bennis and Burt Nanus* within the specific context of the Pakistan healthcare industry. By identifying the unique factors influencing strategic alignment capability model in navigation leadership along with vuca moderator in to evaluate and enhance the performance in this industry, this research contributes to a deeper understanding of the relationship between technological and competitive alignment capability and navigation leadership mediation of vuca context.

Keywords: Navigation leadership, Sustainable strategy, technological alignment capability, VUCA context, Pakistan Healthcare Industry, competitiveness

Paper Type: Research Paper

1. Introduction

This research explores the intricate relationship between technological and competitive alignment capabilities in navigation leadership while mediating effect of volatile, uncertain, complex, and ambiguous context in healthcare sector Pakistan. Pakistan is developing country and striving to navigate its resources in order to make itself a formidable economy in the future. Economic growth of Pakistan mainly depends on agriculture, textile, and sports industry. However, in last two decades' telecommunication and stock exchange have supported the economic affairs to a great deal. Automobile, fast moving consumer goods industry, education, Information technology and healthcare sectors have contributed significantly in recent past *(Mahmood, et.al 2019)*. The industries that create foreign exchange for the country have been, textiles, sports material, agriculture, and telecommunication. On the contrary, service industry has played its significant part by manpower and human capital worldwide (Abid, et. al 2021). In this regard healthcare sector has gained serious acceptance so far as economics of Pakistan for gross domestic product was concerned. In the past twenty years more than one million medical doctors, and allied health workers have served in various economy to benefit remittance in Pakistan economy (Burton et.al 2020).

The healthcare industry has always been an important agent to contribute in economy of Pakistan. However, in past two years 2020-2022 the services prove to be unmatched whether serving overseas or helping to support ailing humanity of Pakistan. The investment on medical equipment for the medical and healthcare service delivery have increased up to 37% in last three years (*Ehsan, & Raza, 2022)*.

1.1. Problem statement

Industries such as stock exchange, FMCGs, Petroleum, automobiles, and healthcare contribute towards the gross domestic products for Pakistan. However, these sectors seem to struggle presently in highly dynamic and complex environment that has produced unacceptable results as

for as leadership in dynamic and complex situation is concerned. The uniform health policy in the country does not exist instead that makes it difficult to constitute realistic healthcare targets. The scope of study is limited to healthcare industry only. Nearly 70% of Pakistan's overall health spending (3% of GDP) is on the private sector (Government Finance Department Pakistan 2022). To address the above situation, we need to optimize resources within a dynamic complex context and minimize cost whilst maximizing organization performance through navigation leadership using technological and competitive alignment capability for healthcare sector sustainability (Amjad et,al 2021).

The skills of technological and competitive alignment capability have their root since the start of human civilization (Yin, 2018) and is defined as the ability of leading and managing group of people to achieve primarily defined goals (Nejad and Rowe, 2009).

1.2. Rationale of the study (Research gaps)

The study is based on a very basic and sensitive issue related to the health of human being, as we are going to examine the influence of technology and competitiveness with mediation of volatility, uncertainty, complexity, and ambiguity (VUCA) of the environment on navigation leadership in private hospitals in Pakistan. Herman & Venkatraman (1989) model has suggested to find the skills for the healthcare managers to achieve the desired outcomes, this model is being used to find the relationship with unfavorable situation and navigation leadership in highly volatile, uncertain, complex, and ambiguous environment as moderating factor in private hospitals and healthcare in Pakistan.

2. Literature Review

2.1. Technology alignment capability (TAC)

There have been several theories for strategic alignment capability model that present the recommendation to strengthen the business processes (Scott Morton, 1991) and the Strategic alignment capability theory with the two main ones that have garnered the most interest from academics (Henderson and Venkatraman, 1989). The latter is used in this context as: Strategic Alignment Model distinguishes between the internal focus of Information Technology and the external view of Information Technology (IT strategy) in comparison to the components of the framework. (IT infrastructure and process). This acknowledges the way information technology has the power for both to support and influence business strategy, and processes. Additionally, it changes the conventional view of information technology as merely a private support system. (Henderson and Venkatraman, 1989). Technology Alignment capability is seen to assist a firm in three ways: by maximizing return on IT investment, by helping to achieve competitive advantage through Information, and by providing direction and flexibility to react to new opportunities. However, the apparent gap between the decision to invest in IT and the realization of benefits (Weill and Broadbent, 1998).

According to a neoclassical analysis, technology transfer is not only free, with private hospital for the process being negligible, but it has also been delayed for developing nations like Pakistan by

a passive strategy. However, another analysis disagreed and thought that it would be extremely expensive to progress technological capability for the system's adoption and generalization in private hospital. (Gkonou & Mercer, 2017; Lall 1992, Bell and Pavitt 1995). The best way to define technological capability is to use information and skills at the technical, managerial, and institutional levels to achieve the intended outcomes for the private hospitals and healthcare units (Jyoti & Kour, 2017; Lall et al. 1994, p. 5). The process of evolution has come of ages in Technological Capabilities, beginning from basic (simple the progression from basic (routine, experience-based) to intermediate (adaptive-duplicative) to advanced (innovative) levels helps the private hospital upgrade its fundamental operations (investment, output, and linkage). Every job in private hospital and healthcare unit could be categorized as distinct kind of technological capability (Dogra & Dixit, 2017; Bell and Pavitt 1995).

Technology change is typically created and managed using resources like knowledge, skills, experiences, institutional structures, and connections within and between different private hospitals and healthcare units. These tools are accumulated by private hospitals and healthcare units through learning. But it requires more than merely receptive "learning by doing." It is essential to put forth technological effort for the hospital leaders, which is a deliberate investment in elements that would improve the firm's technological capacity (Gkonou & Mercer, 2017). Technological effort in developing countries such as Pakistan does not only include formal R&D aimed at creating radical introducing new services and processes at the private hospital and healthcare units frontier, but broadly encompasses all types of search and improvement efforts, leading to minor, incremental changes and adaptations (Dogra & Dixit, 2017).

The gap exist to adopt and transform work processes through the technological infra structure in developing countries like Pakistan facing volatile, uncertain, complex, and ambiguous environment in private hospital and healthcare sector. Learning about devices, installation of technological infra structure and be able to apply in the process successfully is not less than a serious challenge (Dogra & Dixit, 2017). Healthcare sector in Pakistan like other developing countries lagged behind to put up competencies to survive and grow in high performing industries. So this study is going to help in examining the influence the strategy execution capability on navigation leadership in private hospitals and healthcare units Pakistan.

2.1.1. Competitive alignment capability

Competitive alignment capability is defined as emphasizing the advantages of the relationship and information of the market systems to design and develop the processes and an initial bench mark to proceed the working (Ward et al., 1994). Competition has often helped organization to become great healthcare organization (Rahman & Rahman, 2019).

Three factors such as profitability, efficiency, and growth can best elaborate the concept in private hospital and healthcare units (Wisenthige & Guoping, 2016). Financial incentives from the Government healthcare sector brought favorable impact on adopting and managing competitiveness capability regardless private hospital and healthcare units' efforts to make profits in private healthcare sector. (Anwar & Li, 2020; Dobes et al., 2017). However, the digital

capabilities also contributed positively on financial performance and competitiveness, when moderated by corporate digital innovation in private hospitals and healthcare units. (Hartono & Halim, 2020; Khin & Ho, 2019). The competitiveness capability has been showing positive relationship with innovation in private hospitals and healthcare units to serve ailing humanity (Asunka, 2016; Hana, 2013). Extensive research has proved that competitiveness capability can be achieved through information management in private hospital and healthcare unit services (i.e. the gamut of information systems and related communication technologies) and the profitability (Alalwan, Dwivedi, & Rana, 2017; Dwivedi et al., 2015; Kizgin et al., 2019). On the other side, studies have also shown the competitiveness is such skill will benefit in long run after learning through patient satisfaction and external stakeholders in private hospitals (Quinton, Canhoto, Molinillo, Pera, and Budhathoki (2018).

