

# Organizational Knowledge Creating Capabilities and Employee Performance Sameetah Ali<sup>\*1</sup>, Saad Babar<sup>2</sup>

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Knowledge creation allows organizations to innovate and respond efficiently to the environmental dynamics. This research examines the relationship of organizational knowledge creating capabilities with employee performance, and also determines mediating effect of organization based self esteem and resilience in this relationship. The organizational knowledge creating capabilities (structure and individual knowledge), organization based self esteem, resilience and employee performance were measured by using a questionnaire of 7 point likert scale. The population of the study comprises of employees in the healthcare sector. A questionnaire was floated among 300 healthcare professionals out of which 219 respondents' data was valid. The results revealed that organizations' structural (command structures, work design, policies and reward system promoting interactions and collective behaviour) and individual's knowledge creating capabilities of an organization have positive impact on employee performance. The relationship is also mediated through organization based self esteem and resilience. The study highlights the importance of determining characteristics of knowledge management capabilities to develop frameworks for effective implementation of knowledge initiatives in organizations.



## 1. Introduction

## **1.1.Background of Study**

The effectiveness of knowledge management interventions is a high concern for organizations to adapt to the changes in all business domains and sustain competitive advantage. Managers are striving hard to craft knowledge management processes and capabilities for organizations to support and facilitate sharing, creating, storing and applying knowledge. Knowledge management capabilities are recently focused as the subject of study for management researchers and practitioners, due to the strategic significance of deploying knowledge assets successfully (Schnellbächer et al., 2019). Knowledge management capabilities are organizational abilities to organize and utilize organizational resources to perform knowledge processes (Demir et al. 2021). Prior researchers (Sandhawalia & Dalcher, 2011; Aujirapongpan et al., 2010; Cha et al., 2008; Yang & Chen, 2007; Gold et al., 2001; Grant, 1996) mark the organizational structure, individual knowledge, technology and culture as the most significant knowledge management capabilities for the success of knowledge management in an organization.

Operational command structure, policies, procedures, work designs and reward system determine organizational structural capability to perform knowledge management processes. Individual's prior knowledge when exchanged and shared among groups results in combination of ideas articulated in organizational assets (Kosklin et al., 2022). Cultural dimensions of an organization are significant contributor to knowledge sharing and creation. Organizations encouraging employees to dialogue foster exploration and experimentation a way to creativity and innovation (Shea et al., 2021). Organization's technological setup including hardware, software and networking tools provide the communication flow and interactions to collaborate for knowledge management processes. Combined together these knowledge management capabilities together form the frameworks for effective implementation of knowledge initiatives. The best blend of these capabilities is required to develop accurate frameworks.

## 1.2 Significance of the Study

The significance of organizational knowledge management capabilities is though discussed in research, but lacks in-depth literature and empirical research support. Prior research is yet focused on understanding the knowledge processes and types. Organizations need to develop capabilities to ensure successful operations to enhance performance. The nature of these capabilities somehow varies according to each KM process requirements (Aujirapongpan et al., 2010). Knowledge creation is the most recognized process for innovation in the form of new products and services, as these are the modern performance measures of organizations (Acharaya, Ojha, Gokhale, & Patel, 2022). Identifying knowledge creating capabilities will enable managers to design KM initiatives and also evaluate the effectiveness of the implemented initiatives. The capabilities, this research examined the structural and individual knowledge creating capabilities.



The continuous trend of structural changes in form of downsizing, mergers and acquisitions becomes the critical reason to explore and examine structural capability in context of knowledge creation in organizations. Similarly, frequent in-depth development of individual knowledge domain and diverse knowledge requirements keep individual capability at priority to be examined. Knowledge creation has been mostly discussed as the process of knowledge management (Asher & Popper, 2019). Recognizing the importance and critical role of knowledge creation capability to foster innovation, it is further required to determine the characteristics and outcomes of organizational knowledge creation capability. KM initiatives and capability frameworks need to be carefully designed, as human behaviour a critical component of organizational system is highly influenced by the environment provided (Islam et al. 2022). Positive psychologists' and researchers accept employee resilience and self esteem as important psychological strengths to enhance desired employee behaviour and performance in organizations.

The evolving work environment of organizations facing technological and economic changes is increasing the level of uncertainty and psychological distress among employees. Similarly, the stressful and dynamic environment of healthcare sector, demands workforce to behave and respond positively to uphold their performance (Colligan & Higan, 2006). Therefore, researchers are required to explore and facilitate practitioners in identifying capabilities strengthening psychological assets to deliver quality health care services. The aim of this research was to explore the impact of organizational knowledge creating capabilities (structure and individual knowledge) on employee performance. Further, the role of psychological strengths; employee self esteem and resilience was examined as mediators in the relationship of knowledge creating capabilities and employee performance.

## **1.3 Research Questions**

- Do structural and individual knowledge creating capabilities enhance employee performance?
- Do organizational based self esteem and resilience mediate the relationship of structural and individual knowledge creating capabilities with employee performance?

## **1.4 Study Objectives**

- 1. To examine the impact of structural and individual knowledge creating capabilities on employee performance
- 2. To find the mediating effect of organizational based self esteem and resilience on the relationship of structural and individual knowledge creating capabilities with employee performance



## 1.5 Delimitations

Knowledge management capabilities, despite of the importance to knowledge process (creating, storing, applying and using knowledge) management are neglected in literature and lack empirical research contributing in the development of knowledge frameworks. This research is confined to structural and individual knowledge management capabilities, in context of knowledge creation, determining the relationship with employee psychological strengths and performance. Technology and culture have also been under discussion and identified as critical knowledge management capabilities in descriptive research. Empirical research on these capabilities is still missing leaving several research domains uncovered, also not determined in this research because of the complex constructs and time limitation.

## 2. Literature Review

Knowledge as the most significant competitive resource is the blend of structured experiences, principles, customized information and specialised understanding that provides a structure to assess and integrate new practices (Grundman et al., 2021). Knowledge is defined as justified true belief. Knowledge is categorized in two types, tacit and explicit, in knowledge management research. According to Nonaka and Takeuchi (1995) the creation of knowledge is dependent on the interaction tacit and explicit knowledge through four different means of knowledge conversions including tacit to tacit (socialization), explicit to explicit (combination), tacit to explicit (externalization) and explicit to tacit (internalization).

