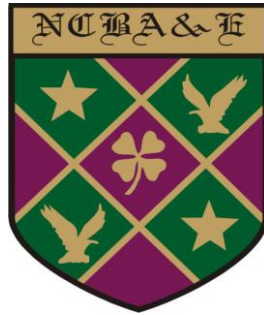


***National College of Business
Administration and Economics
Lahore***



**ABSORPTIVE CAPACITY AND ORGANIZATIONAL
PERFORMANCE: TESTING KCP MEDIATION
& MODERATION OF KCC**

BY

ZEENAT ISLAM

**MASTER OF PHILOSOPHY
IN
BUSINESS ADMINISTRATION**

FEBRUARY, 2018

NATIONAL COLLEGE OF BUSINESS ADMINISTRATION AND ECONOMICS

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**A dissertation submitted to
School of Business Administration**

**In Partial Fulfillment of the
Requirements for the Degree of**

**MASTER OF PHILOSOPHY
IN
BUSINESS ADMINISTRATION**

February, 2018



***In the name of ALLAH,
The Most Beneficial,
The Most Merciful,***

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Administration and Economics

DECLARATION

It is to declare that this research work as not been submitted for obtaining similar degree from any other university/college.

ZEENAT ISLAM
February, 2018

DEDICATED

TO

My Beloved Parents

&

Respected Teachers

who are the Nation Builders

ACKNOWLEDGEMENT

Thanks to Almighty Allah whose unending blessings enabled me to accomplish this gigantic task. Here I want to take this opportunity to express my thanks to all the people who helped me in the past three years. This dissertation would not have been possible without the support of all these people.

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RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis entitled **“Absorptive Capacity and Organizational Performance: Testing KCP Mediation & Moderation of KCC”** has been carried out and completed by **Zeenat Islam** under my supervision during her **M.Phil. (Business Administration)** Programme.

(Dr. Muhammad Ajmal)
Supervisor

SUMMARY

To achieve superior organizational effectiveness is the core aim of any corporation. The organizational survival is based upon the continuous adjustment and alignment of organizational goals, objectives and strategies with the external environment. This can only be possible if there is a continuous mechanism of knowledge creation in the organization, to coup up with these challenges. One of the significant antecedents of the knowledge creation process is the learning ability of individuals working in organization. The more the competent people are there in organization, the more quality knowledge is created. The organizational climate and top management (knowledge centered culture) support play a role of catalyst for enhancing the knowledge creation activities in the organization.

This research investigation proposes that knowledge creation process has a positive and significant relationship with organizational performance is termed as (H1). As more the new knowledge is created in organization, it can produce new technologies for production and its operations to enhance organizational performance. The second hypothesis (H2) is a positive and significant relationship between the absorptive capacity and knowledge creation process. The qualified and more competent learned people are always considered as vital enablers for new knowledge creation. In third hypothesis (H3) it is supposed that knowledge creation process is playing a mediating role between the absorptive capacity and organizational performance. As, when the knowledge creation is appreciated and organized at group level and organizational level, the more probability of producing quality knowledge like workshop ,seminars and conferences . The final hypothesis is about the moderating role of knowledge center culture between the absorptive capacity and the knowledge creation process. The supportive environment helps the individuals to perform better in organization and become active agent for knowledge creation process.

A self-administration questionnaire is being deployed to gather the information from the faculty members of public sector universities of Lahore .A sample of 247 faculty members from the different universities i.e., Punjab university , university of education , university of engineering and technology ,king award medical college university and national college of art university .To operationalized the study variable, the measures are adopted from the different authors and customized them according to local context. The study is cross sectional, setting is natural and non-contrived, researcher interference is minimum and unit of analysis is individuals.

The outcome of investigation reveals that knowledge creation process has positive and significant relationship with the organizational performance and supports our first hypothesis H1. Further H2 also get support from the results as the absorptive capacity is also has a positive and significant relationship with the knowledge creation process. The knowledge creation process play partial mediating role between the absorptive capacity and organizational performance. Thus our H3 is partially supported. The fourth hypothesis (H4) is not supported because the knowledge centered culture in public sector universities of Lahore is not play positive moderating role between the absorptive capacity and knowledge creation process. It is playing a slightly negative role because of typical centralized systems of governance and administrative mechanism.

The practical implication of the results is that higher authorities in public sector universities of Lahore, particularly the respected vice chancellors and Punjab higher education department, take notice of culture prevailing in universities. It is not supportive and create hurdles in the way of new knowledge creation, that's why the Lahore public sector universities are not in top ranking in HEC ranking and QS 500 universities list. The faculty members in these universities are not motivated to do quality research for their own profile also not for university ranking. The numbers of creative and innovative events in these institutes are also short like workshops, seminars, conferences and training sessions. Also the platform like business incubation centers (BIC) and office of research and innovation centers (ORIC) are also missing. These are the supporting centers to enhance the research activities in these institutes. Top management should take initiatives to build these offices in true spirit.

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CHAPTER 1

INTRODUCTION

1.1 STATEMENT OF TOPIC

The knowledge-creation process devised enticed the consideration of practitioners and researchers by the growing competitive peculiarity, globalization and key prominence of knowledge and information in knowledge centered industries, particularly in the context of emerging economies. By then time, corporations are vulnerable to errors without responding to the use, determination and conversion of prevailing knowledge to the innovative knowledge (Nonaka and Toyama, 2015). Corporations therefore require that their core systems be purposefully exploited by a good knowledge infrastructure (knowledge center culture) that manages the transformation of knowledge, for example implicit knowledge to explicit knowledge, and convert explicit knowledge into tacit knowledge, i-e from use of knowledge to reuse it ; to foster efficiency and creativeness for long term competitive edge (Nonaka & Toyama, 2003). The many previous studies has shown that industry leaders devise progressively take advantage of knowledge transformation organisms, which have managed corporations to detect useful knowledge inside the corporation boundaries (Rusly et al., 2012; Andreeva and Ikhilchik, 2011; Gavrilova and Andreeva, 2012; Nonaka and Takeuchi, 1995; Nold III, 2012; Bratianu and Orzea, 2010). Corporations have used such activities in a wider framework to collect info and knowledge about existing and new features of companies (Pandey and Dutta, 2013).

This research wants to investigate the prerequisite or antecedents of knowledge creation process with respect to individual level variable, which enable the individuals to start the process of knowledge creation like absorptive capacity. The absorption capacity of the individual can be defined as the competency of a person to capture knowledge or information from the outside environment and use its personal skills and abilities to transform it into knowledge products, which can be used for organizational benefit (Srivastava et al., 2015). If organizations employee unable to find such a conducive environment which can sharpens their skills (Chandler et al, 2000), the future of an organization is at stake and no longer it can survive and thrive in the knowledge based economy. Because the organizational environment plays a role of catalyst for absorptive capacity either it fastens dormant absorptive capacity or vice versa ([Cepeda-Carrion et al, 2012](#)). The connection of

absorptive capacity and knowledge creation process build under the environment of knowledge centered culture.

Therefore, this study argues that absorptive capacity influence knowledge creation process as individuals can absorb the external knowledge and similarly absorptive capacity fasten and create more quality knowledge under the environment of knowledge centered culture. After a through literature review we found that, there is no any study conducted yet to examine the influence of absorptive capacity on knowledge creation process at work. Moreover, the relationship between absorptive capacity and knowledge creation process is contingent on knowledge centered culture.

This research investigation will examine the direct effect of knowledge creation process on organizational performance and mediating mechanism of knowledge creation process in connection between the absorptive capacity and organizational performance at work. Similarly, how knowledge centered culture influence individuals to better absorb knowledge and impact on the knowledge creation process has not been study yet.

