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Knowledge Management Impact on Innovation Capabilities of a Firm: Mediating Role of Culture

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Abstract

Now economies have been shifted from production oriented to knowledge based economies. Business environment is changing dramatically. There is a continuous technological changes which results in change in business processes. There is also a continuous change in customer needs. To manage the changing requirements organizations are continuously improving their technology and business processes by implementing knowledge management. Organizational culture can also support or obstruct the innovation process. The objective of the study was to explore the association between knowledge management and innovation considering the mediating influence of organization culture. The data was collected from services sector employees by using a questionnaire. Quantitative techniques were used to examine the data. Data was analyzed using SPSS. Results show a strong correlation among knowledge management and innovation capability of a firm. So knowledge management can improve the innovation within a firm. While Outcomes also prove that culture can affect the innovation within a firm. So the organizations interested to be innovative should promote a culture which supports innovation.

Key Words: Knowledge Management, Culture, Innovation

Introduction

Successful business leaders are constantly looking for the best strategies to boost performance. Failures related to previous management choices have motivated managers to comprehend the intricate yet essential tool, like knowledge, that propels a firm to achievement. All areas of an organization's operations can benefit from knowledge management, which has multiple facets. A balanced combination of people, structure, and technology is necessary for a business to succeed and obtain a competitive edge. Organizations ought to prioritize and plan operations to

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manage the knowledgeable portfolio and an efficient knowledge process, which is impossible without a knowledge management system as a significant source of inspiration that offers advantages to the concepts. It is anticipated that the main focus for improving society will be on information generation, organizational development, and reaping the benefits of it. In the knowledge-based economy, knowledge is more important than ever in helping businesses develop long-term viability and competitive advantages. Majority of the businesses must take advantage of outside expertise for the benefit of their companies(Fidel, et al. 2018). Employees can discover and use knowledge for the advantage of their companies because knowledge-oriented executives promote learning and foster an environment that accepts mistakes through knowledge focused leadership (Donate and de Pablo 2015). Information is one of the most important assets for businesses to manage these days, thus they must handle both basic information and knowledge that is requested from clients(Chaithanapat and Rakthin 2021). Businesses can gain a superior understanding of the needs, desires, and behaviors of their consumers by using knowledge management. Knowledge management about customers is a dynamic tool for creating, exchanging, and safeguarding customer knowledge(du Plessis and Boon 2004). Customer knowledge management is a dynamic tool for creating, exchanging, and safeguarding customer knowledge(Fidel, et al. 2018).

Nowadays, knowledge management is widely used in the majority of developed and developing countries, with varying stages of adoption. However, knowledge management is still very new in Pakistan and is only just beginning to be implemented. Knowledge management has been purposefully incorporated into the frameworks of just a small number of businesses. Knowledge management is being worked on by banks, government agencies, development sector organizations, large multinational corporations, and local institutions, although the concept is only used by a few data framework experts inside these organizations. Pakistan envisions a knowledge economy reliant on innovation, knowledge, technology, and competitiveness in its VISION 2030 project (Government of Pakistan, 2007).

The development of economic activity in a knowledge economy (Dean and Kretschmer 2007)demonstrates the significance of intellectual property or knowledge as crucial production elements for the survival and prosperity of a company. Businesses are continuously renewing their competitive advantages through continuous innovation and the creation of new knowledge and

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capabilities as this environment shifts towards a new competitive arena(Díaz-Díaz, et al. 2008; Johnson, et al. 2002). In this view, one of the finest methods for a corporation to achieve a competitive continuous technological innovation is the direct source of advantage. A firm's One of the main factors influencing the company's performance is its new product development strategy (De Brentani, et al. 2010). Additionally, the company's capacity to Its future depends on its ability to continuously innovate its knowledge assets and products(Lichtenthaler and Lichtenthaler 2009; Menzel, et al. 2007).

Even though a lot of work has been done to comprehend the phenomenon of technological innovation from an external standpoint (Galende 2006; Galende and de la Fuente 2003), more internal analysis-focused efforts are required to completely comprehend this intricate economic activity. The innovation happening is a knowledge-concentrated business practice that involves the foundation of technological advances is the members of the organization, their interactions, and other types of collective organizational knowledge, framework, and evidence, as well as their efficient application (Nonaka 2009).Innovations in technology are related to a firm's intellectual capital endowments (Subramaniam and Youndt 2005). Empirical studies have tested this argument (Bowman and Helfat 2001; Díaz-Díaz, et al. 2008; Reed, et al. 2006). Even while the fundamental connection between firm knowledge and innovation is generally compelling, there is still much to learn about its intricate structure (Subramaniam and Youndt 2005).