The second **gap** presents opportunity to learn more about the adopting and embedding the competitiveness capability to the uncertain environment in private hospitals (Ismail et al. 2017; Vial, 2018) to learn the competitiveness capability skills for the developing countries such as Pakistan to face highly volatile, and ambiguous environment in private hospitals and healthcare units. The ability of the resources, administration, and infra structure to run and compete in private hospitals industry in developing countries like Pakistan. So, the dynamics and complex environment invite an opportunity to provide viable solution for the understanding the influence of administration scope of business in healthcare sector for a developing nation in through navigation leadership by utilizing competitive alignment capability.

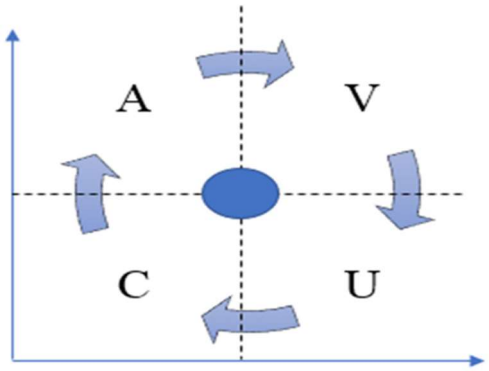
So, this study is going to help in examining the influence of competitive alignment capability on navigation leadership in private hospitals Pakistan.

2.2. Volatility, Uncertainty, Complexity, and Ambiguity (VUCA)

Organizational leaders of 21st century is in the middle to face the most dynamic and change oriented environment with the pace to innovate, urgency of the situation , and frequency of change overpowering quickly to provide volatile, uncertain, complex, and ambiguous (VUCA) operating environments (Bereznoy, 2017; Johansen & Euchner, 2013; Matthysen & Harris, 2018). VUCA refers to work environment that is changing on consistent basis in conflicting, dramatic, and relentless ways to produce healthcare leadership and private healthcare units' challenges (Deaton, 2018). The letters representing VUCA mean that kind of demand to fulfill by the leaders which they must work out to achieve in the higher interest of the environmental flux without consuming resources due to incorrect issue identification. Volatile changes are frequent and cause instability; uncertain changes are those of which leaders lack full knowledge; complex changes are confounding due to the interconnectedness of processes and information; while ambiguous changes are those that lack precedence (Bennett & Lemoine, 2014). Globalization and technology fuel VUCA dynamics through increased innovation, interconnectivity, and online international access in healthcare industry, which, in on the other side, produce unique and novel competitors, who love to work at global healthcare level to satisfy ailing humanity expectations radically and thus, provide healthcare units turmoil (Horney & O'Shea, 2015). Deaton (2018) observed that the

present healthcare sector turmoil reduced healthcare leaders thinking because of its dynamism nature and tested methodologies approaches were inadequate in the VUCA-world.

Increasingly, the acronym VUCA (volatility, uncertainty, complexity, ambiguity) is defined dynamic changes in the external environment that have a direct or indirect impact on the functioning of private hospitals and healthcare enterprises (Simkova 2021). The world of VUCA is described by volatility, uncertainty, complexity, and ambiguity. The most precise explanations are: quick and chaotic changes, lack of standards, or the constant outdating of plans and projects. In modern era the healthcare managers face high voltage pressure to optimize resources in order to produce desired output and find ways to deliver in highly competitive environment (Dobni, C.B. & Klassen, M. 2015). Healthcare management Leaders of 21st century is facing the most dynamic and change oriented environment with the pace to innovate, urgency of the situation, and frequently changing environment overpowering quickly for the new challenges of volatile, uncertain, complex, and ambiguous (VUCA) operating set up (Bereznoy, 2017; Matthysen & Harris, 2018). VUCA refers to frequently changing environment that brings conflicting, dramatic, and unorganized procedures to bring an upskilling required healthcare leadership in private hospitals (Deaton, 2018).



Source: Anna Nowacak 2021

2.3. Navigation Leadership

The healthcare leader is not one to control the healthcare workers group, instead expected to take the responsibility to create an environment for guidance and coordination the process by which the group decides upon and carries out actions to accomplish its goals (Herman, 1994). Healthcare workers generally feel comfortable in an environment of collaboration healthcare leadership approach especially handy in certain scenarios where issues are of extremely complex nature that no one person or entity has either the information or the power to change those (Müller & Van, 2020). While many healthcare leaders successfully managed the crisis, others were not so successful in managing the health crisis, and have faltered under pressure, resulting in temporary or permanent business closures. *Although leadership and entrepreneurship have largely developed independently of one another expense, there have been previous attempts to integrate the two disciplines and consider what each could learn from the other and what they might represent when*

looked at together. (e.g. Renko et al., 2015). "Visionary scenarios that are used to assemble and mobilize a 'supporting cast' of participants who become committed by the vision to the discovery and exploitation of strategic value creation" are attributed to entrepreneurial healthcare leaders. (Gupta et al., 2004, p. 242). In their evaluation and synthesis of several previous definitions of healthcare entrepreneurial leadership, Renko and colleagues (2015) found that visionary healthcare entrepreneurial leadership could exist in any type of service format. Because of this, they contend that healthcare professional entrepreneurial leadership is not really context-dependent and can occur in big, established healthcare units with significant resource bases, established reputations, and lengthy operating histories. (e.g., Simsek, Jansen, Minichilli, & Escriba-Esteve, 2015). We adopt a different stance, contending that healthcare leaders starting new enterprises face specific leadership challenges caused by uncertainty, which is supported by recent reviews of the literature bridging leadership and healthcare entrepreneurship (Reid et al., 2018). (Alvarez, 2005; Alvarez & Barney, 2005; McMullen & Shepherd, 2006; Sarasvathy, 2001; Townsend et al., 2018).

Great leaders react in complex times through navigation leadership to command respect and earn more authority to perform (Crossan et al. (2017). However, dynamic and complex circumstances need to be addressed so vigilantly (Seijts et al., 2021), to understand the concept properly, as two different paradoxes and two different ways to perceive and conceptualize the through navigation leadership are inevitable to demonstrate. On the contrary, a complex dynamic situation may be deemed as an exogenously at hand situation for leaders to combat it technically or conventionally; thus, innovative way of leadership can respond the uncertainty of the environment. The scenario leads towards knowing the truth of examining the influence of strategic alignment capability model along with VUCA context as moderator on navigation leadership in Pakistan private hospitals.

2.4. Health Crises Purpose

Since the advent of lethal virus contagious covid-19 in Pakistan, health care professionals have gone through hard times due to various reasons such as physical and psychological pressure including high risk of infection, inadequate equipment for safety from contagion, isolation, exhaustion, and lack of contact with family. These crises created an enormous pressure for them to perform up to the desired level of professional practice that was a serious challenge on the question of leadership (Zheng, 2020). The major problem faced by health care leadership was lack of information available to address challenges related to them. Tasks are set keeping leadership to combat dynamic complex such as Health crisis of covid 19, floods and earthquakes victims (Spigel, 2020). The health care experts believe that the health leadership is advisable to build to measure the current indicators developed for their performance assessment. The indicators may pertain to sufficient numbers, equitable distribution, good competencies, appropriate socio-cultural and linguistic background, responsiveness to clients and productivity (Zheng, 2020).