This study will achieve it aim by fulfilling the following objectives a) by investigative the effect of knowledge creation process on organization performance; b) by investigating the effect of employee absorptive capacity on knowledge creation process ; and furthermore, c) by testing the mediating role of knowledge creation process between absorptive capacity and organizational performance ; and finally d) by investigating the contingent role of knowledge centered culture between absorptive capacity and knowledge creation process

1.2 STUDY BACKGROUND

Knowledge management is vital for organizations since it comprehends administration's drives and methodology obviously. At the point when organizations don't utilize intangible resources they agonize the economic and social consequences and this disappointment is plainly noticeable to contenders (Osborne, 2004). The firms of 21st century completely rely on the quality of knowledge creation process and its use on the different process and key activities, so that they remain competitive in the business world (Nonaka and Toyama, 2003). For instance, amplifying the inventory network effectiveness relies on upon applying learning in different fields, for example, asset sources, planning, manufacturing and distribution.

The corporate knowledge formation is the procedure of enhancing and readily accessible knowledge created by knowledge workers, besides

connecting and crystallizing it with a company's knowledge system (Nonaka et al, 2006). Similarly, which knowledge workers acknowledge the importance of KC and understand its benefit for their coworkers and ultimately the whole corporation (Bolino et al, 2002). Corporation-knowledge creation theory describes that mechanism. From the last 20 years, there is a growing trend in corporate knowledge creation amongst managers and academics for gaining the sustainable competitive advantage in the business world (Nonaka, 2000).

Theoretical investigations have played a significant role in testing and developing the numerous facets of theory and observing for new areas of business these concepts can be applicable in true spirit. The process of corporate knowledge creation philosophy is used in order to explain this phenomena in numerous areas, comprising those of organizational theory and design (Osterloh and Frey 2000), organization psychology and human behavior (Peterson, 2002), HR and leadership (Ranft and Lord ,2000), technology management and innovation (Nonaka et al. 1996b), strategic planning and project management (Choo and Bontis 2002). The knowledge creation process is therefore an integral part of the curricula of many business schools and universities.

The capability to use outside knowledge is a crucial element of innovative ability for any organization (Gold et al, 2001).The ability to utilize and evaluate external knowledge is mainly a function of previous interrelated knowledge (Cohen and Levinthal, 2000). This previous knowledge comprises of fundamental abilities of the latest technological or scientific expansions in any business domain (Cohen and Levinthal, 2000). Therefore, previous linked knowledge refers an aptitude or capability to identify worth of a new knowledge, capture it, integrate it with prior knowledge, and use it for organizational benefits. In nutshell these capabilities jointly establish a concept which is called absorptive capacity (Cohen and Levinthal ,1990).The absorptive capacity basic idea is to identify , integrate , transform and deploy the outside organizational knowledge inside organization to achieve the organizational goals and objectives (Zahra and George, 2002).

Prior empirical inquiries have normally have a solid ground for the belief that the higher the corporation learning or absorptive capacity , higher the firm financial performance and overall organizational performance (Zahra and Hayton, 2008; Rhee, 2008; Tsai, 2001; Chen et al., 2009). For instance every portion or component of novel knowledge captured by the organization contributes to firm innovation and performance and source of sustainable competitive advantage in the business domain. The absorptive capacity is also important from strategic point of view for a firm , as it enable any organization

to remain fixable and learning organization for future organization's needs, for survival to fittest (Bilgili,2016).

Basically, absorptive capacity drives organizations to capture new outside knowledge by making collaborations with other organizations and long-term investments on the knowledge workers (Zahra and George, 2002). Though, as organizational absorptive capacity enhance, it searches for new and innovative knowledge in the respective filed. It might be mentioned as the 'well-is-drying-up' evidence. Previous knowledge is vital for the organizational ability to create and appreciate new knowledge (Zahra and George, 2002).

The key emphasis of KM is the conviction that corporation performance can only be enhanced by efficiently using its tangible and intangible assets, for instance the abilities of their knowledge workers (Pandey and Dutta, 2013) by a smooth and sound knowledge-creation process (Nonaka and Toyama, 2003). Numerous researchers including Nonaka and Toyama (2003),Sandhawalia and Dalcher (2011),Nold III (2012), Nonoka and Takeuchi (1995), Sun and Anderson (2010), Sun (2010) concluded that knowledge-based corporations provide a road map to organizations on how to formalize and disseminate the knowledge , skills and abilities of knowledge workers inside the corporations so that they can be reused by other workers to accomplish organizational common goals and objectives for improved company performance. Organizational performance is bottom line for any organization, while the knowledge-creation process is the strategic tool for achieving its goals (Gold et al, 2001). Instead of competitive peculiarity, companies need to face their visionary oblique vision beyond the established constructions of these outdated methodologies and put great stress on managing intangible valuable resource (Bontis et al, 1999) i.e. knowledge through knowledge creation processes to combat the changing business world that exits in every knowledge economy of the country (Teece, 1998). Thus, in the current study, a framework is proposed that fits well within corporation boundaries in Pakistani public sector universities. As well as this research study is intended to empirically test the theoretical model which is constructed in this research.

By testing this model from empirical study, the hypothetical model proposed in this research is valuable to conceptualize and appreciate that in addition to knowledge of a typical KMS, the knowledge infrastructure capabilities such as absorption capacity and knowledge-centric culture are still a crucial aspect to consider in efforts to create knowledge. Therefore, the researcher in this study focused on knowledge centered culture, which is an excellent ability to master the knowledge-based process. In addition, another crucial factor that can damage organizations if not given proper important is

the absorption capacity. For this perspective, Shin (2004) has shown knowledge center culture is not enough for an effective knowledge process; Effective communication in the whole corporation also needs absorption capacity. For example, the theoretical framework which is proposed in this document, that knowledge infrastructure capacity, i-e knowledge center culture and absorption capacity, empowers a knowledge process that enhances higher organization effectiveness.

Nonetheless, this research study is unique because it investigates antecedents or prerequisite that controls the accomplishment of the knowledge creation process to demonstrate improved firm performance. In this regard, the study considers knowledge-based culture as the most important factors that stimulate knowledge-based processes and result in an efficient and effective knowledge-making process. For example, employees who have personal anti-change initiatives can absorb new knowledge, as well as employees who want to help their colleagues in the workplace play a crucial role in absorbing this knowledge (Salerno and Brock, 2008). When the employee gets absorbent capacity, they can perform better on job and demonstrate their knowledge, skills and abilities in excellent way. Alternatively, when employees don't have the great abilities to absorb and utilize the external knowledge, they can't learn. Hence, this study argues that knowledge centered culture influence employee's absorptive capacity as absorbent capacity influence the knowledge creation process.

1.3 STUDY VARIABLES

1.3.1 Organizational Performance

OP is termed as the measurement of actual results or output of the organization against the predefined goals and objectives as set by the top management. Richard et al. (2009) argue that corporate performance comprises of the (1) the financial performance which includes the net sales , share price, market share, profits, ROI, ROE etc. (2) shareholder return which includes the dividends gain, total capital gain and economic value added (3) market performance of the product which comprise of total sales volumes, brand image, brand equity etc. The organizational scholar and consultant also include the mid-term and strategic plans, operational plans, and organization development in the organizational performance (Baker and Sinkula, 2015) .

Now days organizational performance is managed and measured using different tools and techniques like balanced score card and six sigma approach. In which we used different aspects of the organization on different scales like

customer service (customer feedback and after sale service), employees reward ships, financial performance (profit and shareholder return) and corporate social responsibility (community outreach and corporate citizenship) (Upadhaya et al., 2014).