Problem Statement

Knowledge is the foundation of modern economies. Organizations are fiercely competing with one another to offer their clients personalized value-added services that are both cost-effective and unique. Employees immediately interact with and attempt to assist their clients in order to give services. As a result, firms often employ a lot of information to ensure that their internal operations run smoothly and to work with their suppliers and customers on an external level. Therefore, in the absence of knowledge management, if the individual in a position that involves interacting with suppliers or customers is no longer in that role, he will remove all information about that particular customer or process. Therefore, there may be a lapse in an organization's activities and the loss of important clients. However, it can result in operational consistency and customer satisfaction if the organization's knowledge is effectively managed and an attempt is made to transfer all of the knowledge that exists in people's thoughts in a

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written form. Thus, knowledge management promotes both performance enhancement and organizational effectiveness.

On other hand customer choices and business processes are changing constantly. Only those organizations survive which has developed the capability of knowledge management and uses this knowledge to develop new products or business processes. Culture can support or hinder the knowledge management process and hence innovation capability of a firm so there is a need to study the relationship between knowledge management and innovation within a firm while considering the mediating relationship of culture.

Literature Review

Knowledge Management

Financial resources and physical assets were a company's main advantages at the start of industrialization. Later on, businesses realized that their procedures needed to be more intelligent and knowledge-based in order to get an advantage over opponents(Lev and Daum 2004). The global economy as a whole has changed from being product-oriented to being knowledge-based, with information or knowledge serving as the primary product (Walczak 2005).

It is mentioned that economic growth progresses through three stages. In the initial stage, natural resources are utilized. During the second stage, significant investments are made in infrastructure to promote economic development. In the final stage, knowledge is utilized, supporting advancements in technology that improve productivity. Increased productivity helps sustain a rapid growth rate. There is a connection between knowledge management practices and corporate performance. The implementation of knowledge management practices influences an organization's effectiveness. Therefore, if organizations manage knowledge-related activities more efficiently, their performance will also improve(Thurow and Cunningham 1999). Effective knowledge management can enhance both the quality and quantity of knowledge generation. It can also elevate the rationale for the value of knowledge(CHANG and CHUANG 2009).

Knowledge is information combined with practice connection, translation, and repetition (Davenport, et al. 1998)."Data is information that can be turned into knowledge by comparing it to a background, determining its potential applications, and adding further relevant information. Knowledge anticipates associates and reveals hidden truths, whereas information is expressive in relation to the past and present(Kock and McQueen 1998). According to(Martinez 1998), usefulness of knowledge is defined as having certain worth for action and is produced when the

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individual receiving the information distinguishes, transforms, and practically applies it to carry out a certain activity. Knowledge is a protected particular belief that expands a single's capacity to make a influential move(Nonaka 1994)

The continuous and swift advancement in information technology has led to the emergence of a new economic era. The management of knowledge has naturally evolved in the twenty-first century and is frequently conversed in various corporate circles. Currently knowledge-based economy, the capacity to efficiently manage knowledge has become crucial. It is essential to oversee organizational resources, and when knowledge management is effectively implemented, it can provide a competitive edge (Jennex and Raman 2009). The fundamental rationale behind any organization's existence and capability lies in its ability to produce, share, and apply knowledge in a rational manner (De Carolis, et al. 2009). Businesses have come to understand that a sustainable competitive edge can be achieved through the possession of resources that are challenging to transfer, difficult to gather, distinct, irreplaceable, inherently personal, and will not diminish with usage (Barney and Zhang 2009); (Prahalad and Hamel 2009) ,(Kongpichayanond 2009). Organizations invest substantial amounts in knowledge management due to their desire for long-term advantages that can be realized by effectively structuring knowledge assets (Lee and Sukoco 2007).