3. Methodology

3.1. Research Design

The research strategy provides guidance for identifying the study's goals. (Davis, 2005). The research method is aimed to process the quantitative mode of study as the scholar focuses to evaluate the model for the understanding of influence of the different four variables on the dependent variable (e.g., Sandelowski, 2000; Morse, 1991). Other researchers argue that, in order to effectively communicate the study's purpose, weighting the importance of the quantitative is preferable (Tashakkori & Teddlie, 1998). Insofar as the study's structural insight is concerned, it is motivated by its goal and what will guarantee a better understanding of the nature of setup supports the quantitative method of research design to examine the influence of technological and competitive alignment capability on navigation leadership in private hospitals in Pakistan.

According to Sandewlowki (2000), the study used a quantitative -methods research design, which structurally derives its name from the steps taken to describe it. In this case, the design uses an exploratory sequential design (Creswell and Plano Clark, 2018), in which the steps are primarily determined by the goals of each step and the circumstances under which each component will be used in the study. The use is also supported by the knowledge creation philosophy, which takes a pragmatist stance and makes use of the benefits the quantitative research methods.

Only when it is important to investigate the impact of technological and competitive alignment capability on navigation in private hospitals in Pakistan can the justified knowledge be driven with this method of design.

Based on the literature review it has been found that the study researcher is aimed to take up match with the criteria defined earlier, so quantitative method research design will support the argument once the outcomes of the study appear.

3.2. *Sampling Design*

This study hoped to draw the attention of healthcare stakeholders to combat crisis situation and navigation leadership of healthcare in Pakistan, by sampling out an appropriate common recommendation for healthcare leaders. Every good healthcare system has been built on the basis of preferred National Navigation Leadership Agenda (Branzei and h ornhill, 2006). Sample unit – hospitals pharmacy clinics etc, non-random quota stratified sampling has been considered to undertake the study.

3.3. *Data Collection Method*

Pakistan consists of five provinces like Punjab, KPP, Sindh, Baluchistan, and Gilgit Baltistan. Pakistan medical and Dental council and healthcare commission regulate the private and public sector healthcare and medical hospitals. Pakistan healthcare set up carries around 1200 plus public sector and 700 plus private medium and large-scale hospital. There is a large number of small hospitals and medical units in private sector serving ailing community also come under scope of our study. Around 2500 medical clinic cum small size hospital make a population of 3000 plus healthcare industrial units (PM&DC 2022, Health care commission 2022).

Punjab being the largest part of the country carries around 60% of population and also enjoys the same amount of annual budget. The best health facilities are also found in the province of Punjab.

Around 1800 medical and healthcare units as hospitals constitute of the data for our overall population whereas it comes province Sindh next that makes 18% of the total healthcare units around 550 in our scope of study. KPK province being the large area and population, unfortunately deprived of healthcare facilities in the localities. Baluchistan province being the most overlooked area as for as health facilities are concerned. Only 5% of the total under radar population for the study form the respondent's zone. Newly established province Gilgit Baltistan though does not enjoy good health facilities either making only 4% of the overall population.

To date, there is an estimation official record on the total number of government hospital 1300 and private hospitals are 700 in Pakistan that meet criteria of minimum 50 bedded to 500 plus bedded. However, a safe assumption can be made that the total population would be more than 2,000 hospitals, as per the advice given by the Pakistan health ministry's official website.

In this case, acalculation in Raosoft website (www.raosoft.com) indicate a minimum sample size of 370 or more (with a margin of error of 5%). Industry classification will not be regarded as a criterion of selecting the potential responding firms. However, to validate the scale 50 data set has been sampled from the representative of the population form all over the country.

3.4. Data Analysis Tool

Data coding involves categorizing observations into coherent categories for systematic analysis. The Likert scale is applied to Part B, ranging from strongly disagree (-1) to agree (-5) strongly. The normality test assesses the distribution of continuous data, guiding statistical analysis. Parametric or nonparametric tests are employed based on data distribution. The normality assumption's deviation is investigated using methods like the standard QQ diagram.

The reliability test evaluates research quality, ensuring consistent and accurate data. It emphasizes credibility and accuracy, which are fundamental for research planning and results.

Descriptive analysis transforms raw data into an understandable format. It rearranges, sorts, and modifies data to present relevant insights. This approach effectively explains, illustrates, and summarizes data points, especially demographic characteristics. The Pearson correlation coefficient quantifies the linear relationship strength between variables. It evaluates the connection between independent and dependent variables. The coefficient's value indicates correlation direction and strength, with values close to 0 representing no correlation.

First, data on strategic alignment capabilities in Pakistan will be obtained from hospitals and medical colleges. Being a healthcare sector government hospitals and medical centers, the researcher has the adequate association that would enable securing of related database by Pakistan healthcare ministry (PHM). Second, a list of private medical hospitals is also available with the Pakistan Medical Commission, a major regulatory body to govern and monitor private sector medical and healthcare sector (PMC).

4. Quantitative Research Question

Quantitative research questions in this study are as follow:

- What is the influence of technological transformation alignment capabilities (Information Technology Strategy) on navigation leadership in private hospitals and healthcare units in Pakistan?
- What is the influence of competitive alignment capabilities (healthcare operations administration & Infrastructure) on navigation leadership in private hospitals and healthcare units in Pakistan?
- What is the influence of Volatility- Ambiguity model on Strategic alignment capability model?

5. Research Framework

Theories are used to interpret the phenomena, connect the variables and constitute the construct in order to produce the desired idea in form of research. In this study the idea is to examine the influence of strategic alignment capability on navigation leadership in private hospitals in Pakistan. Independent variables have been incorporated in this study from the Venkatraman Strategic alignment capabilities model such as strategy execution alignment capability, technology alignment capability, competitive alignment capability, and service alignment capability. Navigation leadership in private hospitals and healthcare units is dependent variable while volatile, uncertain, complex, and ambiguous context will be moderating variable in the study.

The construct is built to provide a way forward for combating crisis situations for private hospitals and healthcare units of Pakistan by the application of strategic alignment capability model.

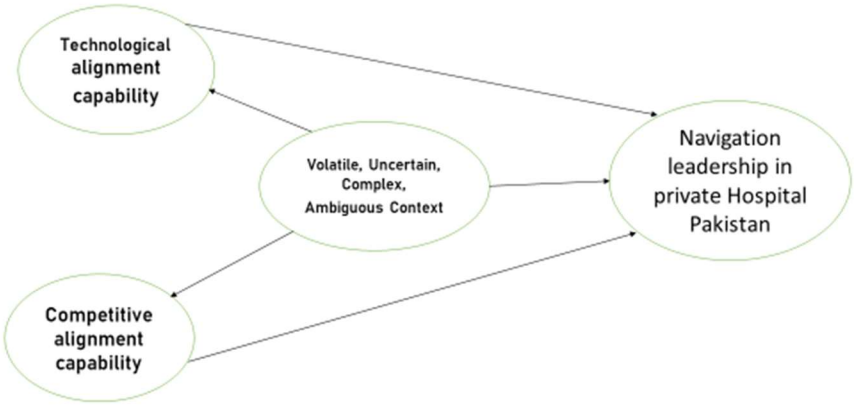
5.1. Research Objectives

This study comes with a general study and four specific objectives. The general objective of the study is to explore the influence of alignment capability on navigation leadership in private hospitals and healthcare units in Pakistan .Following the four objectives linked with Venkatraman's model of strategic alignment capability include: strategy execution alignment capability. Technological alignment capability, competitiveness alignment capability, and services alignment capability.