1.3.2 Knowledge Creation Process

To gain competitive advantage for organizational survival is the ultimate objective of any organization. This objective can only be achieved through the continuous creation of new knowledge in the organization. New knowledge creation is sometimes in many organization is not treated as their core activity as considered as the part of knowledge management (Wellman, 2009). According to the Nonaka's point of view, the knowledge creation is the continuous process of transfer, assimilation and combination of different kinds of knowledge. More specifically, in SECI model of knowledge creation, there are four stages of knowledge creation process i.e., socialization, externalization, combination and internalization (Nonaka and Toyama, 2015). Socialization is termed as transfer of knowledge from tacit to tacit, the group of people join together to discuss a problem and they are sharing their ideas with each other to find a solution. Externalization is the transfer of knowledge from tacit to explicit, from writing a book, an article or drawing a sketch. It is helpful in more to explain the things to other persons (Choi and Lee, 2002). Once the tacit knowledge is converted into the explicit knowledge, becomes the base line for creating new knowledge, for example after reading books and articles the individuals is in a position to provide a new idea after brainstorming. Combination is defined as the transfer of knowledge from explicit knowledge to explicit knowledge i.e., building prototypes. Explicit knowledge, from inside or outside the organization, is gathered and then combined, processed or edited to create new knowledge. Finally the Internalization part is treated as in organization, the transfer of knowledge from explicit to tacit, for example leaning by doing, from the manual or book, workers are doing practical things according to prescribe instructions (Nonaka and Konno, 1998).

1.3.3 Absorptive Capacity

In 1990, Cohen and Levinthal presented the idea of absorptive capacity to highlight the importance of learning capacity of organizations. The absorptive capacity helps to innovate and create new products and services and to be dynamic with external environment. The absorptive capacity comprise of , the ability to identify or recognize the trends or pattern , assimilate them

according to local settings and transform them to implement them in organization to achieve the organizational goals and objectives. The learning capacity of an organization primarily depends upon the source of knowledge, its prior information and appropriate method to seek the patterns. In 2002, Zahra and George proposed that absorptive capacity is dynamic capability of an organization. The absorptive consists of acquisition, assimilation, transformation and exploitation.

1.3.4 Knowledge Centered Culture

The culture of the organization play a crucial role in organizational performance, as it shapes the behaviors and attitudes of the employees. The knowledge centered culture is the supportive culture of the organization, which help the employees to create a common set of values, norms and beliefs systems, that can be set as a reference for creating and sharing knowledge within the organization (Alavi and Leidner, 2001; Ajmal et al., 2010; De Long and Fahey, 2000; Davenport and Prusak, 1998; Janz and Prasarnphanich, 2003).The supportive organizational culture help to nurture the new knowledge creation and share it with others workers in an informal way or formal way. The result of knowledge centered culture is the employee satisfaction, improved performance and continuous learning which contribute to the better organizational ability to innovate new products and services (Mas-Machuca and Costa, 2012a, 2012b; Janz and Prasarnphanich, 2003; Cardoso et al., 2012; Lee and Choi, 2003; Gold et al., 2001).

1.4 RESEARCH MODEL AND HYPOTHESES

In Figure 1, we have presented the conceptual model of the study. This model is based on important mechanisms proposed in the previous literature of knowledge creation process and organizational performance. These mechanisms join knowledge creation process with absorptive capacity and then knowledge creation process with organizational performance to explore knowledge creation process as a possible intervening variable to go inside the black box. We hypothesized that knowledge creation process will mediate the relationship between absorptive capacity and organizational performance.

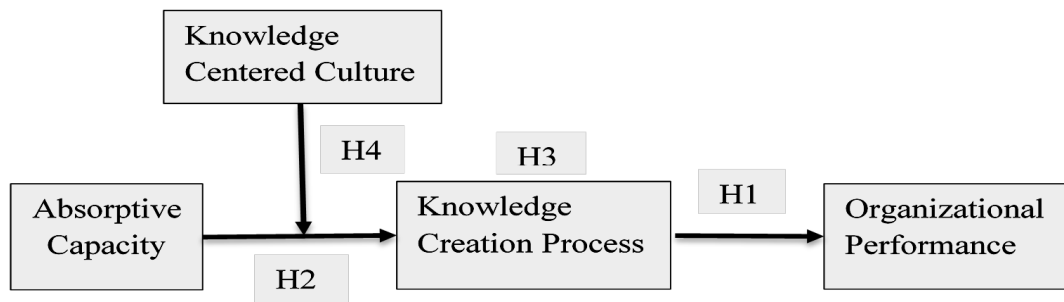


Figure 1.1: Research Model

We also proposed that the without the supportive environment of the organization , individual are not motivated to gain knowledge and contribute positively in knowledge creation process , So we hypothesized that knowledge centered culture play a positive moderating role between the absorptive capacity and knowledge creation process. The four hypotheses proposed in this study are listed in Table 1.1.

Table 1.1
List of Research Hypotheses

Hypotheses	Description
H₁	There is positive association between knowledge creation process and organizational performance
H₂	The Individual's absorptive capacity is positively related to knowledge creation
H₃	Knowledge creation process plays a mediating role between the absorptive capacity and organizational performance
H₄	Knowledge centered cultural plays a positive moderating role between the absorptive capacity and knowledge creation process.

1.5 SIGNIFICANCE OF THE STUDY

Many studies have shown that knowledge creation process influences corporation in many different ways and the major result of knowledge creation process is corporation performance. Therefore; corporations indulge themselves to figure out a solid knowledge infrastructure competency that enables the movement of knowledge and information within the corporation (Dove, 1999). Conversely, a research accompanied by Donate and Guadamilla (2011) providing indication that knowledge creation process irrespective of its

extreme significance and prominence has not produced the anticipated results in different corporations. The authors have observed a number of obstacles such as lack of leadership, poor organizational culture, and lower sense of accountability and irresponsibility of workers (Donate and Guadamilla, 2011).

Nevertheless, many research studies have provided support for the current research study due to several gaps the researcher has explored in the prevailing body of knowledge. For example, a research study lead by Tseng (2010) the impact of knowledge centered cultural on the knowledge creation process, but it is conducted in the Chinese centered cultural and hence provide reasons for directing research investigations in other cultures for enhancing the empirical study of knowledge-centered culture and its impact on knowledge creation process. So this study full filling this gap and examine the role of absorptive capacity on the knowledge creation process under the influence of knowledge centered cultural. The same argument is also supported by, Nold III (2012) by arguing that the research community is confronting this challenge to generalize the concept because of the “missing link” of the empirical inquire of knowledge centered culture.

This study will explore the antecedent of the knowledge creation process i.e., absorptive capacity ,and what factors will influence this mechanism .We will empirically explore the impact of individual absorption capacity on knowledge creation process , who bloom because little empirical research is conducted on individual level of absorption capacity .This is the first study that we contribute to fill the various research gap by investigating the antecedents of knowledge creation process at individual level and empirically test that if organization provide the knowledge centered culture , it will enhance the individual level absorptive capacity, consequently it strength the knowledge creation process and improve the organizational performance .

1.6 METHODOLOGY

In order to accomplish analytical and correlation goals of the study, a questionnaire based survey is conducted in a non-contrived (i.e. natural) setting with minimum researcher interference. Our sample consists of individual's (unit of analysis) faculty members of public sector universities of Lahore. Before the full-scale self-administered survey, a pilot study is done on 35 respondents (from different departments of one major university) to validate the relevancy of the measures, language clarity and item ambiguity. The survey is conducted through spreading of the questionnaire to the faculty members to various public sector universities of Lahore. Data collection

design is used cross section. The research study data has been gathered at one point in time, in about two months. For complete details, please see Chapter 3.

1.7 DATA ANALYSIS AND FINDINGS

The stepwise linear regression and interaction effects are being used to test the hypothesis. The demographics analyses are performed. The normality of data is being checked by kolmogorov-smirnov test. The reliability is checked through the crown beach's Alfa and validity is tested confirmatory factor analysis. The results of study show that the knowledge creation process has a positive and significant relationship with the organizational performance and thus support our H1. The H2 is also supported as the absorptive capacity has positive and significant relationship with the knowledge creation process. Moreover H3 is also partially supported as the knowledge creation process has partial mediation between the absorptive capacity and organizational performance. The H4 is rejected as the prevailing culture in public sector universities in Lahore is slightly negative between the absorptive capacity and knowledge creation process.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESIS

2.1 ORGANIZATIONAL PERFORMANCE

The performance of the organization is the main concern for every stakeholder and shareholder of the company. Because when organization performs up to the expectations, it brings prosperity and social well-being in the society. Organization has to perform by considering factors like market competition, customer requirements and expectations, social and technological changes and so on to survive and thrive in the market place (Baker and Sinkula, 2015). As a result of this the construct of organizational performance has gain prominent importance among the researcher and organizational scholars. The every aspect of organization like manufacturing, marketing, financial management, operations, human resource management and organizational strategy are evaluated by just only one variable which is organizational performance, if organization perform, all is good and vice versa (Wu et al., 2015). There are various aspects of organizational performance, which are discussed in detail below.