Many managers, consultants, and executives feel that using information is how businesses in today's climate get a competitive edge (Nahapiet and Ghoshal 1998). While modern economies view knowledge as a source of competitive improvement and a production element, traditional economies relied on capital and land for production (Uit Beijerse 1999). According to the organization's knowledge-based opinion, a firm's operations must include the development, association, and use of knowledge resources. By evaluating how well knowledge is managed, one can ascertain an organization's performance (Tax, et al. 1998). It is proposed that knowing resources are among the organizational means important for long-term competitive lead (Drucker 1998). Additionally, it is explained that the production, dissemination, and preservation of information by businesses validates that knowledge exists within an organization (Conner and Prahalad 1996).

The fact that knowledge is invariably distinct and distinctive is its most crucial quality. Knowledge is a strategic advantage for businesses since it cannot be replicated (Cabrera and Cabrera 2002). Managing the organizational processes that enable knowledge to be a source of competitive advantage is mandatory(Alavi, et

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al. 2024). Effective knowledge resource management puts organizations in a better position to reap the benefits of improved decision-making, cost savings, innovation, customer satisfaction, prompt problem-solving, and the more efficient transfer of best practices (Davenport 2016).

Knowledge management facilitates the acquisition and transformation of existing knowledge into organizational knowledge that will be disseminated and utilized by staff members. As time goes on, it also creates fresh information and transforms it into the firm's expertise, and so on. According to(Gupta and Govindarajan 2000), knowledge management is also the organization of firms understanding, which can improve many aspects of effectiveness inside a business by behaving more wisely. Knowledge must be viewed as a strategic organizational means (Grant 1996), as it is also advised that knowledge businesses have observable outcomes of performance disparities (De Carolis 2003).

The process of creating, approving, presenting, sharing, and evaluating knowledge is known as knowledge management(Bhatt 2001). knowledge management is a collection of techniques, frameworks, and specialized managerial tools designed to create, disseminate, and utilize data and information both inside and outside of a company (Bounfour 2003).In pursuit of key organizational goals, knowledge management is a precise and comprehensive process that facilitates organization-wide activities of safeguarding, developing, archiving, offering, diffusing, creating, and conveying learning by individuals and aggregations(Konno and Schillaci 2021).

Knowledge management needs to be implemented because:

1- Business environments are becoming digital, and employees may never have the opportunity to meet in person(Clippinger 1995).

2- Markets are competitive, and companies strive to acquire new skills quickly in order to stay ahead of the competition(Seemann and Cohen 1997).

3- Creating and providing goods and services for global operations(Inkpen 1998).

The main advantages of knowledge management are as follows:

1. It makes it possible for an organization to act sensibly in order to sustain its success.

2. To maximize its knowledge resources' output.

Organizations develop, modify, arrange, and employ knowledge resources effectively in order to accomplish these objectives.

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There are four key areas of knowledge management from a management perspective:

1. To oversee and support an organization's knowledge management initiatives from the highest levels.
2. To create and preserve a knowledge base.
3. To organize and modify information sources.

4-Recognizing the value of knowledge resources(Wiig 1997).

One of the main goals of knowledge management programs is to :

1. Create knowledge archives.
2. Expanding access to knowledge.
3. The enhancement of the knowledge base.
4. Knowledge enhancement as a business skill(Davenport, et al. 1998).

Innovation

Another important asset for a company's success is innovation. Technology and fierce competition have significantly transformed the corporate sector over the past 20 years, making innovation more important than ever. Innovation denotes to evolving business procedures, new products and unprocessed variations that generate wealth (Vila, et al. 2014). Numerous studies have emphasized the value of innovation and how it affects business performance(Bigliardi 2013). While quality is tied to uniformity, limited mistake tolerance, and a methodical procedure, innovation is associated to ingenuity and unconventionality(Haner 2002). Innovation excellence is the degree to which recently introduced goods and services satisfy the demands and expectations of consumers. Three stages of innovation quality exist: firm-level, process-level, and product or service level. Innovation quality at the product or service level is determined by analyzing a variety of factors, including total quantity, competence, features, consistency, timing, prices, customer value, degree of innovation, complexity, and many more(Taherparvar, et al. 2014).Quality of innovation at the procedure level indicates how effectively a company follows process innovation, taking into account all aspects that influence the caliber of new procedures and how this caliber has been achieved. However, because of the increased complexity, the challenge of identifying the catalysts, and the requirement to put together soft concerns, assessing innovation quality at the company level may be more challenging (Haner 2002).