In pursuit of achieving the mentioned aim, the following objectives will be utilized to guide the research:

Specific objectives

- **Objective 1**: To examine the influence of technological alignment capability on navigation leadership in private hospitals and healthcare units in Pakistan.
- **Objective 2**: To examine the influence of competitive alignment capability on navigation leadership in private hospitals and healthcare units in Pakistan.
- **Objective 3**: To examine the influence of VUCA Volatility – Ambiguity Model on Strategic Alignment Capability Model in private hospitals and healthcare units in Pakistan.



The construct is built to provide a way forward for combating crisis situations for private hospitals and healthcare units of Pakistan by the application of strategic alignment capability model.

Hypothesis	
H1	To examine the influence Technological alignment capabilities on navigation leadership in private hospitals in Pakistan.
H2	To examine the influence Competitive alignment capabilities on navigation leadership in private hospitals in Pakistan.
H3a	To examine the influence of volatility context on technological alignment capability.
H3b	To examine the influence of volatility context on competitiveness alignment capability.
H4a	To examine the influence of uncertainty context on technological alignment capability.
H4b	To examine the influence of uncertainty context on competitiveness alignment capability.
H5a	To examine the influence of complexity context on technological alignment capability.
H5b	To examine the influence of complexity context on competitiveness alignment capability.
H6a	To examine the influence of ambiguity context on technological alignment capability.
H6b	To examine the influence of ambiguity context on competitiveness alignment capability.

Results

How Would you Define your Role * How would you describe your business? Cross tabulation		
Count		
	How would you describe your business?	Total

		Privately owned	Government linked	Non-governmental owned	Student	Welfare	
How Would you Define your Role	Managing Director	33	20	11	0	1	65
	Senior Administrator	60	39	26	0	0	125
	Medical staff	0	0	1	0	0	1
	CEO	29	33	19	1	0	82
	MANAGER FINANCE	1	0	0	0	0	1
	Librarian	1	0	0	0	0	1
	General Manager	48	55	19	0	0	122
	IT manager	0	1	0	0	0	1
	HR Consultant	0	1	0	0	0	1
	Senior Executive	0	1	0	0	0	1
Total		172	150	76	1	1	400

Reliability – Cronbach Alpha and Composite Reliability

This is an important construct that has been used by researchers extensively in qualitative and quantitative studies. This construct includes both tests such as validity and reliability tests (outer model evaluation) by including all individual items such as Cronbach's Alpha, reliability, Average Variance Extraction (AVE) and composite reliability (Lobe, 2020).

Table 4.6

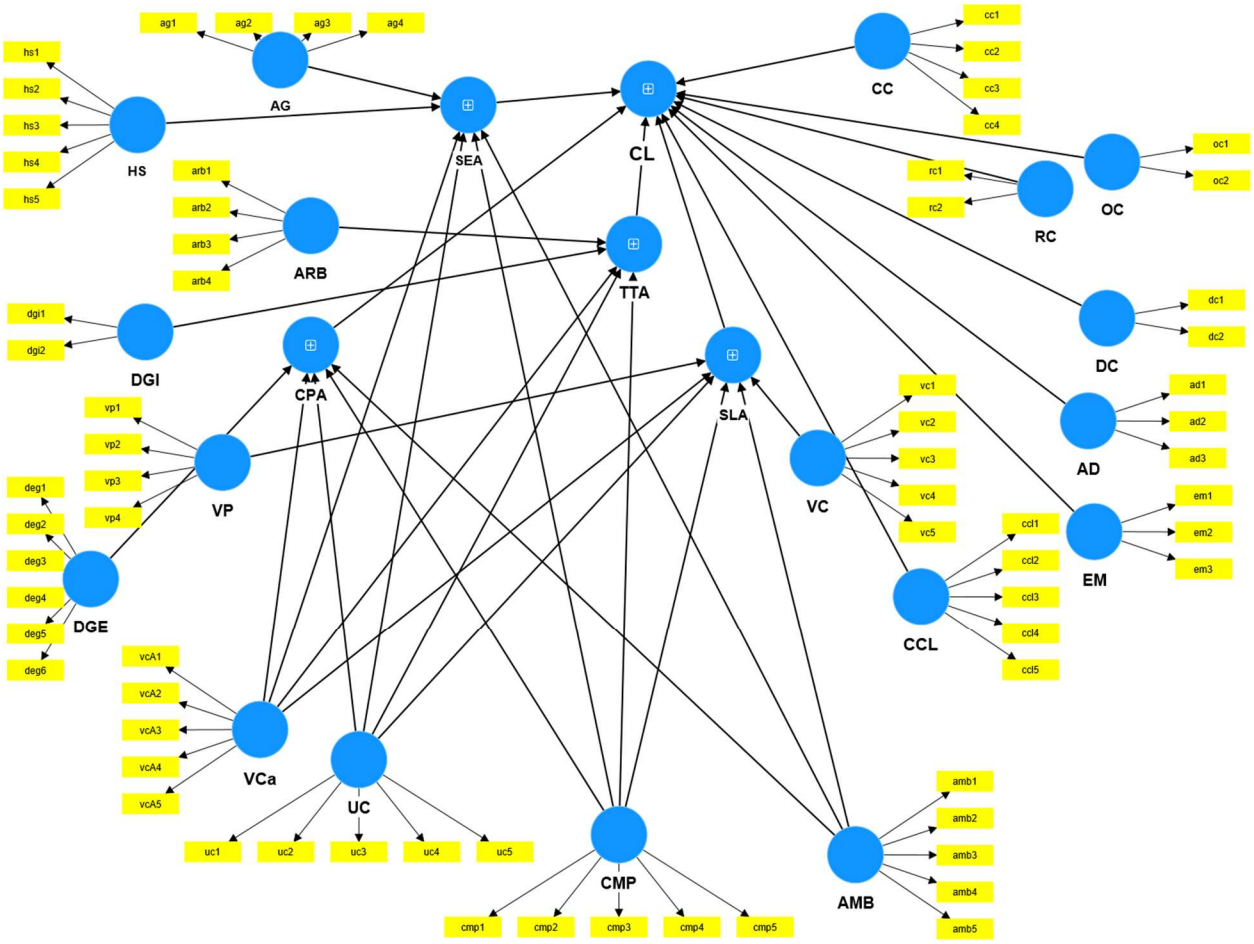
Case Processing Summary			
		N	%
Cases	Valid	50	12.5
	Excluded[a]	350	87.5
	Total	400	100.0
a. Listwise deletion based on all variables in the procedure.			