2.1.1 Dimensions of Organizational Performance

The variable of organizational performance is under consideration, evolved and constructed from the last four decades. The researcher had tried to put all the factors in comprehensive manner into organizational performance construct which can truly reflect organization effectiveness. The different author have perceive it differently like Campbell (1977) argue that the possible aspects of organizational performance could be (1) criteria for decision making process to fulfill the organizational objectives (2) for adaptability and sustainability a natural system approach should be followed (3) and organizational structure and design should be based upon nature and type of organization. Further, Penning's & Goodman (1977) provides a framework for organizational performance and includes that (1) degree of coordination and harmony among the sub-units of the organization (2) adopt a rational decision making approach to achieve goals (3) a systematic approach to deal with external environment and adjust accordingly. The most comprehensive approach is the balance scored card which includes the parameters like, financial performance (profits, ROI, ROE, share price, etc.), customer care

(customer feedback, customer compliant cell ,after sale service) corporate social responsibility (social well-being , clean environment , NGO's)

2.2 ABSORPTIVE CAPACITY

The absorptive capacity of an organization's ability to recognize, integrates, transform and implement the unique external knowledge. In other words, the absorptive capacity is the organization learning capacity to gain, seek and observe from the outside environment. Theoretically speaking, it is same as the information is processed at individual level. The concept of absorptive capacity was coined by the Cohen and Levinthal in 1990. Further this concept was more developed and extended by Zahra and George in 2002. They divided the construct into four dimensions i.e., acquisition, assimilation, transformation and exploitation. The first two deals with the information seeking and collection and later two handles the implementation of knowledge according to the local environment or with organizational contextual factors.

The research and development and training and development departments of the organization play a vital role to increase absorptive capacity of the organization. These sections not only generate internal organizational activities to increase absorptive capacity, but also develop external linkages with other bodies to train their people so that they can absorb more from the external environment (Castro, 2015). Putting it in a different way, the investment of research and development department on the employees is paid off in a sense of better organizational performance through innovation and creativity (Lichtenthaler, 2016; Dobrzykowski et al., 2015). The acquisition of knowledge include the observation from the environment in which the person lives, it can be a class room or work place. The assimilation deals with the arrangement of facts in a systemic order to understand the phenomena in better way. The transformation is the contextual conversion of the phenomena into local setting or organizational environment. Fourth one is the successful implantation of the concept to improve the organizational performance (Zahra et al., 2015).

2.2.1 Organization Learning Theory and Absorptive Capacity

The two famous organizational scholars in the domain of organizational learning are the Chris Argyris and Donald Schon. Argyris and Schon (1978) augured that organizational learning is result of corporation investigation. The top management when observe that organization is not performing well or not achieving the organizational goals and objectives, then there is a need to learn

more and enhance organizational competences. In this process the different parts or department interact with each other and learning together to find a better way to improve performance. Argyris and Schon (1978) argued that this communication and interaction will go beyond the organizational specific rules, procedures and boundaries. This mode of learning is sometimes based on the understanding of two different and opposite thoughts of philosophies. Different theories of learning are discussed below, that how explain, at work how employees learn to perform better.

Espoused Theory: The theory believes on the more formalized learning of employees. There are set procedures and instructions are provided in the shapes to manuals that how individuals will perform their duties (Berta et al., 2015). This will also define their roles in particular job and their authorities and responsibilities. This will confine the employees to do a job in a certain way and according to instructions. The example of this type of learning is "if the computer does not work, try rebooting it and then contact the IT department."

Theory-in-use: This type of learning is more practical and realistic. Actually employee uses this approach to solve their problems at work. The workers interact with each other and brainstorm to solve the problem instead of following the set procedures and rules to hand the problem (Lane and Lubatkin, 1998). This is shortcut and effective type of learning. The more common example of this is type of learning is, when someone is facing the troubleshooting problem in computer instead to call the IT department , he ask his colleagues and coworker to help him, to get out of this mess .

Levitt and March (1996) further explain the different features of organizational learning. They concentrated more on the routine based, history oriented and target dependent learning. The lessons from the history are compiled and deposited in the organizational memory to reuse them when similar type of problem occurs again, this is most economical way of learning .But when the problem is different from the past then the organization has to hire consultants for the solutions. This includes the proper trainings of staff after the details diagnosis of organization, its type and external environment. Nevertheless, this practice is very expensive equally the time-wise and monetary wise (Nooteboom, 2000). Thus, organizational learning is communicated through imitation, education and socialization (Volberda et al., 2010).

2.2.2 Three Kinds of Learning in Organizations

These kinds of learning help to understand the learning phenomena in organization. Single loop learning in which organization scholars argued that many corporations function in line with single loop learning, the participants develop the strict rules, regulations, policies, strategies, procedures and modes of actions for them and then tried not deviate from the path and spend their time and money in terms of inspections teams to detect flaws to correct them according to rules (Easterby et al., 2000; Kim, 1997). The second loop of learning reflects that the members of corporation think about the change of rules according to the situation, rather to correct themselves. This kind of learning is more realistic and pragmatic and called out of box thinking and a method to solve a problem by adopting the critical and creative thinking approach. This approach of learning is mostly helpful to identify why a particular solution for a problem is more suitable as compare to other to obtain a specific goal in certain organizational settings (Crossan et al., 1999; Argyris, 2000).

In third loop of learning main theme is learning how to learn, by understanding how one can learn effectively. The context of this learning that associates of the corporation start thinking about the rules and regulation that they should be changed or not, or they good for effective learning or not. The type of learning is very helpful in understanding the more about the people about themselves and others regarding the values, belief systems and perceptions of the people. In short triple loop learning is all about the double loop learning of double loop learning (Fiol et al., 1985; Huber, 1991).

2.3 KNOWLEDGE CREATION PROCESS

The knowledge creation is the most important function of any organization to gain the long term competitive advantage and solve the day to day problems faced by the organizations. Often the knowledge creation is not treated as the core objective of the organization and considered as the primary function of research and development department (Wellman 2009). According to the Guru of knowledge management (Nonaka) the knowledge creation process is the continues transmission, integration and transformation of different kinds of knowledge, as employers learn, practice and interact which is called the SECI model. The knowledge (tacit knowledge) cannot be distinguished from the knower, so it is the property of possessor. According to Cook and Brown (1999) it needs a suitable and favorable environment to motivate the knower to share knowledge with each other, so that combinations of new ideas will generate the new knowledge. Hence the organizational

culture (Ba) is most important driving force to create new knowledge. Additionally for the sake of more desirable result and quality knowledge it is imperative to provide substance to amorphous work settings in domain where innovation and creativity are critical (Nonaka and Konno, 1998; Nonaka and Toyama, 2003).

The knowledge creation and sharing both go side by side. Knowledge is produced or created through education, collaboration, practice and interactions, as different types of knowledge is converted and shared ,for instance, from tacit to tacit (socialization), from tacit to explicit (externalization), from explicit to explicit (integration) and finally from explicit to tacit (internalization) (Nonaka and Toyama, 2015). Additionally , knowledge creation also strengthened the suitable information and data for better and improved decision making , and could work as building blocks in creation of new knowledge (Khodakarami and Chan, 2014).