Innovation is essential to a company's survival and growth in the cutthroat business world of today(Hurley and Hult 1998) . Numerous scholars have given

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innovation capability a great deal of attention, therefore the body of existing literature has offered a variety of definitions and measurements for this component. According to a study innovativeness is a multifaceted concept that includes the desire to be innovative, the framework to support growth, crucial operational behaviors to impact a market and value orientation, and the environment to promote innovative progress(Bui, et al. 2019).

Strong innovation capabilities enable businesses to produce basic values and principles that direct workforce members to transform knowledge into new intellectual resources, such as enhancing existing goods, services, procedures, technology, and managerial systems. This confirms the organizations' long-term feasibility and maintainable growth (Yang, et al. 2006).Developing and utilizing internal knowledge resources is intimately linked to organizational innovativeness. More precisely, innovation can be fostered and supported in large part by knowledge management (Duan 2017).One specific requirement for starting innovation within businesses is the exchange of knowledge about company needs and technological possibilities, as well as networking with clients and partners(Ibarra, et al. 2020).

It can be argued that effective knowledge management can support innovation, cost reduction, staff development and relations, customer focus, and corporate competitive advantages. The adoption of the aforementioned methods would be conducive to process innovation, as shown by the numerous researchers who have suggested the significance of knowledge administration inside businesses (Al-Mamoori and Ahmad 2015).

Culture

The internal traits of a company that significantly influence its long-term development are denoted to as its organizational culture. It symbolizes the interactions between members of the organization and the way the organization interacts with its stakeholders. To put it another way, an organization's culture serves as a guide that governs its operations, workflow, and customer service(Liao, et al. 2012). Scholars have widely tested organizational culture's dimensions and characteristics in a variety of settings (Park, et al. 2004). Additionally, employees are required to be aware of and follow implicit and unwritten rules that are part of the organizational culture in their day-to-day work (Schein 2010). Organizational culture is defined as a set of basic assumptions developed by the labor community to form an integrative system that deals with external effects and coordinates internal communications inside an organization(Chen and Huang

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2012).Organizational culture is a shared cognitive framework that serves as a guide for members' language, thoughts, and perceptions(Hofstede 2015).

Theoretical Framework and Hypothesis Development

Knowledge Management and Innovation

Comprehensiveness, adaptability, and diversity are some essential components of knowledge(Turner and Makhija 2006). Each organization can have its own unique and fascinating learning focus because each one possesses an uncommon combination of the three views. Therefore, how a company manages its unique expertise is extremely important. A company's ability to apply learned information to create new and improved goods is reflected in its knowledge usage proficiencies(Turner and Makhija 2006). The objective of knowledge management is to structure the basis of the improvement process by evaluating options and making decisions(Basadur and Gelade 2006). Knowledge exploitation proficiencies are a measure of an organization's inventive performance(Jantunen 2005).

According to(Barney 1991), resources are inputs that a business uses to produce goods and services. According to(Miller and Shamsie 1996) there are two types of resources: tangible and intangible. Knowledge about how a company uses intangible knowledge-based resources to convert tangible inputs into outputs is associated with intangible resources(Galunic and Rodan 1998). Knowledge-based resources offer distinctiveness in product or service and a strong market position because they are hard to replicate(McEvily and Chakravarthy 2002). The most important element for an organization is knowledge(Spender 1996). The conceptual foundations of how organizations use knowledge-based resources to establish a sustainable leadership position are provided by the resource-based view of organization. According to the resource-based concept, top businesses make use of both their explicit and implicit resources(Teece 1998). According to (Hendriks and Vriens 1999) the knowledge that a company inherits can lead to opportunities for it to become a leading organization.

Learning is the single factor that separates the market leaders from the rest of the organizations. Creativity must be used by organizations to maintain a competitive edge. In order to boost company success, organizations must be adaptable and offer fresh approaches to business challenges. Businesses might rely on various resources to compete in a competitive market, but ultimately, successful businesses have varying levels of expertise. Any organization's foundation is knowledge, which may combine human abilities and advance technology advancements. An organization's ability to manage its information,

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which is essential for its growth, can be enhanced by knowledge. Better knowledge management leads to better business processes and enhanced performance to better serve stakeholders, which in turn improves organizational competencies(Schiuma 2012).