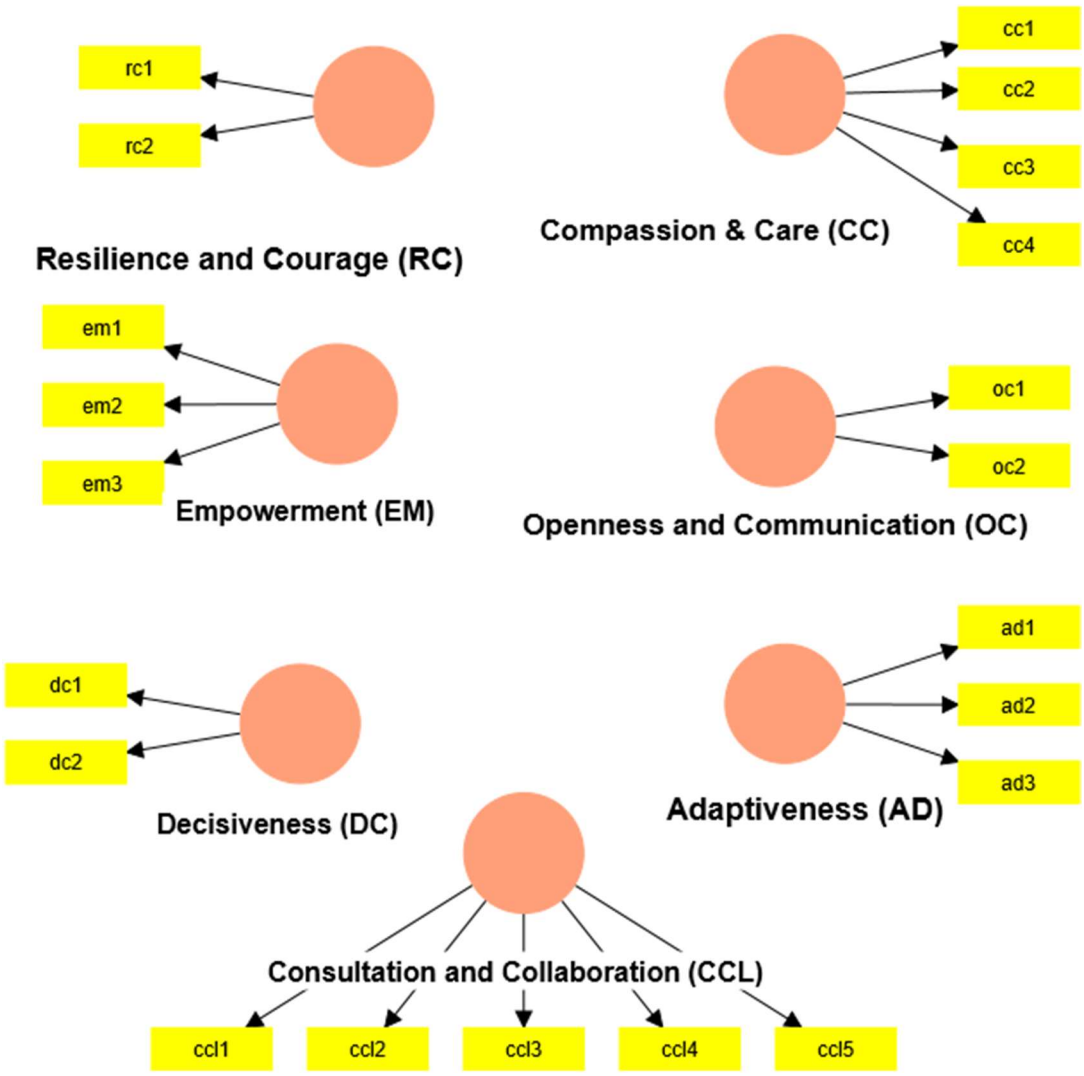
Table 4.7

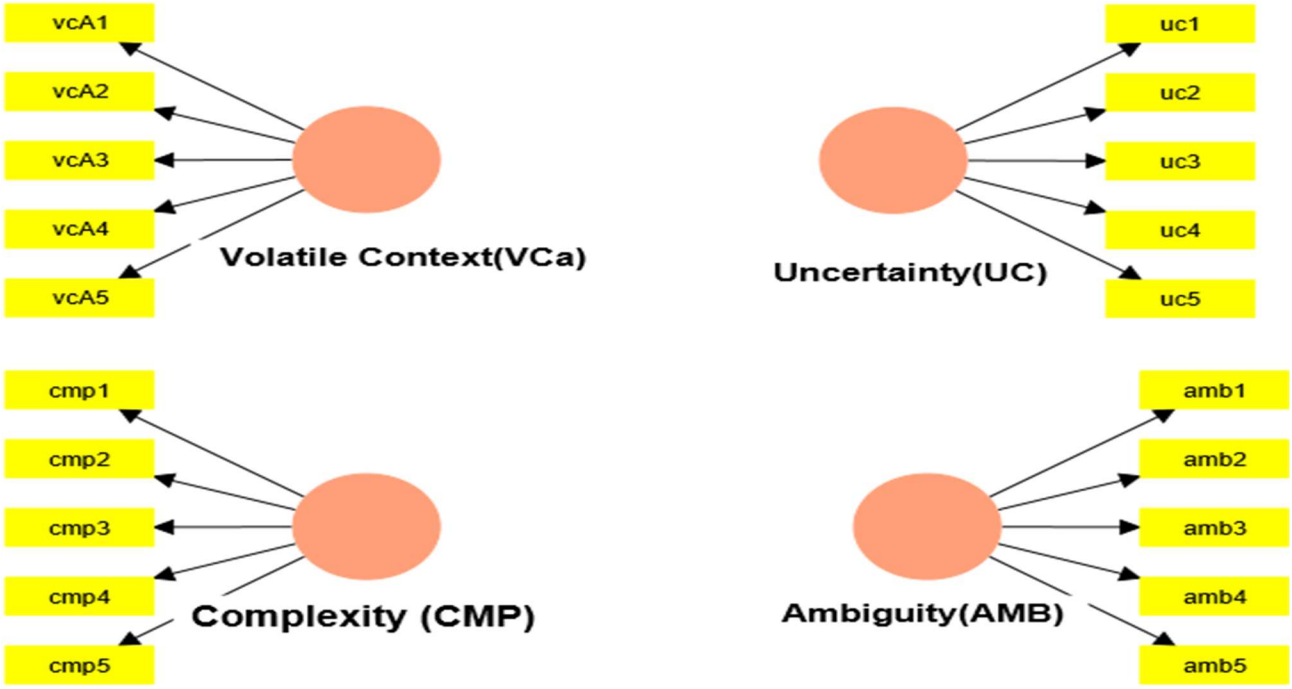
Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.935	.955	93

Conceptual Framework

The conceptual framework of the proposed model which is to be estimated using SmartPls-SEM is constructed as per loading and latent variables details of independent and dependent variables present in Table







If collinearity is not an issue, the next step is examining the R^2 value of the endogenous construct(s). The R^2 measures the variance which is explained in each of the endogenous constructs, and is therefore a measure of the model's explanatory power (Shmueli and Koppius, 2011). The R^2 is also referred to as in-sample predictive power (Rigdon, 2012). The R^2 ranges from 0 to 1, with higher values indicating a greater explanatory power. As per guidelines Table 4.26 shows the reported value of R2 and adjusted R^2. Both the values are close to 1. Which ensure the high explanatory power of the model.

Table 4.26: Co-efficient of Determination (R^2)

	R-square	R-square adjusted
Competitive Potential Alignment(CPA)	0.953	0.952
Crises Leadership(CL)	0.997	0.996
Technology Transformation Alignment(TTA)	0.853	0.851

To further confirm the explanatory power the co-efficient of determination and adjusted co-efficient of determination are tested via bootstrapping run with corresponding confidence interval for each. The testing results for R^2 are in Table 4.27 and corresponding confidence interval in Table 16.

Table 4.27: Significance Testing R^2 with Bootstrapping

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Competitive Potential Alignment(CPA)	0.953	0.953	0.008	118.528	0
Crises Leadership(CL)	0.997	0.997	0.001	1976.461	0
Technology Transformation Alignment(TTA)	0.853	0.856	0.022	37.999	0

Table 15 presents t-Statistics with corresponding p-values. It can be observed that all the p-values for each of the variables rest at (p-value =0.000 < $\alpha = 0.05$). Hence, the R^2 is significant. The 95% confidence intervals for R^2 for each of the variable are reported in Table. It can be seen that the lower bound of confidence intervals is above 0.85 for every variable. It may be concluded that bootstrapping results support the strongest explanatory power of the model.

4.6. Conclusion

The p value is important in R-squared to find the significant changes observed in the dependent variable as the associated independent variable changes. If the value of p is lower, the significance value of the observed difference is likely to be greater (Cheah et al., 2020). Hence, this is important in terms of testing hypothesis and usually P < 0.05 is considered as an acceptable value that implies a null hypothesis can be rejected at any time. On the other hand, the value of p can be greater than this threshold of 0.05; if P > 0.05, this would mean there are no significant differences when the variable changed.