2.3.1 Epistemology and Knowledge Creation Process

Epistemology is concerned with the study and nature of knowledge with justified belief. Epistemologists are concerned with two kinds of investigations. Firstly they investigate the nature of knowledge, what does want to express or try to say as he knows, or fails to express or fails to understand (Paavola and Hakkarainen, 2005; Nonaka et al., 2006). So it is a matter to understand the things and phenomena's and distinguish among the concepts .Secondly , they are interested to know the capacity and capability or limitations of human to know about the things from the different recipients or sources . In other words how human use logic , reasoning and their sense to understand the phenomena and different sources of knowledge .Means what are the human limits to know about the phenomena of nature (Peschl and Fundneider, 2014; Bereiter and Scardamalia, 2014).

The organization scholars and academics are not confirmed that all the members of organization adopt the same set of procedures to create new knowledge creation or not. So that ultimately they will define and contribute towards the overall organizational practices for knowledge creation process (Pentland, 1995; Rowland, 2004). When groups or teams are formed in organization, the individuals that have knowledge creating and leaning abilities and they implement their systematic logic and reasoning for argument to do certain task in a better way. In a brief way there are four layers of knowledge creation in any organization, one layer is at individual level, second layer constitute the group level, third layer is more formal and at organizational level to define the set procedures to create new knowledge (Cook and Brown,

1999; Pawlowsky,2001). The fourth level is among the two or more organization enters in a joint venture to create knowledge. The individual level for knowledge creation is more informal and basic as compare to other levels which are more formal and higher levels for knowledge creation (Spender, 1996).

The fundamental level of knowledge creation which is individual can be explained with the help of SECI model, as theorized by the famous social scientists Nonaka and Takeuchi in 1995. This concept is further more refined by adding the concept of organizational climate that is suitable for creating different kinds of knowledge i.e., Ba and conception of knowledge assets (Nonaka and Konno, 1998).The knowledge epistemological dimensions can be more naturally described by the SECI model through the systematic phases transformation like Socialization, Externalization, Combination and Internalization . The SECI model is considered as a powerful framework of knowledge epistemological dimension that can be useful to understand the creation and conversion of knowledge within the organization at certain level.

2.4 KNOWLEDGE CENTERED CULTURE

Organization scholars and academics argued that culture of any organization have a major role on the organizational performance and outcomes, the logic behind this, as it is used as a resource to affect the individual worker behaviors, attitudes, actions and perceptions. Further it can also be help to distinguish between the employees of different organization on the basis of culture (Janz and Prasarnphanich, 2003; Chandler et al., 2000). The supportive culture of an organization act's as a platform to provide an opportunity to employees to demonstrate their knowledge, skills and abilities for the achievement of organizational goals and their personal goals as well. The knowledge centered culture is supportive culture with a aim to encourage people to participate in knowledge creating activities .It is a common set of belief , values and norms of organization members to create and share knowledge (Janz and Prasarnphanich, 2003; Alavi and Leidner, 2001; De Long and Fahey, 2000; Ajmal et al., 2010; Davenport and Prusak, 1998).The main features of knowledge centered culture is to motivate , open communication among the employees and mentor support that enable organization members to feel the sense of ownership and empowered to perceive as a leader of his / her domain and ready to contribute towards the achievement of organizational goals and objectives . The outcomes of knowledge centered culture are employees who are satisfied with their jobs, increased productivity, mental peace of mind and creativity and innovation within organizational boundaries (Khazanchi et al., 2007; Pool, 2000).

2.4.1 Organizational Cultural Theory and Knowledge Centered Culture

A general understanding of culture is perceived as the general set of rules and procedures that equip the managers and leaders to enable them for desired organizational performance through the harmonic understanding of members of organization. The organizational culture is portrayed as the consistent behavior and attitudes of employees with department and across the department, at all levels (Alavi et al., 2005; Barney, 1986). The previous studies point out the heterogeneous culture with in the same organization because of globalization, and cultural diversity, so it becomes more complex to maintain a homogenous culture across the departments.

The culture of the organization comprises of the unique behaviors and values that contribute to the social and psychological climate of the corporation. Needle (2004), argued that firm culture reflects the collective values, beliefs and principles of the people working in an organization and also the sum of factors like organization history , strategy ,individuals behaviors , management style , organization vision , values ,norms , rites , rituals, systems, ,assumptions, symbols , languages , climate , location and habits of peoples . Moreover organization culture is the identity of the individual working in an organization and its manifestation (Schein, 1990).

Organization scholars make a connection of employee performance and job satisfaction with factors of organization culture for example empowerment , recognizing employee efforts , support from the peer and top management and rewards on the desired results (O'Reilly et al., 1991; Aarons and Sawitzky, 2006) .This is main theme of knowledge centered culture in any organization and employees knows that what top management is expecting from us in line with the compliance of organization core values to achieve organization goals and objectives . The reason behind this is as the culture of any organization is deeply embedded in every aspect of business domain of organization (Byles et al., 1991). More over the capability of an corporation to innovate and create new things mostly contingent upon the culture of the organization. When a weak or unsupportive culture exists in organization, it fails to gain the employee satisfaction and job commitment.

The weak or unsupportive culture refers to poor motivation that employee get from external environment, miscommunication, lack of focus and undefined goals and objective that are set for individuals and groups as well for organization (Martin and Siehl, 1983). The members of these kinds of organization always feel a fear to express things and job insecurity. They find things inconsistent with in organization and fail's to understand the values and

norms of the organization and what organization demand from them in clear manner (Giberson et al., 2009).

The researchers found that both supportive and innovative cultures can have a positive impact on how people feel when they get home. However, namely innovative cultures create more time based pressures – and therefore time conflicts at home, whilst supportive cultures create more supportive based effects, leaving people feeling happy when they get home (Chandler et al., 2000; Pool, 2000; Lok and Crawford, 1999).

2.5 KNOWLEDGE CREATION PROCESS AND ORGANIZATIONAL PERFORMANCE

Business climate of today world is described by a high degree of turmoil and uncertainty in climate, mainly because of sudden or rapid technological change and more competition among corporations. So in this scenario, business persistence is grounded on their ability to effectively acclimate their strategies to environmental changes. In addition to this line, continuous innovation is essential for addressing altering consumer requirements and maintaining reasonable competitive advantage (Porter, 1986; Drucker, 1985). For the sake of innovation, corporations need to capitalize additional funds on the human to continually pursue, generate and operate new knowledge that enables them to build new ideas of services or products, production techniques or procedures or corporate practices. In 1993 Drucker stated that the current society demands from the corporations that they should increase the productivity of knowledge to deal with the complex problems of the today's business world. Furthermore, Wang and Wang (2012) also support this notion that explicit and tacit knowledge both contribute in the production of quality products and services. Drucker (1993) also points out that innovative company need to acquire new knowledge to stay out of date. In this perspective, the relationship between knowledge formation as well as business and organizational performance has been the focus of many empirical and theoretical studies.

As consequence of appreciate and reorganization from the academia and research community of the literature of the knowledge-making process from the previous decade of this period. Not only has this notion has taken a prevailing standing in the current texts. Similarly included and entrenched inside the boundaries of firm at all levels. In order to increase organizational knowledge, there should be a clear understanding of knowledge management among all the knowledge workers at all levels of organization. In this competitive business environment, Davenport and Prusak (1998) argue that

Knowledge management as an unfounded mixture of input, circumstantial information, proficient values and visions that form a new structure for evaluating and recording new experiences and information of the knowledge workers working in an organization. They also stated that knowledge only concerns the personal possession of knowledge workers. In addition, knowledge in firms is not just stored and maintained in databases or repositories, but also in organization practices, norms and culture and more specifically in the mind of the knowledge workers. (Davenport and Prusak, 1998). KM is crucial for organizations as it guides firms to the way in which a thorough and clear understanding of knowledge management initiatives and procedures is lying. When firms do not use their material resources, they have the financial crises and this letdown is obviously observed by contenders (Osborne, 2004).