Applying these means for knowledge creation in organizations appropriate characteristics and frameworks of knowledge management capabilities are of strategic importance. Strong knowledge management capabilities foster appropriate application and winning results of knowledge-based initiatives in organizations (Gupta et al. 2021). Managers therefore, are juggling with the organizational resources to develop capability frameworks identifying benchmark components vital to the strategic achievements (Earl, 2001).

Literature mainstream of knowledge management identified information technology, organization's structure and culture in addition to individual's current knowledge as significant organizational capabilities to exchange, combine, apply and create knowledge (Sandhawalia & Dalcher, 2011; Yang & Chen, 2007; Kim & Lee, 2006; Carrillo & Gaimon, 2004).

The operational command structure along with organizational goals, policies, processes, work designs and reward systems determine workforce behaviour as either as individual or collective (Gold, Malhotra & Segars, 2001; Purvis et al., 2001). Centralized organizations reduce the coordinating activities of the workforce. Rigid rules and strict formal documentation do not support knowledge sharing behaviours, thus causing low motivation and courage in employees to take knowledge initiatives (Kim & Lee, 2006). Organizations with flatter hierarchy and command structure pool networked structure for dynamic interactions and knowledge creation



among individuals within departments and extending influence through overall organization (Chaurasia et al. 2020).

Work design is also discussed as a structural element influencing knowledge creation capability of an organization. Highly structured and repetitive jobs are monotonous, limiting the knowledge of employees to remain specialised in one area. However, highly enriched jobs demand variety of skills and knowledge, building knowledge assets of individuals. Flexibility of work design allows individual and organizations to respond quickly and efficiently to the environmental changes. Contemporary work designs promoting work team and participation facilitate collective behaviour (Ramirez, Morales & Aranda, 2012). Forming autonomous work groups and cross-sectional teams foster involvement and flexibility in work designs. Providing platforms to employee to express their ideas, share knowledge and combine existing knowledge stocks to generate new knowledge results in new processes, products and services.

Human behaviour is strongly influenced by the command structures and reward systems designed in organizations. Stated policies, procedure and work designs further limit or enhance individual behaviours in pursuit of obtaining organizational objectives. Developing collective behaviour to promote interactions among individuals within organizations for effective knowledge management is supported by the reward systems recognizing collective initiatives and contributions (Zaim et al., 2019).

Performance failures often are caused due to inaccurate reward systems. Moreover, incentive interventions rewarding individual success do not develop collective approach among workforce. Such structural elements reduce chances for knowledge creation. However, reward management strategies including profit sharing and flexible benefit plans are used for promoting knowledge creation initiatives. Collaborations, the fundamental factor for knowledge actions to be taken in organization require flatter structure with rewarding incentives to leverage the knowledge pool to maximum potential (Gold et al., 2001). Highly centralized organizational structures threaten flexibility and inhibit individual knowledge related initiatives.

Hierarchal structures negatively impact organization based self esteem, as it is difficult for employee to determine individual contribution in a large size organization. It causes employee belief of oneself being not worthy and significant for the organizations to rise (Pierce & Gardner, 2004).

The asset focused strategy is used to enhance employee resilience by supporting through collaborations, social networks, incentives and rewards (Tonkin et al., 2018). In the knowledge economy, despite all the technical capabilities, individual knowledge and their expertise have a vital role in innovating and gaining competitive advantage (Carillo & Gaimon, 2004). Research, in the field of knowledge management, has yet mainly focused on knowledge types and processes. Knowledge creation and innovation in organizations is highly depended upon the existing level of individual's knowledge and their ability to exchange their experiences (Zahra &



George, 2002). Knowledge residing in the brains of individuals when exchanged adds value to the existing knowledge stocks of the organizations and leads to new products and services (Smith et al., 2005). Individuals involved in collaborative efforts experience and learn through sharing mental models, dialogue and application of metaphors (Nonaka & Takeuchi, 1995).

Tsai & Lee (2006) state that knowledge is categorized into four levels, the higher the level of individual knowledge, the better an individual performs. At the first level, cognitive knowledge (know-what) individual only has the knowledge of the content of the field. It is basic level of knowledge, which is not a strong determinant of effective application of knowledge and gaining results. Cognitive knowledge decays over time due to its dependence on human memory (Chen & Edgignton, 2005). The second level, explains advanced skills (know-how) of individuals, at this level individuals are able to apply the theoretical or basic level of knowledge to routine tasks (Kogut & Zander, 1992). At this level individuals learn by utilize the content knowledge in real life time situations. Yet at this level individuals lack the complete understanding why to perform a task or why things occur.

The third level, systems understanding (know why) explains the underlying interlink between the actions and outcomes. Individuals at this level of knowledge are confident and know the basic cause and effect relationships between their actions and the results occurring. At this level, individuals have strong ability to make decisions and predict the results (Garvin, 1993). The last level, self creativity (care why), explains individuals motivation and will to learn by self thinking and participation. This is the highest level of knowledge which one may possess and use to compete in the current dynamic and competitive environment (Wang & Liu, 2019).

Individual knowledge depreciates over time. It needs to be developed to perform continuously (Chen & Edgington, 2005). The ability of individuals to exchange and share knowledge builds knowledge assets and knowledge creating ability at the organizational level (Goll et al., 2007; Smith et al., 2005). Individual's prior knowledge and expertise enhance the self confidence to cope with the dynamic work tasks (Goll, Jhonson & Rasheed, 2007). Facilitating employees with learning opportunities by conducting trainings, seminars, workshops and mentoring builds their knowledge enhancing the level of self esteem, believing that they are important part of the organizations and competent to contribute (Kanning & Hill, 2012).

Similarly, considering the asset focused strategy, building individual knowledge will create individual assets in the form of knowledge and skills strengthening employee resilience (Luthans et al., 2010). Supporting organisational structures bring flow in the employee work processes and allow individuals to learn and create knowledge in groups and build organizational human capital. Job designs demanding variety of skills extend individuals knowledge and skills to diverse set of knowledge.

Today, diversity of organizational structures demands well planned and customized technological infrastructures to eliminate information overload and chaos for successful



knowledge management. In addition, evolving nature of business strategies is forcing organizations to strengthen ties and strategic alliances to collaborate and sustain existence in the markets. Therefore, investment in building IT capabilities is now of strategic importance.