Moreover, the above graphs also show that R-squared value is nearly 0.65 that is just below 0.7 and above 0.6. Moreover, there is another important measure that is Adjusted R-squared which is also deemed as a different or altered version of R-squared. This has been adjusted for the number of predictors in the research model. For instance, the value of the adjusted R-squared goes higher when the new term improves the model more than would be expected by chance (Ammad, 2021). However, on the other hand, the value of R-squared declines when a predictor improves the model by less than what they have expected.

Assessing Internal Consistency and Reliability

The internal consistency and reliability are assessed using Cronbach's Alpha, Rho, Composite Reliability and Average Variance Extracted (AVE), results are presented in Table 4.21.

Construct Reliability and Validity

Table 4.21

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance

				extracted (AVE)
Volatile Context(VCa)	0.726	1.367	0.631	0.292
Adaptiveness (AD)	0.834	0.835	0.900	0.751
Agility Leadership (AG)	0.664	0.852	0.804	0.575
Ambiguity(AMB)	0.849	0.895	0.888	0.614
Architectural Business (ARB)	0.895	0.903	0.927	0.761
Compassion & Care (CC)	0.720	0.834	0.828	0.577
Complexity (CMP)	0.784	0.856	0.849	0.534
Consultation and Collaboration (CCL)	0.879	0.880	0.912	0.674
Decisiveness (DC)	0.746	0.746	0.887	0.797
Digital Information (DGI)	0.813	0.817	0.914	0.842
Digital entrepreneurship (DGE)	0.927	0.928	0.943	0.733
Empowerment (EM)	0.834	0.834	0.900	0.750
Hybrid Skills (HS)	0.933	0.935	0.949	0.790
Openness and Communication (OC)	0.779	0.779	0.900	0.819
Resilience and Courage (RC)	0.726	0.730	0.879	0.785
Uncertainty(UC)	0.783	0.794	0.851	0.534
Value Creation (VC)	0.911	0.912	0.933	0.737
Value Protector (VP)	0.880	0.881	0.917	0.735

Variance Inflation Factor (VIF)

The Variance Inflation Factor (VIF) is often used to evaluate collinearity of the formative indicators. When VIF values are higher, the level of collinearity is greater. VIF values of 5 or above indicate collinearity issues among the predictor constructs (Mason and Perreault 1991; Becker et al. 2015). Ideally, the VIF values should be close to 3 and lower

Table 4.24: VIF Inner Model

	CPA	CL	TTA
Volatile Context(VCa)	3.402868		2.639775
Adaptiveness (AD)		4.416008	
Agility Leadership (AG)			
Ambiguity(AMB)	2.979846		
Architectural Business (ARB)			4.30915
Compassion & Care (CC)		2.87839	
Competitive Potential Alignment(CPA)		16.96603	
Complexity (CMP)	3.024592		2.057514
Consultation and Collaboration (CCL)		4.661116	

Crises Leadership(CL)			
Decisiveness (DC)		3.801145	
Digital Information (DGI)			3.930406
Digital entrepreneurship (DGE)	2.921018		
Empowerment (EM)		3.089638	
Hybrid Skills (HS)			
Openness and Communication (OC)		3.038717	
Resilience and Courage (RC)		3.105905	
Technology Transformation Alignment(TTA)		5.649497	
Uncertainty(UC)	2.240416		1.992641
Value Creation (VC)			
Value Protector (VP)			

Table 4.19 presents the outer VIF measures only CL v/s CPA, CCL and TTA have higher values of VIF in comparison of proposed threshold of 5. All the results measures are below 5 and many of those are below 3

Table 4.44 Hypothesis status after the Analysis

Hypotheses	
H1	To examine the influence Technological alignment capabilities on navigation leadership in private hospitals in Pakistan. (**positive relationship**) **Accepted**
H2	To examine the influence Competitive alignment capabilities on navigation leadership in private hospitals in Pakistan. (**positive relationship**) **Accepted**
H3a	To examine the influence of volatility context on technological alignment capability. (**positive relationship**) **Accepted**
H3b	To examine the influence of volatility context on competitiveness alignment capability. **positive relationship**) **Accepted**
H4a	To examine the influence of uncertainty context on technological alignment capability. (**Negative relationship**) **Refuted**
H4b	To examine the influence of uncertainty context on competitiveness alignment capability. (**Negative relationship**) **Refuted**
H5a	To examine the influence of complexity context on technological alignment capability. (**Negative relationship**) **Refuted**
H5b	To examine the influence of complexity context on competitiveness alignment capability. (**Negative relationship**) **Refuted**

H6a	To examine the influence of ambiguity context on technological alignment capability. **(positive relationship**) **Accepted**
H6b	To examine the influence of ambiguity context on competitiveness alignment capability. (**positive relationship**) **Accepted**

In this hypothesis testing, there are five hypotheses developed for the research study which all discusses the relationship of various independent and dependent variables and their associations.

Table 4.45

	Path coefficients	Result
Volatile Context(VCa) -> Technology Transformation Alignment(TTA)	0.035	Positive Relationship
Adaptiveness (AD) -> Crises Leadership(CL)	0.191	Positive Relationship
Ambiguity(AMB) -> Competitive Potential Alignment(CPA)	0.022	Positive Relationship
Architectural Business (ARB) -> Technology Transformation Alignment(TTA)	0.635	Positive Relationship
Compassion & Care (CC) -> Crises Leadership(CL)	0.171	Positive Relationship
Competitive Potential Alignment(CPA) -> Crises Leadership(CL)	0.006	Positive Relationship
Consultation and Collaboration (CCL) -> Crises Leadership(CL)	0.189	Positive Relationship
Decisiveness (DC) -> Crises Leadership(CL)	0.173	Positive Relationship
Digital Information (DGI) -> Technology Transformation Alignment(TTA)	0.294	Positive Relationship
Digital entrepreneurship (DGE) -> Competitive Potential Alignment(CPA)	0.984	Positive Relationship
Empowerment (EM) -> Crises Leadership(CL)	0.136	Positive Relationship
Hybrid Skills (HS) -> Technological Alignment(SEA)	0.226	Positive Relationship
Openness and Communication (OC) -> Crises Leadership(CL)	0.137	Positive Relationship
Resilience and Courage (RC) -> Crises Leadership(CL)	0.146	Positive Relationship
Value Creation (VC) -> Service-Level Alignment(SLA)	0.398	Positive Relationship
Value Protector (VP) -> Service-Level Alignment(SLA)	0.508	Positive Relationship

Volatile Context(VCa) -> Competitive Potential Alignment(CPA)	-0.007	Negative Relationship
Complexity (CMP) -> Competitive Potential Alignment(CPA)	-0.023	Negative Relationship
Complexity (CMP) -> Technology Transformation Alignment(TTA)	-0.003	Negative Relationship
Technology Transformation Alignment(TTA) -> Crises Leadership(CL)	-0.002	Negative Relationship
Uncertainty(UC) -> Competitive Potential Alignment(CPA)	-0.019	Negative Relationship
Uncertainty(UC) -> Technology Transformation Alignment(TTA)	-0.011	Negative Relationship

As mentioned, the hypotheses developed for this study related to the two independent variables (Technological alignment capability and competitiveness alignment capability) with the dependent variable or the outcome (on navigation leadership in private hospitals of healthcare sector in Pakistan) along with mediating factor of (Volatile, Uncertain, Complex, and ambiguous context). The hypothesis consisted of complexity, and uncertainty are refuted or rejected on the basis of negative relationship with the technological alignment capability and competitiveness alignment capability. But on the other side all hypothesis consisting of volatility, ambiguity mediating variables effect are positively associated with the dependent variable process that has strengthen the model. However, the VUCA context is used as a mediating variable to improve the relationship between the IVs and the DV used in the context of Pakistani hospitals. Hence, these hypotheses are developed in relation to keeping in mind the research questions, the scope, the outcome, and the overall conceptual framework of this research.