KC is the initial step of KM (Shih et al., 2010). In fact, new thoughts are created by combining existing information (Lee et al., 2009). According to the theory of KC, introduced by Nonaka and Takeuchi (1995), knowledge is created by the SECI model which includes four steps, namely socialization, externalization, combination and internalization. This procedure of KC shows the dynamic contact between two types of knowledge, explicit knowledge (EK) and tacit knowledge (TK), and it creates value for the company by producing new thoughts (Lee et al., 2009). Most scientists agree that information is a basic element of performance (Ramirez et al., 2011) and that is significantly more important for the competitiveness of organizations (Nonaka et al., 2006).

Most of these studies conclude that knowledge building is an important predictor of creativity and innovation (Nonaka et al., 2006; Miller and Morris, 1999; Wang and Wang, 2012; Sankowska, 2013; Garcia-Morales et al., 2008; Nonaka and Takeuchi, 1995). In specific terms, Nonaka and Takeuchi (1995) stated knowledge creating organizations are the most successful in this competitive world as they have the required weapons to deal with business challenges and problems. Through the numbers of years of consulting and researching in the Japanese organizations, Nonaka and Takeuchi develop a theory of knowledge creation in these firms, they elaborate how these firms create knowledge in organizations. The foundation of Nonaka and Takeuchi (1995) theory is the SECI model, based on four forms of knowledge conversion as stated above. These authors conclude that the success of Japanese companies continuously enables new knowledge to be created and exploited.

Socialization is termed as "the level of tacit knowledge building, additional business information collection, intra-community social information collection and transfer of tacit knowledge" (Nonaka et al., 2000). It brings the

change of old TK into new TK through shared knowledge (Li et al., 2009). Through the externalization process, TK can be reformed. In the internalization process, people can be interested in demonstration of knowledge in different ways, such as training (Li et al., 2009). In a combination process, the gathered EK outside or within the company have been transformed into new and efficient EK. The transformation of knowledge using the four modes of KC can help achieve a competitive advantage (Griffith et al., 2006). For example, we aim to use the Nonaka model to examine the effect of KCP on organizational performance.

Today, the idea of OP is a critical theme for each company (Griffith et al., 2006). According to Mills and Smith (2011), many companies have found that performance creation is not just based on an effective planning of tangible assets but also on the operational application of knowledge. In addition, many studies have found that KC is an essential part of effective companies (Nonaka and Takeuchi, 1995; Li et al., 2009). Companies that use the KCP can use interface information in new methods and provide added value by enhancing market support (Li et al., 2009). When companies are better at KC within the Nonaka model (SECI), they will be more effective in achieving improvement and return. Along these lines, creating new knowledge is fundamental because it has a positive result on performance (Li et al., 2009). The evolutionary theory for economics and management given by Richard R. Nelson and Sidney G. Winter, (1982) also support our claim that firms are seeking for innovative solution to improve their profits through the organizational performance. Therefore our first hypothesis is

Hypothesis 1: There is positive association between knowledge creation process and organizational performance

2.6 ABSORPTIVE CAPACITY AND KNOWLEDGE CREATION PROCESS

With regard to knowledge based view, the ability to extend and transfer knowledge of individuals to useful knowledge and apply to the needs of the organization is critical (Alavi and Leidner, 2001). Useful knowledge means the hidden knowledge which exists within the individuals working in an organization and in organization culture, which can be used how to previous existing knowledge within organization. Prior to the knowledge, earlier research investigations suggested the critical role of the absorption capacity of the individual for better solution for organization problems (Griffith et al., 2003; Subramani et al., 1995). Zahra and George in 2002 argued that , the absorption capacity comprises of acquisition, assimilation, transformation and

exploitation. Moreover, Griffith et al. (2003) described it as the ability of the individual to use existing knowledge. While earlier research stated that the ability to absorb knowledge at corporation level, for instance, Malhotra et al. (2005) examined the influence of inter-organization process mechanisms on the absorption capacity (e.g., acquisition and assimilation) in the supply chain context. This study focuses on the ability to exchange knowledge and transform potential individual knowledge into useful knowledge.

However, the effect of the absorption capacity is the ability to transfer of information and knowledge among a source and a receiver unit (Szulanski, 1996). It thus appears that the ability of an individual to send and receive information or best practice plays a crucial role in expediting knowledge formation. Secondly, we stress the need to overcome the lack of absorption at an individual level in an efficient and effective manner. Furthermore, there is relatively very few research investigations that explores the knowledge creation in the context of removing obstacles that can affect the individual ability to absorb, and create new knowledge our study aims at this gap.

Finally, the absorption capacity of knowledge and practice may require integration activities that start after the recipient has achieved satisfactory results with the transferred knowledge. Berger and Luckman's in 1966 argued, the gradual reuse of the transmitted knowledge is visible in each repetitive social pattern. Over time, recipients build a shared story by sharing the transferred knowledge (Nambisan et al, 1999; Malhotra et al, 2005; Szulanski, 1996). The knowledge creation theory given by Nonaka (1994) also support our proposed relationship as, the theory argue that knowledge is created through the four repeated phases i.e., socialization, combination, internalization and externalization. The socialization part deals with the interaction of individual with the external environment the people around them within the organization or outside the organization. The potential of the person absorb information from outside environment and convert it into tacit knowledge. From the above discussed we proposed our second hypothesis that:

Hypothesis 2: The individual's absorptive capacity is positively related to knowledge creation.

2.7 KNOWLEDGE CREATION PROCESS AS A MEDIATOR

In essence, the categorization of knowledge consists of two facet of knowledge: tacit knowledge and explicit knowledge. Explicit knowledge is hard form of knowledge which is stored, can be codified, retrieved and shared

in accessible form, for example the books, journals, articles, data bases and portals. While tacit knowledge is the knowledge that is owned and unencrypted and stored by knowledge workers and it cannot be recycled by other workers in the corporation (Nold III, 2012). Consequently, the mechanism which are operating in organization covert the tacit knowledge into explicit knowledge, so that the intellectual insights, perspectives and exposures of people for reuse of other employees can be made available in the shape of inventive and new knowledge. The absorptive capacity provide a solid foundation for knowledge creation as the knowledge worker put their hindsight, insight and foresight as raw material for starting KC process. Ultimately, the effective knowledge-based process leads to increased organizational performance (Kumar et al., 2012; Nold III, 2012; Gold et al., 2010).

Positive Organizational Scholarship (POS) theory given by Quinn in 2003 also support our proposed mediating role of knowledge creation process, as it states that it seeks to understand what represents and approaches the best of the human condition. It puts an increased emphasis on ideas of “goodness” and positive human potential.” It encompasses attention to the enablers e.g. processes (KCP), capabilities (absorptive capacity), structures, methods, more explicitly in our context the absorptive capacity as enabler for knowledge creation process, the motivations (e.g., culture of organization), and the outcomes or effects in terms of organizational performance through individual vigor or learning capacity. POS work on adaptation can uncover new patterns of new knowledge. POS work on information exchange and learning can uncover new pathways for knowledge creation through the knowledge creation mechanism (KCP). POS work on motivation can uncover unexpected and transcendent motivational dynamics for knowledge creation. Thus Therefore, our third hypothesis is

Hypothesis 3: Knowledge creation process plays a mediating role between the absorptive capacity and organizational performance.

2.8 KNOWLEDGE CENTERED CULTURE AS A MODERATOR

The supportive culture or knowledge centered culture is reflected as fundamental condition for assimilation and cooperation of behavior and useful actions and insights (Sandhawalia and Dalcher, 2011). In 2012, Nold III argue that values, beliefs and meanings that shape and influence both individual and collective behavior based on shared experiences of individuals. He further considered corporation values and vision as the most important determining

factors of knowledge-based culture and supportive culture (Tseng, 2010). Furthermore, self-directed values and visions clearly provide KM results to improve management of knowledge inside firm boundaries (Nold III, 2012).