Organizational technical capabilities facilitate information networks and communication platforms, building strong ties for knowledge sharing and creation (Budur et al. 2023). Technological frameworks are composed of different software, hardware and network systems for each knowledge management processes including capturing, creating, sharing, storing and using (Ramirez et al., 2012) knowledge. Crafting the right mix of the IT tools builds technical capability of an organization to make maximum use of knowledge resources, enhancing organization's flexibility to cope with competitive dynamics and perform effectively (Bhatt & Grover, 2005). Flexibility generates more options while making strategic decisions, promising knowledge creation.

Organizational culture encouraging collaboration and interactions reflect and reinforce knowledge creation behaviour of individuals (Lee et al., 2012; Yang & Chen; 2007). Cultural characteristics inhibiting sharing individual knowledge not only hinder creativity and innovation but also reduce group commitment and organizational stability (Siadat et al., 2012)

Organization's values, beliefs and attitudes promoting experimentation build desire to create knowledge and contribute towards organizational excellence. Cultural knowledge creating capability supports individuals to dialogue and create knowledge stocks. Innovation and organizations success depends highly on building learning culture, recognizing individual competence and promoting training and continuous development (Yang & Wan, 2004). Collective culture facilitates learning in organizations, as individuals learn by exchanging their existing knowledge and gaining insight of others work experiences (Wang et al., 2011; Kim & Lee, 2006; Bhatt, 2000). Explicitly stated organizational objectives give employee a clear vision to align their development plans and develop sense of responsibility to contribute in the attainment of strategic goals. The uncertain business circumstances are creating high risk work environments increasing work stress and ambiguity among the workforce. Earlier research in organizational psychology focused more on the discussion of negative constructs including depression, anxiety, burnout, alienation and mental illness and devising ways to reduce or fix these problems (Luthans et al., 2008).

In reaction, to overcome the negativity at the workplace, researchers (Luthans et al., 2004; Seligman & Csikszentimihalyi, 2000) emphasized exploring and building psychological resources and strengths of individuals at workplace. Positive organizational behaviour (POB) has earned significant attention in positive psychology due to its link with performance at individual, group and organizational level (Luthans et al., 2010; Avey et al., 2009; Roberts, 2006). Psychological capital (PsyCap), is an emerging core construct discussed in positive organizational behaviour research enhancing employee satisfaction, well being, commitment,



engagement and performance (Bowen, 2024). Self-efficacy, hope, optimism and resilience meet the POB criteria of being state-like, included in research and theory, have valid measures, possible to build up and managed to enhance performance (Luthans et al., 2008, Luthans & Youssef, 2007).

Over the years, research mainstream in POB examined self esteem, hope, optimism and resilience together as Psychological capital, determining the determinants and positive outcomes. Facing continuous stress, anxiety and crises situations health care professionals require high level of resilience to strengthen their mental power and sustain performance (Luthans et al., 2008). Technological advancements, economic instability and global competition are continuously increasing the level of stress and pressures or employees. In such unpredictable business scenarios, employers are looking for employees with strengths to handle adverse work situations. Positive psychologists believe that building psychological resources enhances individual's capacity to effectively manage stressful and turbulent work events (Avey et al., 2010).

Increased importance of psychological resources at workplace is demanding employers to build individual capacity to combat stress and sustain performance in organizations (Shahnawaz, & Jafri, 2009). Resilience is recognized as a significant capacity of individuals to recover from the adversity and failures or even positive occurrences as increased responsibility (Luthans, et al., 2010). The major part of literature on resiliency is in child psychology (Bonanno, 2005). Recently, there is an increase in the discussion of resilience as a subject of study at workplace but there is lack of consistent and comprehensive research on resilience at work place.

Research mainstream in positive psychology shows that employees with resilience are emotionally stable and flexible to environmental changes (Luthans et al., 2007). There is strong evidence of positive relationship between resilience and employee job satisfaction and performance (Luthans, et al., 2008). Resilience is a developable capacity of individuals. Masten and Reed (2002) are of the opinion that managers can use risk, asset focused and process focused strategies to build resilience among employees. Reducing risk at work helps individuals to develop resilience. Predicting environmental changes and threats and taking measures to minimize the negative effects avoids facing crisis situations. Facilitating and enhancing employees with the assets gives employees support to perform in the competitive work environment. These assets can be in the form of knowledge and skills enhancement or rewarding with incentive programs.

Availability of adequate technical, structural, cultural and knowledge resources increase individual capacity to resilience (Truong et al. 2023). The process focused strategy is linked to the assumption that employees with high level of confidence to perform job have high level of resilience. This is possible by providing trainings and mentoring. Organizations need carefully designed interventions to develop employee resilience to cope with continuously changing business environment including downsizing and restructuring (Luthans & Lester, 2006).



Self esteem in organizations, as an important psychological construct, has long been under discussion by researchers as a predictor of employee motivation and performance in organizations (Kanning & Hill, 2012; Pierce & Gardner, 2004). It is important to differentiate the cause of self esteem. Employee's assessment of oneself on social dimensions and organizational competencies may differ. Self Esteem in personal life may strengthen individual's positive perception about himself and develop positive behaviour in general life. In literature, there different types of self esteem identified, including overall evaluation of oneself called global self esteem, individual's belief of one's competence related to specific job called role based self esteem, the task based self esteem is the positive evaluation of oneself because of the confidence gained while performing a job (Lee & Peccei, 2007)

Organization based self esteem is the degree to which an individual consider himself to be competent and fulfilling his work effectively. It also reflects the level of perceived value an employee has in the organization (Wen, Wu & Long, 2021). Individual positive work place experiences and rewarding environment build strong self worth and perception of employees (Elloy & Patil, 2012). Campbell (1990) is of the idea that during the entry level of career individual's changes with the kind of experience one has in the organization. At mid career stage the employee belief of oneself of being competent becomes stable and strengthens with the passage of time

Employees with higher self esteem in organizations self esteem are not influenced by the negative outcomes of the dynamic and ever changing work environments (Bozani et al. 2019).