Organizational performance and long-term competitive advantage are determined by an organization's intellectual capital, which is regarded as an intangible resource. Businesses can gain a prolonged competitive edge if they have the capacity to develop stable innovations in the form of new products or new processes(Bessant and Tidd 2013).

(Barney 2000) asserts that a company's intangible resources have a major impact on its innovation and dynamic capacities. Furthermore, the claim that intellectual capital is a key factor in determining innovation was not well-supported by researchers (Wu, et al. 2008).Additionally, the study discovered a strong correlation between creativity and intellectual capital (Zerenler, et al. 2008). According to them, intellectual capital greatly facilitates the development of new products in the future and improves the features of existing products (Zerenler, et al. 2008).Additionally, (March 1991) focused on knowledge exploration and exploitation and linked them to efficiency and innovation.

According to a small number of studies, innovation is directly influenced by knowledge management(Kogut and Zander 1992; Majchrzak, et al. 2004). Additionally, knowledge management makes businesses more productive (Grant 1996). The significance of knowledge management in organizational innovation is emphasized by the knowledge-based perspective (Grant 1996).

Hypothesis, H1: There is a positive relationship between Knowledge management and innovation capability of a firm.

Knowledge Management and Organization Culture

In the age of technological innovation and globalization, managerial studies have placed a greater emphasis on how culture affects performance and innovation. Businesses in cutthroat markets are constantly under pressure to keep an eye on and enhance their performance to satisfy the demands of consumers, workers, and investors. Organizational culture should be examined in order to study performance since businesses react to changing conditions according to their established culture (Colyer 2000; Kim and Chang 2019; Rasheed, et al. 2017)Since the early 1980s, corporate culture has gained popularity(Hofstede 1991) . Over the past 20 years, corporate culture has gained recognition as a crucial element of an organization's success (Irani, et al. 2004). It is described by Johnson and Scholes as

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a deeper level of fundamental ideals, presumptions, and beliefs that all members of an organization share (Johnson, et al. 2008).

More precisely, an organization's shared values, presumptions, and beliefs that may support the process of product innovation are referred to as its innovation culture. The term "innovation culture" may be used to describe an organizational culture or climate that fosters employees' ability for innovation, accepts risk, and promotes individual development (Menzel, et al. 2007). There are numerous ways that organizational culture might show up. It is defined as a set of common fundamental beliefs that a group developed while resolving its issues with internal integration and external adaptation (Kim and Chang 2019). These beliefs have proven to be effective enough to be accepted as true, and as a result, they are taught to new members as the proper way to view, consider, and feel about those issues. This definition is one of the many that have been proposed.

Accordingly, organizational culture refers to the behavioral patterns influenced by the values and beliefs of the organization that subtly influence people to choose or decide to follow certain explicit or implicit rules over others (Ortega- Parra and Ángel Sastre- Castillo 2013). According to this viewpoint, (Schneider, et al. 2013) organizational culture can be defined as the collection of standards that people feel define their workplace, and these standards have the power to affect how employees respond to and adjust to organizational objectives.

The significance of knowledge sharing as a cultural instrument to increase an organization's resilience to the existing social and economic complication brought on by the worldwide pandemic crisis was recently highlighted. Knowledge sharing was cited by 50% of the employees interviewed as a key factor in organizational performance(Behme, et al. 2021).Businesses that prioritize knowledge management (KM) foster a more relaxed and trustworthy atmosphere for employees to share knowledge resources. Incentives and motivation to share seem to be quite important for successful and efficient knowledge-sharing procedures. However, according to 37% of the HR professionals surveyed, a barrier to efficient information sharing is the absence of suitable incentives. Therefore, using technology by itself to support a culture driven by knowledge management is insufficient. A well-advanced knowledge management method cannot be engaged at nourishing profitability without people in organizations hold the learning capability to use knowledge productively. Managing knowledge requires both viewpoints and educational resources(Hwang 2003). As a result, practically every company works to advance organizational culture, comprehend

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how it is fostered, and create organizational innovations. In the framework of organizational culture, numerous studies have examined how innovations affect various organizational competencies(Abdi and Senin 2014; Shahzad, et al. 2017).