Moreover, technology can also improve the confidence healthcare leaders need to assert to navigate in highly volatile, uncertain, complex, and ambiguous context. For instance, digital tools can help healthcare providers make more accurate diagnoses and treatment plans, reducing errors and improving outcomes. This, in turn, can lead to higher levels of patient satisfaction. Technology can also improve the quality of care delivered to patients (Jungreitmayr et al., 2021; Li et al., 2021; Maa et al., 2020; Su et al., 2021). Digital tools can help healthcare providers make more accurate diagnoses, plan treatments more effectively, and monitor patient progress more closely. This can lead to better health outcomes for patients and contribute to their overall satisfaction with their healthcare experience.

This study also accepts the first hypothesis that explains that there is a positive association/relationship between technological alignment capability and under seriously hostile environment to perform timely and effectively can help healthcare leaders in Pakistani private hospitals. Competitiveness value is also applicable in healthcare and can have a significant impact navigation leadership for healthcare leaders. In healthcare, competitiveness value refers to the functional or instrumental benefits that healthcare leaders derive from the healthcare services they

receive. These benefits may include features such as access to care, the quality of care, and the effectiveness of treatments (Chung et al., 2021; Spanò et al., 2021; Su et al., 2021).

When healthcare leaders perceive that a healthcare service provides a high level of competitiveness value, they are more likely to be satisfied with it. For example, if a healthcare provider offers prompt access to care, timely diagnosis, and effective treatments, patients are more likely to have high utilitarian value from the healthcare service and experience higher satisfaction levels.

Moreover, competitiveness capability can also lead to patient trust and compliance with treatment recommendations. When healthcare leaders have more confidence to help the ailing society, they are more likely to trust their healthcare provider and comply with the recommended treatments and care plans. The value of third hypothesis also explain the acceptance this hypothesis explains that there is a positive relationship between competitiveness alignment capability under a mediator of highly complex context in Pakistani private sector hospital. Strategic alignment capability can act as a mediator between healthcare services and navigation healthcare leadership. In healthcare sector, leadership is often used as a measure of the quality of care they provide to the ailing society. However, healthcare leadership can be positive and influenced by a variety of factors, including expectations, personal preferences, and past experiences.

As a mediating factor, volatile, uncertain, complex, and ambiguous context can help to explain the relationship between healthcare services and stubborn healthcare leader’s performance to come out as winner. For example, if a leader is able to offer efficient and effective service to ailing society, the leadership may be influenced to do further good for the society. On the other hand, if a leader is unable to deliver the expected performance it can lead to loss people with even minor issues they come to consult to private hospitals with such expensive treatment. By measuring strategic alignment capability skills application VUCA context can best translate the performance of the healthcare leaders.

Similarly, a study published in the International Journal of Health Planning and Management found that there was a positive relationship between the strategic alignment capability carrying by hospital staff and towards patients' satisfaction in private sector hospitals in Pakistan. Overall, these studies suggest that improving the skills of healthcare leaders through technological and competitive alignment capability in highly volatile, uncertain, complex, and ambiguous context on navigation leadership in healthcare employees in private sector hospitals in Pakistan can lead to higher levels of patient satisfaction, which can ultimately improve the quality of care and patient outcomes.Technological and competitiveness alignment capabilities are key factors in shaping patients' satisfaction with healthcare services. When healthcare leaders offer the quality of the care towards ailing society, they are more likely to report higher levels of satisfaction with their healthcare experience (Abekah-Nkrumah et al., 2021; Boakye et al., 2021; Liu et al., 2021).

6. Discussion

Overall, these findings suggest that healthcare providers and organizations can improve patient satisfaction by focusing on enhancing the skills of technology and competitiveness alignment capability with VCUA context. This can involve efforts to improve healthcare providers' technical

competence, improve the physical environment of healthcare facilities, improve access to care, and enhance healthcare providers' interpersonal skills. *The outcome of the research paper has highlighted that strategic alignment capability model along with VUCA context as moderator factor has role to play to influence the navigation leadership in healthcare sector of developing country such as Pakistan. It hopes to present sort of solution to healthcare leaders in private hospital in the developing country like Pakistan healthcare sector to cater the pressure of performance and efficiency in their profession. The result indicated that it may help the policy makers to align the health policy with prevailing crises of health, economy, and environmental in the country. Similarly a guideline for the healthcare professionals to plan and execute career phases effectively and efficiently. On the basis of an initial analysis It has been established that the questionnaire deemed fit to conduct an analysis in full length. That has related to needs of academicians' and par actioners in private healthcare sector of developing countries but it initially it has been reduced to Pakistan.*

Reference

1. *Thibault Landry, A., Schweyer, A., & Whillans, A. (2017). Winning the war for talent: Modern motivational methods for attracting and retaining employees. Compensation & Benefits Review, 49(4), 230-246.*
2. *Körösényi, A., Illés, G., & Metz, R. (2016). Contingency and political action: The role of leadership in endogenously created dynamic complex. Politics and Governance, 4(2).*
3. *Tucker, H. A. (1981). Physiological control of mammary growth, lacto genesis, and lactation. Journal of Dairy Science, 64(6), 1403-1421.*
4. *Fink, S. L., Beak, J., & Taddeo, K. (1971). Organizational crisis and change. The Journal of applied behavioral science, 7(1), 15-37.*
5. *James, E. H., & Wooten, L. P. (2005). Leadership as (Un) usual:: how to display competence in times of crisis. Organizational dynamics, 34(2), 141-152.*
6. *Zakocs & Edwards, 2006*
7. *Sun, R., & Henderson, A. C. (2017). Transformational leadership and organizational processes: Influencing public performance. Public Administration Review, 77(4), 554-565.*
8. *Van Wart, M. (2013). Changing public sector values. Routledge.*
9. *König, E., Wesse, C., C Murphy, A., Zhou, M., Wang, L., Chen, T., ... & Bininda-Emonds, O. R. (2013). Molecular cloning of the trypsin inhibitor from the skin secretion of the Madagascan Tomato Frog, Dyscophus guineti (Microhylidae), and insights into its potential defensive role. Organisms Diversity & Evolution, 13(3), 453-461.*
10. *Polivy, J., Herman, C. P., & McFarlane, T. (1994). Effects of anxiety on eating: Does palatability moderate distress-induced overeating in dieters?. Journal of Abnormal Psychology, 103(3), 505.*
11. *Müller, H., & Van Esch, F. A. (2020). The contested nature of political leadership in the European Union: conceptual and methodological cross-fertilisation. West European Politics, 43(5), 1051-1071.*