In regard to its importance organization based self esteem it has been researched and linked to many desired organizational outcomes as employee commitment, performance and retention (Hui & Lee, 2000). High level of self esteem reduces employee stress, intention to quit job and show deviant behaviours at workplace (Gardner and Pierce, 2001). Organizational structures with high level of control effect do not allow employees to experiment and devise new ways of doing work, thus the interaction and communication is disabled. This rigid and inflexibility reduces the innovative capability of organizations (Chattopadhyay, 2003).

The continuous restructuring in organizations is causing high level of uncertainty in role descriptions and demands diversity of skills to handle the change repercussions. The unclear strategic direction and job standards decrease alignment of employee efforts with strategic objectives, which accumulates negativity at workplace resulting into high level of stress and disengaged employees (Bakker et al., 2008). These unpredictable characteristics of workplace environments build pressure on employees to possess psychological strengths to effectively integrate and individual knowledge resources. Supportive organizational environment, through knowledge creation mechanisms create mental power and strength for individuals. Participative work environment including collaborative structures and networked technology infrastructure raise the level of self esteem of employees in organizations (Pierce & Gardner, 2004).



Organizational strategies to design work designs and procedures are evolving with the passage of time. Job designs suggested for creating networked organizations include job rotations, job enlargement and autonomous work groups and job enrichment. Job rotations place individuals at different positions. Performing tasks in different functional area allows individual's knowledge domain to enlarge, thus make individuals to learn interconnectivity of the action performed. Adding additional tasks of the same authority to the same job title is job enlargement used specifically to diversify individual competence.

However, job enrichment is a more comprehensive strategy to design jobs for effective employee performance in the current unpredictable and stressful work environment. Based on multiple dimensions it covers all the requisite factors important to build self esteem and ensure employee performance. Skill variety provides employees with an opportunity to apply a set of diverse skills and enhance knowledge creating capability. Identifying the significance of the tasks performed permits employees to build self worth in the organization. Task identity facilitates individuals determine work design and determine the outcome as knows the overall contribution to the organization. Autonomy and feedback are true sources of self esteem, allowing employees to express and make decisions related to work, reflecting management trust and support (Neves et al., 2020).

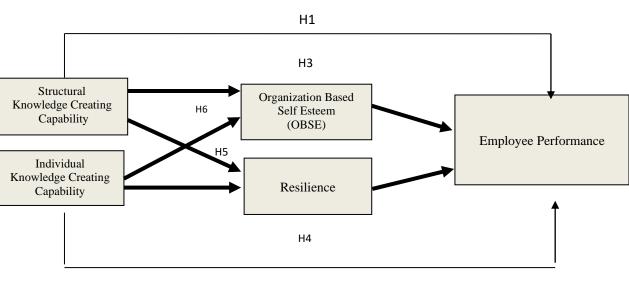
Health care professionals are performing their jobs in extreme demanding environments (Peng et al., 2007). Transformation in healthcare technical, structural and cultural frameworks is causing immense pressures on employees to maintain their level of performance (Wallace, 1995). Researchers have determined a number of factors effecting employee performance. There are empirical results indicating positive impact of organisational mechanisms as training, rewards, work environment and job characteristics on employee performance. However, there are certain other yet many other determinants uncovered in empirical research in the domain of employee performance management.

Kumar et al. (2011) is of the opinion that in healthcare facilitating employees with the required knowledge and skills is not enough for maintaining the level of performance. The critical natures of health care professionals require strong psychological abilities and strengths in addition to the technical skills to ensure effective performance in highly unstable work environment. Healthcare employees facing depressive and dynamic issues need high level of self esteem and resilience to perform. Employee performance is highly depended upon the technical, structural and cultural characteristics of the organization (Lin & Luang, 2020). To sustain the level of employee motivation and performance Zairi (1998) proposed few strategies to adapt the changes in highly turbulent work environment of healthcare sector. He proposed to facilitate processes and operational structures promoting collaborations, cascade clear strategic objectives in light of explicitly stated vision. Employee performance is mostly assessed on the achievement of the objectives set in accordance to the strategic direction defined in organizational vision (Wu et al., 2012).



## **2.1. Theoretical Framework**

Theoretical framework was developed as depicted in Figure 1 after thorough review of literature. The study will examine the impact of structural and individual knowledge creating capabilities on employee performance. The study will also determine the mediating effect of self esteem and resilience on the relationship of structure and individual knowledge creating capabilities with employee performance.



#### Figure No 1: Theoretical Framework

H2

## 2.2. Research Hypothesis

The research hypothesis formulated after the literature review and development of theoretical framework are as following:

 $H_{1:}$  Structural knowledge creating capability has positive impact on employee performance.

 $H_{2:}$  Individual knowledge creating capability has positive impact on employee performance

- H<sub>3:</sub> Organization Based Self Esteem mediates the relationship of structural knowledge creating capability with employee performance
- H<sub>4:</sub> Resilience mediates the relationship of individual knowledge creating capability with employee performance
- H<sub>5:</sub> Resilience mediates the relationship of structural knowledge creating capability with employee performance
- *H*<sub>6</sub>: Organization Based Self Esteem mediates the relationship of individual knowledge creating capability with employee performance



## 3. Study Design and Methodology

The nature of research study is causal and quantative to examine the impact of structural and individual knowledge creating capabilities on employee performance and the mediating effect of self esteem and resilience.

# 3.1 Population

The population of the study is composed of the employees in health care sector in Pakistan. In view of the significance, to examine the role of organizational knowledge creating capabilities and psychological strengths on employee performance in the turbulent work environment, health care professionals including doctors, nurses, pharmacists, medical officers and administrative staff from different organizations were included in the population of the study.

# **3.2 Measurement Instrument**

In the study questionnaire was used as the data collection tool. Before developing the questionnaire comprehensive review of literature was done to understand the theoretical underpinnings of the variables composing the framework. Items from prior research studies were adapted for each variable included in the study. The questionnaire items were reviewed by academicians and industry experts for content validation. Items were modified according to the expert suggestions. Pilot test was also conducted to determine the reliability of the questionnaire. The complete research instrument was based on two sections. The first section included demographics (age, gender, qualification etc). The second section included total 30 items of all the constructs including organizational knowledge creating structure, individual knowledge, self-esteem, resilience and employee performance rated on a likert scale from strongly disagree (1) to strongly agree (7)

# 3.3 Structural Knowledge Creating Capability

The scale for structural knowledge creating capability drawn from knowledge management capabilities is adapted from Gold et al., (2001). To ensure that all the items confirm with the theory of knowledge creating structure the content was matched with the structural knowledge creating capability indicators specified by Aujirapongpan et al., (2010). The complete construct of is based on 6 items.