Hypothesis H2: Knowledge management has a positive effect on organizational culture.

Organization Culture and Innovation

Give employees the chance to define an innovative approach in a supportive environment that encourages creative ideas (Dombrowski, et al. 2007). Organization culture affects how ingenious concepts are adopted and promoted (Naranjo-Valencia, et al. 2016). The firm will then be able to incorporate innovations more successfully(Lii and Kuo 2016; Tidd 2023).Organizational culture affects how creative ideas are adopted and promoted (Naranjo-Valencia, et al. 2016). The firm will then be able to incorporate innovations more successfully (Lii and Kuo 2016; Tidd 2023). Innovation may be impacted by empowerment(Hassi 2019). (Yang and Konrad 2011) claim that when engagement is high, there is a noticeably stronger positive correlation between involvement and innovation. Innovation in the Vietnamese IT sector is favorably correlated with the engagement dimension (Nguyen, et al. 2019). Innovation is more influenced by employee involvement in the company (Rangus and Slavec 2017).

Hypotheis H3: Organization culture has a positive effect on innovation capability of a firm.

Hypothesis H4: Organization culture has a mediating relationship between knowledge management and innovation capability of a firm.

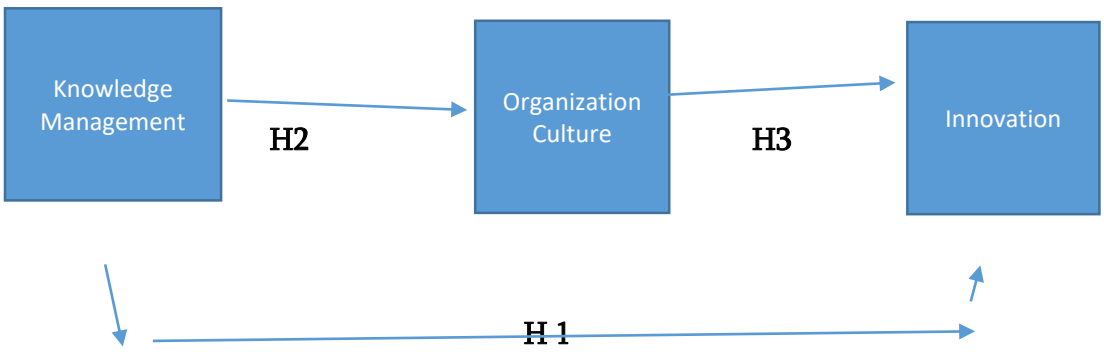

Figure.1 Research Model

Research Methodology

This study utilizes a quantitative research technique for data analysis. Quantitative research employs variables, hypotheses, units of analysis, and investigates causal links. In overall of quantitative research, variable stands for the chief idea. A

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correlation can be made between an independent variable on the one hand and a dependent variable on the other. A quantitative researcher formulates hypotheses before data gathering. Measurement protocols are instituted to link ideas and data.

Data Collection: The knowledge management process instrument's constructs are taken from and altered from (Gold, et al. 2001). Organizational culture constructs are taken from(Barney 1986). Organizational innovation capability constructs are borrowed and adapted from (Lee and Choi 2003). Convenience sampling has been used for this study since it is readily available, less costly, time-consuming, and makes selecting key informants simple (Sekaran, et al. 2003). Our study's target demographic consisted of people working in the services industry. Data is collected through self-administrated questionnaires which are distributed to 315 respondents. The response rate of these questionnaires is 70% for this study as only 223 respondents replied. 167 respondents are male as gender while only 56 female respondents replied. So, 75% respondents are male while 25% respondents are female. Major reason behind this male to female ratio is employment percentage of both genders because Male are more employed than females on workplace.

Data Analysis and Results

Data was analyzed using SPSS and results are discussed as following:

Reliability: Reliability is concerned with the capacity of an instrument to measure consistently(Tavakol and Dennick 2011). Chronbac alpha is used to measure how reliable the data is. In 1951, Lee Cronbach created alpha, which is expressed as a value between 0 and 1, to quantify the internal consistency of a test or scale. The degree to which each item in a test measures the same concept and construct is known as internal consistency. To ensure legitimacy, internal consistency must be established before a test is used for examination or examination purposes. Additionally, a test's estimation error is measured via reliability assessment. The portion of a test score that can be attributed to inaccuracy will decrease when dependability is assessed more thoroughly (Nunnally and Bernstein 1994).