12. *Tahir Khalily, M. (2011). Developing an integrated approach to the mental health issues in Pakistan. Journal of Interprofessional Care, 25(5), 378-379.*
13. *Mahmood, M. M. (2015). China–Pakistan Economic Corridor. CISS Insight Journal, 3(1&2), P58-64.*
14. *Dhammi, I. K., & Haq, R. U. (2018). How to write systematic review or Metaanalysis. Indian journal of orthopaedics, 52(6), 575.*
15. *Peppard, J., & Breu, K. (2003). Beyond alignment: a coevolutionary view of the information systems strategy process.*
16. *Venkatraman, N., Henderson, J. C., & Oldach, S. (1993). Continuous strategic alignment: Exploiting information technology capabilities for competitive success. European Management Journal, 11(2), 139-149.*
17. *Williams, H. W. (2008). Characteristics that distinguish outstanding urban principals: Emotional intelligence, social intelligence and environmental adaptation. Journal of Management Development.*
18. *Garman, A., & Scribner, L. (2011). Leading for quality in healthcare: Development and validation of a competency model. Journal of Healthcare management, 56(6), 373-384.*
19. *Apel, R., & Horney, J. (2017). How and why does work matter? Employment conditions, routine activities, and crime among adult male offenders. Criminology, 55(2), 307-343.*
20. *Guan, W. J., Ni, Z. Y., Hu, Y., Liang, W. H., Ou, C. Q., He, J. X., ... & Zhong, N. S. (2020). Clinical characteristics of coronavirus disease 2019 in China. New England journal of medicine, 382(18), 1708-1720.*
21. *Ma, Y. F., Li, W., Deng, H. B., Wang, L., Wang, Y., Wang, P. H., ... & Xiang, Y. T. (2020). Prevalence of depression and its association with quality of life in clinically stable patients with COVID-19. Journal of affective disorders, 275, 145-148.*
22. *Banerjee, D. (2020). The COVID-19 outbreak: Crucial role the psychiatrists can play. Asian journal of psychiatry, 50, 102014.*
23. *Sarachek, B. (1968). Greek concepts of leadership. Academy of management journal, 11(1), 39-48.*
24. *Rowe, G., & Nejad, M. H. (2009). Strategic leadership: Short-term stability and long-term viability. Ivey Business Journal, 73(5), 6-11.*
25. *Thiboutot, D., Gilliland, K., Cong, Z., Jabara, S., McAllister, J. M., Sivarajah, A., & Clawson, G. (2003). Human skin is a steroidogenic tissue: steroidogenic enzymes and cofactors are expressed in epidermis, normal sebocytes, and an immortalized sebocyte cell line (SEB-1). Journal of Investigative Dermatology, 120(6), 905-914.*
26. *Gordon, L. A., & Narayanan, V. K. (1984). Management accounting systems, perceived environmental uncertainty and organization structure: an empirical investigation. Accounting, organizations and society, 9(1), 33-47.*
27. *Adhikara, M. A., Diana, N., & Basjir, M. (2022). Organizational Performance in Environmental Uncertainty on the Indonesian Healthcare Industry: A Path Analysis. Academic Journal of Interdisciplinary Studies, 11(2), 365-365.*

28. *Fu, Q., Cherian, J., Ahmad, N., Scholz, M., Samad, S., & Comite, U. (2022). An Inclusive Leadership Framework to Foster Employee Creativity in the Healthcare Sector: The Role of Psychological Safety and Polychronicity. International Journal of Environmental Research and Public Health, 19(8), 4519.*
29. *Szadkowska, A., Baranowska-Jaźwiecka, A., Michalak, A., Jarosz-Chobot, P., Myśliwiec, M., Głowińska-Olszewska, B., ... & Monika, Ż. K. (2021). Above 40% of Polish children and young adults with type 1 diabetes achieve international HbA1c target-results of a nationwide cross-sectional evaluation of glycemic control: The PolPeDiab HbA1c study. Pediatric Diabetes, 22(7), 1003-1013.*
30. *Li, J., Galley, M., Brockett, C., Spithourakis, G. P., Gao, J., & Dolan, B. (2016). A persona-based neural conversation model. arXiv preprint arXiv:1603.06155.*
31. *Iheanachor, N. (2022). Strategy execution and firms' performance: A qualitative investigation of Nigeria's manufacturing sector. International Journal of Management, Economics and Social Sciences (IJMESS), 11(1), 29-47.*
32. *Iheanachor, N. (2022). Strategy execution and firms' performance: A qualitative investigation of Nigeria's manufacturing sector. International Journal of Management, Economics and Social Sciences (IJMESS), 11(1), 29-47.*
33. *Hefner, R. W. (2010). Introduction: The culture, politics, and future of Muslim education. In Schooling Islam (pp. 1-39). Princeton University Press.*
34. *King, K., & Fransman, M. (Eds.). (1984). Technological capability in the third world. Springer.*
35. *Bell, M., & Pavitt, K. (1993). Technological accumulation and industrial growth: Contrasts between.*
36. *Bell, M., & Pavitt, K. (1995). The development of technological capabilities. Trade, technology and international competitiveness, 22(4831), 69-101.*
37. *Waheeduzzaman, A. N. M., & Ryans, J. K. (1996). Definition, perspectives, and understanding of international competitiveness: A quest for a common ground. Competitiveness Review: An International Business Journal, 6(2), 7-26.*
38. *Wisenthige, K., & Guoping, C. (2016). Firm level competitiveness of small and medium enterprises (SMEs): analytical framework based on pillars of competitiveness model. International research journal of management, IT and social sciences, 3(9), 61-67.*
39. *Wahyuningtyas, R., Disastra, G. M., & Rismayani, R. (2021). Digital Innovation and Capability to Create Competitiveness Model of Cooperatives in Bandung, Indonesia. Jurnal Manajemen Indonesia, 21(2), 171-182.*
40. *Hartono, H., & Halim, E. (2020, August). The Effect of Digital Capability on Competitiveness through Digital Innovation of E-Travel Business in Indonesia. In 2020 International Conference on Information Management and Technology (ICIMTech) (pp. 615-620). IEEE.*
41. *Antwi-Boampong, A., Freeman, E., & Muat, H. (2019, November). A thematic and grounded theory understanding of faculty adoption of blended learning in higher education. In European Conference on e-Learning (pp. 621-XII). Academic Conferences International*

Limited.

42. *Dwivedi, Y. K., Rana, N. P., Slade, E. L., Singh, N., & Kizgin, H. (2020). Editorial introduction: Advances in theory and practice of digital marketing. Journal of Retailing and Consumer Services, 53, 101909.*
43. *Quinton, S., Canhoto, A., Molinillo, S., Pera, R., & Budhathoki, T. (2018). Conceptualising a digital orientation: antecedents of supporting SME performance in the digital economy. Journal of Strategic Marketing, 26(5), 427-439.*
44. *Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. Long range planning, 46(1-2), 1-12.*
45. Mahmood, Z., Kouser, R., & Masud, M. A. K. (2019). An emerging economy perspective on corporate sustainability reporting–main actors' views on the current state of affairs in Pakistan. Asian Journal of Sustainability and Social Responsibility, 4(1), 8.
46. Abid, N., Ikram, M., Wu, J., & Ferasso, M. (2021). Towards environmental sustainability: exploring the nexus among ISO 14001, governance indicators and green economy in Pakistan. Sustainable Production and Consumption, 27, 653-666.
47. Burton, M. J., Ramke, J., Marques, A. P., Bourne, R. R., Congdon, N., Jones, I., ... & Faal, H. B. (2021). The Lancet global health Commission on global eye health: vision beyond 2020. The Lancet Global Health, 9(4), e489-e551.
48. Ehsan, A., & Raza, A. (2022). Roller Coaster Ride of Teaching Faculty under Pakistan Medical Commission. Pakistan Journal of Medical Sciences, 38(4Part-II), 780.
49. Sheikh, B. T. (2022). Universal Health Coverage in Pakistan: A call for Health System Reforms. Journal of Islamabad Medical & Dental College, 11(3), 132-134.
50. Renko, M., El Tarabishy, A., Carsrud, A. L., & Brännback, M. (2015). Understanding and measuring entrepreneurial leadership style. Journal of small business Management, 53(1), 54-74.
51. Gupta, S., Lehmann, D. R., & Stuart, J. A. (2004). Valuing customers. Journal of marketing research, 41(1), 7-18.