# 3.4 Organization Based Self Esteem

The items for organization based self esteem were adapted from Kanning and Hill, (2012) to meet the objectives of the study examining mediating effect of self esteem on the relationship of structural and individual knowledge creating capability with performance. There were 6 items used to measure self esteem.



## 3.5 Individual Knowledge Creating Capability

To measure the individual knowledge, a 4 item scale was developed after comprehensive review of the literature (Tsai & Lee, 2006). The scale was developed on 4 levels identified to assess individual knowledge. The first level is know-what, that is individual knows about the content of the knowledge specific to the field of work. The second level, know-how explains the application of basic theory to the real world situations. The third level, know-why, develops the individual understanding of causes of the occurrences and events at workplace. The fourth level is care why, learning by taking initiatives. That is motivated for self thinking and learning.

## **3.6 Resilience**

The scale for measuring resilience was adapted from Siu, Hui, Philips, Lin, Wong, Shi, (2009), a chinese study in healthcare sector. There were 8 items used to measure resilience.

## 3.7 Employee Performance

The employee (performance) performance was assessed by adapting the scale from Kenneth, (2004). There were 6 items used to measure employee performance.

## 3.8 Data Collection

The data for the study were collected from different healthcare organizations. Non probability purposive sampling was used to collect data from health care professionals. The questionnaire was rotated through the human resource department and the concerned managerial staff among 300 healthcare professionals. The received number of questionnaire was 230, out of which only 219 were valid.

## 3.9 Sample

The sample selected for the study included healthcare professionals from different departments Nursing, Medical Care, Administration, Pharmacy and Marketing. The healthcare sector organizations selected for the study were Pakistan Institute of Medical Sciences, Maroof Hospital, Searle, International Brands Limited, Benazir Bhutto Hospital, Maryam Memorial, Feroz sons and National Institute of Rehabilitation Medicine.

The professionals selected from the above mentioned organizations were doctors, nurses, speech therapist, psychologists, psychiatrists, consultants, pharmacists and other health care representatives.

## 3.10 Validity

The validity of questionnaire was done by subject specialists, academicians and industry experts. The content was reviewed by the concerned professionals and adjustments were made to the instrument accordingly. This further increased the relevancy of the instrument content to the theoretical constructs. A sample of 27 was used to confirm the internal consistency of the constructs used in the instrument. The results indicated that all the constructs met were well above the cut of 0.65.



# 3.11 Normality

To conduct the data analysis, normality test was performed on all the items of each variable in the study. The result indicates that the skewness for all the items was between -1 and +1.

## 4. Analysis

## 4.1 Factor Analysis

Factor analysis was conducted to determine the loading of all items on the respective constructs specified. Results of Bartlett's Test and KMO satisfied the condition of KMO > 0.6 and Bartlett's p < 0.05 to further conduct exploratory factor analysis. All the items were subjected to factor analysis through SPSS. Principle component analysis and varimax rotation were used for exploratory factor analysis. The factor loadings of all the items of the respective constructs met the criteria (0.5)

Variable	Item	Factor Loading	КМО
Structural Knowledge Creating Capability (SKCC)			0.849
	SKCC1	0.820	
	SKCC2	0.845	
	SKCC3	0.870	
	SKCC4	0.862	
	SKCC5	0.841	
	SKCC6	0.754	
Individual Knowledge Creating Capability(IKCC)			0.732
	IKCC1	0.768	
	IKCC2	0.836	
	IKCC3	0.781	
	IKCC4	0.672	
Organization Based Self Esteem(OBSE)			0.882
	OBSE1	0.761	
	OBSE2	0.869	

#### **Table No 1: Factor Loads**



	OBSE3	0.893	
	OBSE4	0.874	
	OBSE5	0.865	
	OBSE6	0.851	
Resilience(RES)			0.828
	RES1	0.673	
	RES2	0.745	
	RES3	0.733	
	RES4	0.740	
	RES5	0.622	
	RES6	0.744	
	RES7	0.711	
	RES8	0.717	
Employee Performance (EP)			0.870
	EP1	0.771	
	EP2	0.880	
	EP3	0.830	
	EP4	0.885	
	EP5	0.860	
	EP6	0.825	

# 4.2 Reliability

Reliability analysis was conducted to develop internally consistent measures of the variables used in the instrument. The scores of the variables are represented in the Table 2. A perusal of the scores indicates that all the values are well above the benchmark Nunnally, (1967) reflecting all the items true measure of the variables assessed.



#### Table No 2: Cronbach's Alpha (α)

Variables	Cronbach's Alpha(α)	Items
Structural Knowledge Creating Capability (SKCC)	0.910	6
Individual Knowledge Creating Capability (IKCC)	0.758	4
Organization Based Self Esteem (OBSE)	0.922	6
Resilience (RES)	0.857	8
Employee Performance (EP)	0.914	6

# **4.3 Demographic Analysis**

The demographic analysis is presented in Table 3.

#### Table No 3: Demographic

Variables	Percentage	
Gender		
Male	59	
Female	41	
Age		
Less than 25	29	
26-30	45	
31-40	19	
41-50	4	
50+	3	
Education		
Graduate	49	
Masters/MBBS	45	
M.Phil/MS/Phd	6	
Years of Experience		
Overall Experience	6*	
In this Organization	5*	

\* Average of years of experience



The majority of sample respondents were male (59%), though females were also large in number (41%). Educational level of the 49% was graduation level, MBBS/MA was approximately equal in number (45%), but very few were MS/MPhil or PhD. This reflects majority of the healthcare professionals joined the profession soon after their graduation degree. Major part (45%) of the sample represented the age limit 26-30. Only 19% were from the age limit of 31-40. This also reflects that, in view of age groups, the sample was equally distributed as 29% of respondents were less than 25 years of age and rest were above 40 years of age. The average overall work experience of the majority was 6 years with average of 5 years of experience in the current organization. The years spent on average by sample respondents in the profession reflects that the respondents must have clear understanding and knowledge of the organizational practices to be assessed upon.