Alpha test's value rises when its components are related to one another.A high degree of inner consistency is typically indicated by a high coefficient alpha.. The value of alpha is decreased if inner consistency is too short. Alpha can range between 0.7 and 0.95 (Bland and Altman 1997; Nunnally 1994; Streiner 2003a). Therefore, additional related items assessing the same concept must be added to the test in order to boost alpha (Streiner 2003). provided the following rules of thumb that The value of alpha equal to or greater than .9 is excellent, equal to or

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greater than .8 is Good, equal to or greater than .7 is acceptable, equal to or greater than .6 is questionable, equal to or greater than .5 is poor and less than or equal to .5 is unacceptable(George and Mallery 2019).

Reliability analysis of the scale used in this study is discussed as:

Table-1: Reliability Statistics Of Total Scale

Cronbach's Alpha	No. of Items
.867	26

The reliability coefficient Alpha for all 26 items in Table 1 is.867, indicating that the scale utilized in this study has outstanding reliability and consistency(George and Mallery 2019). The results will be more dependable, consistent, and repeatable because the constructs employed in this study adequately describe the overall requirement to measure.

In order to ensure that the constructs employed for each variable will likewise yield consistent, dependable, and replicable findings, we will now calculate the scale's reliability separately for each of the three variables (Bland and Altman 1997; Nunnally 1994; Streiner 2003b).

Table-2: Reliability Statistics of Individual Scales

Scale	Cronbach's Alpha	No. of Items
Knowledge Management	.842	16
Organization Innovation Capability	.892	3
Organizational Culture	.867	7

According to Table 2, the knowledge management scale constructs' chronbac Alpha value is.842, indicating great reliability when compared to earlier research. The knowledge management scale's constructs will all yield dependable, consistent, and repeatable outcomes. The organizational innovation capabilities scale constructs' chronbac Alpha value is.892, indicating strong dependability as well. Results from all of the organizational innovation capabilities scale's constructs will be dependable, consistent, and repeatable. The Organizational Culture scale constructs have a chronbac alpha value of .867, indicating the scale's strong reliability. Results from every construct in the organizational culture scale will be dependable, consistent, and repeatable. (Bland and Altman 1997; Nunnally 1994; Streiner 2003b).

Based on the explanation above, we may infer that the chronbac alpha value falls within substantial bounds in both the overall scale analysis and when examining the three scales separately, indicating that the scale is dependable and will yield consistent, repeatable, and reliable findings.

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Correlation

A numerical representation of the trend and strength of the direct relationship between two variables is provided by correlation coefficients. The range of values for Pearson correlation coefficients (r) is -1 to +1.It shows if a link is positively or negatively present. The magnitude, which ignores the sign, provides information about the relationship's power. A perfect correlation of 1 or -1 indicates that one variable's value may be accurately determined by knowing the value of the other. There is no relationship between the two variables when the association is 0. Anticipating the quality of the second variable is not aided by knowing the quality of the first one (Pallant and Bailey 2005).

The degree of direct association or the strength of the relationship between the two variables is indicated by the correlation coefficient (r). "Straight" refers to how straight a line they form when plotted on a relationship chart. The requirement that the objects being measured be continuous (i.e., interval or ratio) in order for them to potentially form a straight line is one of the relevance of looking at straight connections. To examine linearity, one could use only interval and ratio numbers from which means and standard deviations could be calculated. The range of values for the correspondence coefficient (r) is 1.0 to -1.0. The information falls in a perfect straight line when (r) is either 1 or -1. There is a positive connection when r is positive. A positive correlation indicates that as one variable rises, the value of the other variable will also rise. When r is negative, the relationship is negative, suggesting that the value of one variable decreases as the quality of the other increases. We may determine that there is no relationship between the two variables when (r) equals 0. The characteristic quality of the link between the two variables is shown by r values between 0 and 1. The general consensus is that a link is considered weak if r is less than 0.33, medium-quality if r is between 0.34 and 0.66, and strong if r is between 0.67 and 0.99 (Somekh and Lewin 2005).