The critical problem of the knowledge process is explicitly the transformation of tacit knowledge and reset in obsolete knowledge as conversed above. The mechanism of knowledge conversion, however, depends strongly on specific elements that hinder and stimulate the application of knowledge creation process in corporations. In 2001, Gold et. al., argued that firm culture constitutes the greatest obstacle for effective KM. Consequently, the factors, including knowledge-centered culture (Sandhawalia and Dalcher, 2011) are one of the most important enablers of an effective knowledge creation process. The Institutional theory given by Scott et al, (2004) support our claim that organizational structure including schemas; rules, norms, and routines, established the standard guidelines for social behavior that can innovate something new or that can start the knowledge creation process . It inquiries into how these elements are created, diffused, adapted, and adopted over space and time; and how they defuse into the organizational environment.

In the same way, Shin (2004) stated that the behavior and attitude of the employees means the absorptive capacity to be knowledgeable is managed by the organizational culture, taking into account organizational policies and practices to enable knowledge processes and results in higher firm performance. By improving the idea, Sandhawalia and Dalcher (2011) recognized that resolving decision making and grouping of problems can be enabled by knowledge conversion caused by shared ideas and shared contexts of people or knowledge worker in the organization. Consequently, knowledge center culture has a significant positive impact on knowledge creation process and knowledge workers behaviors and capacity to innovate and create new ideas. Therefore our last hypothesis is

Hypothesis 4: Knowledge centered culture plays a positive moderating role between the absorptive capacity and knowledge creation process.

CHAPTER 3

METHODOLOGY

3.1 RESEARCH DESIGN ELEMENTS

The prime aim of this research investigation is to test the study hypotheses. The correlational and analytical study has been carried out. An individual means the faculty members of public sector universities, and are considered unit of analysis for this study. The cross sectional study design is used for data collection. Due to poor response of faculty members and their busy schedule almost two months was spent in collecting the data from different universities .The study is carried out in a natural environment i-e non-contrived setting with minimum researcher interference.

3.2 STUDY VARIABLES

3.2.1 Organizational Performance

Organizational performance can be termed as how successfully the all the department coordinate and function effectively to achieve the organizational goals and objectives and to deliver the value to the customers. There are many parameters to measure the organizational performance like financial performance, customer care, corporate social responsibility and leaning and growth perspectives (Kaplan and Norton, 2001; Dess and Robinson, 1984).

3.2.2 Knowledge Creation Process

Knowledge is power and an organization become powerful if she has the competency to create new knowledge, for the sake of solving its current and future problems. Two kinds of knowledge which exist in organization, one is tacit knowledge and other is explicit knowledge (Choi and Lee, 2002). The Nonaka and takeuchi in (1995) propose a model for knowledge creation after observing a lot of organization from manufacturing sectors and service sector. The process has four components like socialization, externalization, combination and internationalization. This process of knowledge creation is continuous with respect to transfer and transformation of different kinds of knowledge with different individual and different mode of storage. The

organization climate acts a moderator for that process which is called Ba (Nonaka and Toyama, 2003, 2015).

3.2.3 Knowledge Centered Culture

The knowledge centered culture can be defined as the supportive culture that have positive values and norms, common understanding that facilitate in creating, sharing, transferring and deploy knowledge (Zheng et al., 2010;Rowley, 2001). The knowledge management process is affected by the individuals working in the organization, the socio environment of organization and technological facilities provided in organization (Rego et al. 2009; Pinho et al., 2012; Armistead, 1999). The friendly culture obviously affect the KM practices in the organization as KM is the interaction of human with the culture of organization (Cardoso et al., 2012; Janz and Prasarnphanich, 2003).

3.2.4 Absorptive Capacity

The corporation competency to identify, integrate, transform and use outside knowledge for the benefit of organization is called the absorptive capacity. Put in other way the absorptive capacity is the capability of an individual to observe, learn and assimilate the external knowledge to achieve organization objectives and goals. In in simple words the measure of corporation ability to learn from outside (Cohen & Levinthal, 1990).

3.2.5 Control Variables

The control variables are considered very important for any research investigation. The potential control variable for this study are age, gender, material status, education, job designation and work experience , that directly correlate to the organizational performance and knowledge creation process . As with the passage of time, the absorptive capacity of individuals tends to decrease, experienced workers tend to be more productive when comparing with junior employees. The education level of the employees also has an effect on creating knowledge, as the PhD faculty is more competent to provide knowledge as a comparison with the non-PhD. Similarly, the men in the Pakistani scenario are more dominated in universities than women and more productive.

3.3 THE SAMPLE

3.3.1 Target Population

The target population for this research investigation is faculty members of public sector universities of Lahore. The simple random sampling technique is used to collect the data from the respective universities because the population is very large so, it is very difficult to study or target the entire population. As per the nature and type of universities are different, so utmost care has been taken to collect appropriate data from each type of university. The response of faculty members is very poor due to their busy schedule and extra assignments.

3.3.2 Sampling Design

To investigate and unleash the knowledge creation process in public sector universities, the researcher approached the faculty members, as their part and parcel of every knowledge creation activity and without them the process of knowledge creation is not complete. The target population is public sector universities of Lahore, as it is very difficult to approach the each university because the limited time and resources and scarcity of time and busy schedule of the faculty members, as most of time when questionnaire hand over to them they straight away refuse to fill the it . As a result different each type of university is selected for data collection from each category. For instance king award medical college university, UET Lahore, Punjab University and national college of Arts University.

3.3.3 Calculation of Sample Size

The sample size is calculated on the basis of the strength of faculty members currently working in these universities. The target population is the public sector universities in Lahore.

- The one Major General University (The Punjab University Quid Azam Campus).
- The one Specialized University (UET Lahore, Lahore Campus).

- The one Medical University (King Edward Medical College University)
- One Social Science University (University of Education, Township Campus).
- One Fine art University (National College of Arts University, Lower Mall Campus).

The Faculty Members in these Universities are;

Punjab University, Quaid Azam Campus	898
UET Lahore campus	1640
King Edward Medical College University	364
University of Education, Township Campus	55
National College of Arts Lower Mall Campus	75
Total	3032

Simplified Formula for Proportions:

$$n = \frac{N}{1 + N \cdot (e)^2}$$

Where,

n= the sample size

N= the population size

e= the acceptable sampling error

95% confidence level and $p = 0.5$ are assumed

Sample calculation:

$$\begin{aligned}
 n &= \frac{3032}{1 + 3032(0.05)^2} \\
 &= 354
 \end{aligned}$$

3.3.4 The Actual Sample

The more than 500 hundred questionnaires are distributed among the faculty members in these universities and a very low response rate is observed. The faculty members are very busy in their routine activities and straight away they refused to fill in the questionnaire. The actual sample collected was 276 and out of which the useable sample is 247, the questionnaire are rejected due to different reasons like missing values, inappropriate data filling and so on.

3.3.5 The Sampling Technique

The faculties in these universities are distributed like in Punjab university faculty of science, faculty of engineering, faculty of social sciences, faculty of humanities and arts, faculty of commerce, faculty of economics and management sciences, faculty of education and etc. so the strata are already are available in these universities so the simple random sampling is used to collect the data from these universities.

3.4 DATA COLLECTION

The faculty members of public sector universities received the questionnaire that consist the measures regarding the knowledge centered culture (as moderator), knowledge creation process (as mediator), absorptive capacity (as independent variable) organizational performance (as dependent variable) and control variables to measures the personal information.

3.4.1 The Instrument

The survey questionnaire instrument is being used to collect the data. Our instrument has five parts. The first section covers the personal data of the faculty members. The second part comprise the information or items related to knowledge creation process, similarly third, fourth and fifth part provide the information concerning with knowledge centered culture, absorptive capacity and organizational performance. The language of instrument is English, which is usual mode of communication and instruction in universities.

3.4.2 Pilot Study

For the sake of respondents understanding regarding the questionnaire items, a pilot study was conducted. In this regard, questionnaire was distributed among few faculty members to check the understanding or any ambiguity of the items mentioned in it. After taking the feedback from the respondents, few changes have been made in language and formatting of the questionnaire.