## 4.4 Descriptive Analysis

Variables	Min	Max	Mean	S.D
Structural Knowledge Creating Capability (SKCC)	1	7	4.47	1.45
Individual Knowledge Creating Capability (IKCC)	1	7	5.31	1.13
Organization Based Self Esteem (OBSE)	1	7	5.11	1.409
Resilience (RES)	2	7	5.19	1.577
Employee Performance (EP)	1	7	5.25	1.338

#### **Table No 4: Descriptive Analysis**

To have an overview of the current situation of structural and individual knowledge creating capabilities, selfesteem, resilience and employee performance, descriptive statistics are presented in the Table 4. A perusal of the table indicates that the respondent employees of the healthcare sector neither agree nor disagree about the current structural knowledge creating capability, when asked about the support of the operational command structure, policies, procedures, and reward systems for knowledge creating capability of the organization is not sufficient. However, the maximum value indicates that there is difference of opinion among the employee. There are respondent employees satisfied with the current structural knowledge creating capability of their organization.

The average of 5.31 indicates that the employees are slightly agree that they have knowledge creating capability. The minimum and maximum value for the individual knowledge creating capability indicates the difference of opinion. The average value for self esteem (5.11) shows that the sample respondents slightly agree to their positive self evaluation, which is self esteem. The minimum and maximum value indicate that employee have rated low as 1 (strongly disagree) and high as (7) when assessed on their self esteem in the current organization in which



they are working. As on average employees are not satisfied with the current knowledge creating structure of their organization, they also rate themselves low on self esteem.

The descriptive statistics for resilience show that employees on average (5.19) agree slightly that they have the positive trait of resilience. The employees facing highly dynamic and stressful work situation at workplace need strong mental and physical abilities to cope with any uncertainty and crisis situation. There is a difference of opinion, yet average employees lack appropriate level of resilience. There are employee rating themselves high (7) on resilience and as well low (2) in the psychological strength.

The employee performance once assessed, employee rated themselves on average 5.25, indicating that they slightly agree to their positive performance. However, difference of opinion is also visible in the statistics presented in the table. The minimum and maximum values depict that there are employee rating themselves low and as well high on their perceived performance.

The overall statistics reveal that with present situation of knowledge creating capability of the health care sector, the work force is not satisfied and this also shows that employee are rating themselves not very high on the psychological straightens as self esteem and resilience which they need eminently for better performance.

## 4.3 Correlation

The correlation measures for all the variables were calculated using Pearson correlation and the results are presented in the Table 5.

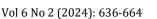
	SKCC	IKCC	OBSE	RES	EP
SKCC	1				
IKCC	0.300**	1			
OBSE	0.430**	0.359**	1		
RES	0.365**	0.446**	0.497**	1	
EP	0.353**	0.467**	0.628**	0.617**	1

\*\* Correlation is significant at the 0.01 level (2-tailed)

The results of correlation analysis indicate significant correlation between the variables.

## 4.4 Regression Analysis

To examine the impact of structural and individual knowledge creating capability on employee performance regression analysis was conducted. Further, the mediation effect of self





esteem and resilience on the relationship of structural and individual knowledge creating with employee performance was examined by Baron and Kenny (1986) technique. The steps elaborated by Baron and Kenny were performed and the hypothesis of the study were tested using this method.

The conditions specified by Barron and Kenny are that, independent variable has a significant impact on the dependent variable, independent variable is significantly related to mediating variable, the mediating variable has a significant impact on the dependent variable, the effect independent variable is slightly lowered, when mediating effect is examined on the relationship of independent and dependent variable. In view of the theoretical model, there were two mediating variables for which the mediating analysis was conducted.

# 4.5 Multiple Regression Analysis of Structural Knowledge Creating Capability, Organization Based Self Esteem and Employee Performance

The mediating effect of organization based self esteem on the relationship of structural knowledge creating capability with employee performance was determined and results are presented in Table 6.

 Table No 6: Multiple Regression Analysis of Structural Knowledge Creating Capability, Organization Based

 Self Esteem and Employee Performance

Steps		<b>R</b> <sup>2</sup>	Adj R <sup>2</sup>	F	SE	Т	ß
1	SKCC →EP	0.268	0.261	39.590	0.05	3.830	0.234**
2	SKCC →OBSE	0.185	0.181	49.187	0.06	7.013	0.430**
3	OBSE → EP	0.395	0.392	141.568	0.05	11.898	0.628**
4	$\left. \begin{array}{c} \text{SKCC} \\ \text{OBSE} \end{array} \right\} \text{EP}$	0.403	0.398	72.970	0.05	2.744	0.102**

\*\* Significant at the level of 0.01

The results in the table indicate that the independent variable structural knowledge creating capability is significantly ( $\beta = 0.234$ , p < .01) related to dependent variable (employee performance). Thus it is evident that structural knowledge creating capability enhances employee performance. The first condition for Barron and Kenny is met. The  $\beta = 0.430$ , explains that structural knowledge creating capability (independent variable) has positive impact on employee self esteem in organizations (mediator). The second condition for mediation is also supported. The  $\beta = 0.628$  shows that employee performance (dependent variable) enhanced due to high level of self esteem (mediator) based on organizational experiences. The third condition for mediation is met. The last  $\beta = 0.102$ , shoes that organization based self esteem has mediated the relationship of structural knowledge creating capability with employee performance. H1 and H3 are also supported.



# 4.6 Multiple Regression Analysis of Individual Knowledge Creating Capability, Organization Based Self Esteem and Employee Performance

The mediating effect of organization based self esteem on individual knowledge creating capability with employee performance was determined and results are presented in Table 6. The results in the table indicate that the independent variable individual knowledge creating capability is significantly ( $\beta = 0.390$ , p < .01) related to dependent variable (employee performance). Thus it is evident that individual knowledge creating capability enhances employee performance.