Table-3: Correlation Matrix

		Knowledge Management	Organization_ innovation_ capability	Organizational Culture
Knowledge Management	Pearson Correlation	1		

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	Sig. (2-tailed)			
	N	223		
Organization innovation capability	Pearson Correlation	.748**	1	
	Sig. (2-tailed)	.000		
	N	223	223	
Organizational_ Culture	Pearson Correlation	.767**	.822**	1
	Sig. (2-tailed)	.000	.000	
	N	223	223	223

Table 3 demonstrates that the correlation (r) between organizational innovation capability and performance is.822, between knowledge management and performance is.748, and between organizational innovation capability and performance is.767. According to Somekh and Lewin (2005), the table indicates a high link between all the factors (Somekh and Lewin 2005).

Model Fit Test

According to Barrett (2007), model fit measures how well a model forecasts or illustrates what it is meant to predict or depict. The model's fit was evaluated using six criteria. The first is the degree of freedom divided by the chi-square. It is considered to be a good fit to the data if the chi-square/D.F. is less than 3. The goodness of fit index, or GFI, and the modified goodness of fit index, or AGFI, were the second and third criteria.GFI and AGFI values ought to be higher than.9. The comparative fit index (CFI), which was the fourth criterion, needed to be higher than 0.95. The root mean square residual, or RMR, was the fifth criterion. A lower RMR number indicates a better fit for the model. A close match is indicated by an RMR value of less than 0.05.The final criterion is the root mean square error of approximation, or RMSEA. An acceptable RMSEA value is less than 0.08 (Lee and Choi 2003).

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Table 4: Goodness of Fit Measures

Goodness-of-Fit (GOF) Measure	Conceptual Model	Criterion	Reference
χ2/degree of freedom	2.841	<=3	Hair et. al, 2006
GFI	.97	>0.8	Etezadi-Amoli & Farhoomand, 1996
AGFI	.925	>0.8	Etezadi-Amoli & Farhoomand, 1996
CFI	.990	>0.95	Hair et. al, 2006
RMR	.019	<0.05	Hair et. al, 2006
RMSEA	.07	<0.08	Hair et. al, 2006

Table 4 indicates that the study's χ2/degree of freedom value is 2.841, which is significant (Hair, et al. 2006). According to the specified criteria, the GFI value is.97 and the AGFI value is.925, indicating that it is significant (Etezadi-Amoli and Farhoomand 1996).The CFI value is.990, the RMR value is.019, and the RMSEA value is.07.Therefore, our model is a good fit as all of the criteria used to test the goodness of fit have been proven to be true.The model will accurately forecast and depict the intended results (Hair, et al. 2006).

Direct and Indirect Effects

Table 5: Direct and Indirect Effects

Independent Variables	Dependent Variables	Direct Effect	Indirect Effect
Knowledge Management	Organization Innovation Capability	.748	
Knowledge Management	Organizational Culture	.767	
Organizational Culture	Organization Innovation Capability	.822	
Knowledge Management	Organization Innovation Capability		.767*.822=.630

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Table 5 shows that there is a direct outcome of knowledge management on organization innovation, knowledge management and organizational culture, Organization culture and organization innovation capability. There is also an indirect association between knowledge management and organizational innovation capability through organization innovation culture which is calculated by product of coefficient method (Sobel 1982). Indirect effect is .630 which means that considering the mediation relationship of organizational culture of a firm one unit modification in knowledge management will cause a .378 unit change in innovation capability of the firm. Organization culture decreases the impact of knowledge management on organizational innovation. So hypothesis H-4 is also supported and proved(Wahyuningsih and Astuti 2013).

Conclusion

Results show that there is a strong relationship between knowledge management and innovation within an organization whereas organization culture can affect the innovation capability of a firm within an organization. So if organizations want to be innovative in the knowledge management environment they should also formulate strategies to support innovative culture. Within a corporation, organizational culture has a significant impact on knowledge management practices and innovation .Since technology can be purchased or duplicated, knowledge-based businesses should place a higher priority on human relationships than technology. Organizations can benefit greatly from having motivated and dedicated employees in addition to up-to-date knowledge. Improved organizational culture can lead to better "knowledge management" methods and hence innovation inside a company. The findings of the current study showed that innovation can be significantly affected by organizational culture.

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