Steps		$\mathbb{R}^2$	Adj R <sup>2</sup>	F	SE	Т	ß
1	IKCC →EP	0.268	0.261	39.590	0.072	6.514	0.390**
2	IKCC →OBSE	0.129	0.125	32.196	0.079	5.674	0.359**
3	OBSE →EP	0.395	0.392	141.568	0.05	11.898	0.628**
4	IKCC OBSE EP	0.462	0.457	92.693	0.063	5.188	0.277**

 Table No 7: Multiple Regression Analysis of Individual Knowledge Creating Capability, Organization Based

 Self Esteem and Employee Performance

\*\* Significant at the level of 0.01

The first condition for Barron and Kenny is met. The  $\beta = 0.359$ , explains that individual knowledge creating capability (independent variable) has positive impact on organization based self esteem (mediator). The second condition for mediation is also supported. The  $\beta = 0.628$  shows that employee performance (dependent variable) enhanced due to high level of self esteem (mediator) based on organizational experiences. The third condition for mediation is met. The  $\beta = 0.277$ , shoes that organization based self esteem has mediated the relationship of individual knowledge creating capability with employee performance. H2 and H6 are also supported.

# 4.7 Multiple Regression Analysis of Structural Knowledge Creating Capability, Resilience and Employee Performance

The mediating effect of resilience on the relationship of structural knowledge creating capability with employee performance was determined and results are presented in Table 8. The first condition for mediation is supported by the results as the ( $\beta = 0.234$ , p < .01) indicates that structural knowledge creating capability has significant positive impact on employee performance. The structural knowledge creating capability has positive impact on employee resilience ( $\beta = 0.365$ , p < .01), thus the second condition for mediation is supported. The  $\beta = 0.617$ , p < .01 indicates that employee resilience has significant positive impact on employee



performance. The last condition for mediation is supported as the  $\beta$  value is reduced from 0.234 to 0. 148. H5 is also supported.

Steps		$\mathbb{R}^2$	Adj R <sup>2</sup>	F	SE	Т	ß
1	SKCC → EP	0.268	0.261	39.590	0.05	3.830	0.234**
2	SKCC $\longrightarrow$ RES	0.133	0.129	33.316	0.047	5.722	0.365**
3	$RES \longrightarrow EP$	0.380	0.377	133.077	0.066	11.536	0.617**
4	SKCC EP RES	0.399	0.393	71.705	0.052	2.605	0.148**

# Table No 8 Multiple Regression Analysis of Structural Knowledge Creating Capability, Resilience and Employee Performance

\*\* Significant at the level of 0.01

# 4.8 Multiple Regression Analysis of Individual Knowledge Creating Capability, Resilience and Employee Performance

The mediating effect of resilience on Individual knowledge creating capability with employee performance was determined and results are presented in Table 9. A review of the results indicates that the first indication for mediation is already met and discussed before. The  $\beta$  = 0.446 p < .01 indicates that individual knowledge creating capability has a positive significant impact on employee resilience. The second condition for mediation is met. The third condition for mediation is also supported ( $\beta$  = 0.617 p < .01) and discussed before. The last condition for mediation is also supported as the  $\beta$  value is reduced from 0.390 to 0.240. H4 is also supported.

				munee			
Steps		<b>R</b> <sup>2</sup>	Adj R <sup>2</sup>	F	SE	Т	ß
1	IKCC → EP	0.268	0.261	39.590	0.072	6.514	0.390**
2	IKCC →RES	0.199	0.195	53.954	0.058	7.346	0.446**
3	RES → EP	0.380	0.377	133.077	0.066	11.536	0.617**
4	$\left. \begin{array}{c} \text{IKCC} \\ \text{RES} \end{array} \right\} \text{EP}$	0.426	0.421	80.264	0.068	4.171	0.240**

 Table No 9: Multiple Regression Analysis of Individual Knowledge Creating Capability, Resilience and

 Employee Performance

\*\*Significant at the level of 0.01



## 4.9 Discussion

The significance of knowledge creation to innovation is identified and is a valid reason for managers and researchers to further examine the organizational mechanisms creating knowledge and enhancing employee strengths and performance. To determine the impact of structural and individual knowledge creating capabilities on employee performance mediated by organization based self esteem and resilience, data were collected analyzed and the results were presented to confirm the hypothesis.

The results of the descriptive statistics for the study revealed that the organizations have not adequately structured the command structures, policies, procedures, work designs and reward systems to create knowledge. However, the difference of opinion indicates that few employees agree that the structural capability of the organization they are currently working for is supporting knowledge creation.

The results show that organizational structural capability to create knowledge has positive impact on employee performance. Flexibility and collaboration are recognized as the characteristics of structural knowledge creating capability, supported by prior research (Singh et al. 2021). The organization promoting knowledge creation provides collaboration and interaction opportunities to employee needed for better performance through sharing and creating knowledge. Individuals sharing learning experience with each other and involved in dialogue create knowledge. The insight gained through the knowledge shared during conversations among employees allows them to re-order the knowledge content one knows developing new distinctions creating new products and serves (Tsoukas, 2009).

Significant contribution of this study is the identification of employee self esteem and resilience as the mediators of the relationship of structural knowledge creating capability and employee performance. The results show that the support of the structural dimensions of an organization creating knowledge enhances employee psychological evaluation of oneself (self esteem). Organizational policies, procedures, work designs and reward systems promoting flexibility and interactions are as critical components of structural knowledge creating capability in organizations. These characteristics through research results have shown evident impact on employee belief of being competent and worthy. The employee self esteem in organizations is determined by the experiences employee has at the workplace (Krauss & Orth, 2021).

Flexibility of the organizational structure allows employee to self control their work design and learn by self thinking. High level of centralization and formalization in the organization tends to inhibit knowledge flows. Rigid structures of organizations control employee behaviour and create inability to think and self regulate individual's knowledge (Pierce & Gardner, 2004). The controlled social environment results into employees being incompetent and incapable, thus causing low self esteem among employees (Korman, 1971). Organizations with flatter structures promoting collaborative behaviour allow employees to share and express their knowledge content building their sense of self worth and competence (Tan & Peng, 1997).



The individual considers his or her competence to be significant to the organization and is motivated to take knowledge initiatives. The operational command structure with reward mechanisms recognizing knowledge creating behaviour speeds employee initiatives to share and create knowledge.

The research results show that organization based self esteem also has positive impact on employee performance. The results match with prior research findings (Kanning & hill, 2012). Resilience is also determined to have mediating effect on the relationship of structural knowledge creating capability with employee performance. Structures strengthening social networks through collaboration within and outside the organizations enhance employee ability to face the unpredicted negative occurrences. Researchers (Luthans & Lester, 2006; Siu, et al., 2009) suggest adopting asset focused strategy to develop resilience among employee facing turbulent work environments. Creating pool of resources for employees supports them to recover in case of any failure or crisis. Incentive system is critical components to create employee assets. Rewarding employees on taking knowledge initiates motivates and builds courage to explore and experiment and create knowledge. However, reward systems recognizing collective behaviour in seeking knowledge are more beneficial in strengthening organizational knowledge creation capabilities. The collective approach ensures sharing and creating organizational knowledge assets rather than only retaining and enhancing individual knowledge. Organizational mechanisms building employee assets develop resilience among employee (Liang & Cao, 2021).

Resilience is also determined to have positive impact on employee performance. The results are consistent with the prior research conducted in the area of positive psychology discussing employee resilience. Individuals perform better a when resume work after a less intense crisis situation. The recovery reinforces the strength to sustain performance level once facing traumatic situations (Luthans & Lester, 2006). The mediating effect of self esteem and resilience is also determined on the relationship of individual knowledge creating capability with employee performance.

Individual knowledge creating capability has clear and evident impact on employee performance; indicating employee believing to have understanding of knowledge content, application, causal relationships and self learning rate themselves high on performance. The relationship is also enhanced through organization based self esteem. Employees with ability to bring their knowledge content into practice and create new knowledge believe themselves to be competent and worthy to make difference in the organization. Investing and raising the level of knowledge strengthens one's belief about the competence and worth of the expertise to organizational performance (Pierce & Gardner, 2004). The individual knowledge of know-why and know-how motivates them to experiment and create knowledge, thus contributing to organizational innovation (Di Vaio, Palladino, Pezzi, & Kalisz, 2021).

Resilience is also determined to enhance the relationship of individual knowledge creating capability and employee performance. Individual knowledge creating ability builds employee asset, thus giving psychological strength to cope with highly adverse work situations



(Masten & Reed, 2002). Ability to learn and create knowledge by self thinking and self control allows employees to respond positively and overcome negativity of stressful job situations.

## 4.10 Academic Implications

The research findings form the basis of academic and managerial implications to examine the impact of different organizational mechanisms on positive outcomes of individual and organizational level. Knowledge management capabilities are being discussed in literature from different perspectives, but there is lack of empirical research examining each capability and exploring frameworks for effective implementation of knowledge processes. This research covered the two most commonly discussed organizational capabilities in context of knowledge creation among healthcare professionals.

This research provides strong theoretical and empirical support for further studies in the area of knowledge management. Furthermore, the results become strong reason to explore other knowledge creating capabilities like technology and culture. Similarly, it is significant to determine the characteristics and outcomes of knowledge management capabilities in context of knowledge sharing, storage and application to develop effective knowledge frameworks. Recognizing the significance of psychological capacities of individuals to enhance performance in the turbulent business environment, this research also forms strong theoretical grounds to determine the impact of other psychological capacities.

## 4.11 Managerial Implications

Developing knowledge frameworks based on correctly identified characteristics is highly crucial to devise effective knowledge interventions. Managers are provided with the structural and individual knowledge creating characteristics to design and integrate initiatives for effective knowledge management by the theoretical and empirical findings of this research. It is evident that build strong collaborative networks to create knowledge structure, flatter hierarchy flexibility and incentives reinforcing collective behaviour are the core requirements. Thus managers must ensure that the organizational command structure, policies and reward systems should promote dialogue and interactions among individuals. Further, individual knowledge capabilities should also be continuously updated and managed as it depreciates over time. Providing learning opportunities as specifically designed trainings, workshops and mentoring programs can ensure knowledge sharing and creation. Most of the training interventions, while designed only focus on delivering the content of the knowledge, which is part of effective knowledge.

The selection of appropriate tools and methods is necessary to design the learning interventions to ensure employees can apply their theoretical knowledge into daily job routines. Organizational mechanisms have strong effect on individual psychology and behaviour. Managers should consider the role of the psychological capacities of individuals to integrate management practices. To ensure effective implementation of management plans it becomes



important to develop appropriate human resource management strategies enhancing psychological strengths of employees.

## 4.12 Limitations

Time duration available for the study was a limitation; therefore, data were collected only from health care organizations Rawalpindi and Islamabad.

## **5** Conclusion

Considering the results of the study and the discussion above, it is concluded that appropriate characteristics of knowledge management capabilities should be identified to develop capability frameworks for effective knowledge management. Recognized the difference in the nature of knowledge processes including knowledge creation, usage, storage and application, it becomes necessary to map down the organizational capability characteristics and frameworks for each of these processes. These capability characteristics should be carefully selected and integrated into a framework customized for different industries.

This study contributed by identifying and examining the impact of structural and individual knowledge creating capabilities on employee performance in healthcare sector. Command structure, work designs, policies, procedures and reward systems promoting collective behaviour for knowledge creation were mapped as the structural capability characteristics to create knowledge and were determined to have impact on employee performance. Individual knowledge capabilities of know what, know how, know why and self learning enhance employee performance.

In addition, the impact of these capabilities was also revealed on employee performance mediated through employee psychological strengths including organization based self esteem and resilience. The results highlight the role of individual's psychological assets in effective utilization of these capabilities. Managers need to carefully explore and determine the specific organizational practices enhancing these psychological assets to sustain employee morale and performance in adverse competitive environment.

## **5.1 Future Recommendations**

This research is a significant contribution to the theoretical and empirical studies in the area of knowledge management. However, there are other domains in this area of research to be yet covered.

- Organizational technology and culture knowledge creating capabilities are not addressed in this research, thus it is recommended for future research to conduct empirical research on these capabilities.
- This study identified knowledge creating characteristics of knowledge capabilities; further research should determine empirically the characteristics of all the capabilities for each process of knowledge management.



- Based on the characteristics capability generalized frameworks should be designed for each industry and customized for specific nature of organizations.
- To strengthen the accuracy of the capability frameworks the capability development antecedents and outcomes at individual and organizational level should be determined.
- To enhance the effectiveness of knowledge management initiatives, effect of more mediating and moderating factors should be examined. It is suggested to determine the mediating and moderating effects of certain first order and second order constructs like training and psychological capital.
- Considering the results of the study, factors developing the positive psychological resources should be explored and suggested to design effective organizational practices.

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