3.4.3 Administration Procedures

Before filling the questionnaire, some instructions have been provided to the respondents to clarify the aim and objective of the investigation, so that they can share their true responses or feeling with us. When different questions are asked about the items clarity regarding the variables of study, and the satisfactory replies are provided to them. A soft copy of survey questionnaire is also emailed to faculty groups so that they can provide replies at their convenience. A two months hectic exercise is done to collect the data from different public sector universities. The faculty members have very busy schedule and work routine and they are unable to respond promptly.

3.5 MEASUREMENT AND SCALES

In this study, the different items which are used to operationalized the construct or study variables were all adapted from previous research studies with very little modification, just to make it understandable to the respondents. The list of all items with scales is given in the Annexure A. The operationalization method for each study variable is briefly described below.

3.5.1 Common Method Biases

The Common Methods Biases is such a phenomenon in every research study which can disturb the outcome of investigation, while the measurement of the study variable or control variables (Podsakoff et al., 2003). So before going ahead, it is making sure to the respondents that, the data or feelings they are sharing with us will be kept secret and no personal identity of respondent is disclosed. The different techniques are being used in different segments of questionnaire to minimize respondent bias.

3.5.2 Organizational Performance

The organizational performance is most commonly measured with 14 items developed by Gold et al., (2001). So we used adapted the same to measure the organizational performance with $\alpha = .800$. The five point scale from 1=not at all to 5 = to a great extent is used to record the responses against the items mentioned. The sample item is “Over the past two years, my organization has improved its ability to innovate new products/services in any aspect”. Similarly the other items related to external environment, market demand and innovation capacity are included in it.

3.5.3 Knowledge Creation Process

The knowledge creation process is generally measured with Li et al (2009) 14 item scale, so we also adapted the same item and find its $\alpha = .750$ which is satisfactory sign to measure the construct. The five point Likert type scale is used to capture the responses of the faculty members (1=strongly disagree to 5= strongly agree). The sample item is “My organization usually uses trainees and mentors to transfer knowledge like workshops and seminars”

3.5.4 Knowledge Centered Culture

The 7 items scale of Quinn (1988) is used to measure knowledge center culture and we assessed KCC with $\alpha = .836$. The same five point Likert scale is used from 1= strongly disagree to 5= strongly agree. The imperial investigation shows a high reliability for these items. The sample item for this “My organization provides a good place to share things with other like a family”

3.5.5 Absorptive Capacity

The absorptive capacity is measured with Pavlou and El Sawy (2006) 10 item scale. The 10 item cronbach alpha is observed as 0.79. The five item scale is used with 1= not all to 5 = to a great extent. The sample item for this is “We have adequate time to assimilate new information and knowledge”.

3.6 CUSTOMIZED ITEMS

The items has been reverse coded in the pilot testing to check and analysis the pattern of response of people to avoid the CMB, but people are confused and do not understand the statements clearly and respondents are confused, so researcher do not use the reverse coded items in the final version of questionnaire, however the items has been customized to make it more understandable to respondents, the information is given below in table.

Table 3.1
Customized Items

No.	Original Items	Customized Items
Knowledge Creation Process		
1.	My firm usually adopts cooperative projects across directorates	My organization usually adopts collaborative projects across the departments.
2.	My firm usually uses apprentices (trainees) and mentors to transfer knowledge	My organization usually uses trainees and mentors to transfer knowledge like workshops and seminars.
3.	My firm usually adopts brainstorming retreats or camps	My organization usually adopts brainstorming retreats or camps like business plans competitions or business incubation center.
4.	My firm usually adopts employee rotation across areas	My organization usually adopts employee rotation across areas.
5.	My firm usually adopts a problem solving system like case base reasoning	My organization usually adopts a problem solving system like case base reasoning (solving new problems based on similar past problems)
6.	My firm usually adopts groupware (Collaboration software) and other collaboration tools	My organization usually adopts groupware (Collaboration Software) and other collaboration tools like any learning management system.
Knowledge Centered Culture		
7.	Our working environment is open and harmonious (pleasant) as the employees highly support and believe in one another	Our working environment is open and harmonious (pleasant) as the employees highly support and believe in one another.
8.	Our company is extremely formalized and structured and manages employees' tasks based on the certain procedures	Our organization is extremely formalized and structured and manages employees tasks based on certain procedures like standard operating procedures.
9.	Our company values each employee's creativity and challenges	Our organization values each employee's creativity and challenges.
10.	Our company owing to extremely open working environment , dares to take high risks and accepts huge revolutions	Our organization owing to extremely open working environment, dares to take high risks.
Absorptive Capacity		
11.	We are effective in developing new knowledge or insights that have the potential that have the potential to influence product development	We are effective in developing new knowledge or insights that have the potential to influence services/product development.

12.	We can successfully integrate our existing knowledge with new information and knowledge acquired	We can successfully integrate our existing knowledge with new information and knowledge acquired.
13.	We are effective in utilizing knowledge into new products	We are effective in utilizing knowledge into new products/ services.
Organizational Performance		
14.	Innovate new products/services	Over the past two years, my organization has improved its ability to innovate new product/service.
15.	Identify new business opportunities	Over the past two years, my organization has improved its ability to identify new business opportunities.
16.	Coordinate the development efforts of different units	Over the past two years, my organization has improved its ability to co-ordinate the development efforts of different departments.
17.	Anticipate potential market opportunities for new products/services	Over the past two years, my organization has improved its ability to anticipate potential market opportunities for new products/services.
18.	Rapidly commercialize new innovations	Over the past two years, my organization has improved its ability to rapidly commercialize new innovations.
19.	Adapt quickly to unanticipated changes	Over the past two years, my organization has improved its ability to adapt quickly to unanticipated changes in external environment.
20.	Anticipate surprises and crises	Over the past two years, my organization has improved its ability to anticipate surprises and crises in external environment.
21.	Quickly adapt its goals and objectives to industry/market changes	Over the past two years, my organization has improved its ability to quickly adapt its goals and objectives to industry/market changes.
22.	Decrease market response time	Over the past two years, my organization has improved its ability to decrease market response time.
23.	React to new information about the industry or market	Over the past two years, my organization has improved its ability to react to new information about the industry or market.
24.	Be responsive to new market demands	Over the past two years, my organization has improved its ability to be responsive to new market demands.
25.	Avoid overlapping development of corporate initiatives	Over the past two years, my organization has improved its ability to streamline its internal processes.
26.	Streamline its internal processes	Over the past two years, my organization has improved its ability to reduce redundancy of information and knowledge.
27.	Reduce redundancy of information and knowledge	Over the past two years, my organization has improved its ability to innovate new product/service.

3.7 DATA ANALYSIS

Different statistical tools have been used to analyze the data including the MS Excel and SPSS. A variety of statistical tests and operations are performed as per the requirement. The descriptive statistics i.e., mean, standard deviation, frequencies distribution and correlation matrix are also computed. The reliability and validity tests are accomplished for all the scales and data shows a satisfactory results. The hierarchical linear regression is used to tests the hypothesis which has been theorized in the chapter# 2. The detail data analysis with interpretations has been shows in chapter# 4.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATIONS

4.1 THE SAMPLE CHARACTERISTICS

The sample of the study consists of 247 respondents, from the different public sector universities of Lahore, which includes lecturers, Assistant Professors, Associate Professor and Professors as well. The descriptive statistics of sample is shown the table 4.1.1

4.1.1 Descriptive Statistics

Table 4.1
Demographics Information

		Frequency	Mean	Min	Max	S.D
Gender	Male	140	-	1	2	0.4965
	Female	107				
Material Status	Single	109	-	1	2	0.4989
	Married	138				
Age	Below 25	10	2.92	10	73	0.861
	26-30	71				
	31-35	93				
	Above 35	73				
Education	Master	22	2.14	22	4	0.577
	M.Phil.	172				
	PhD	49				
	Postdoc	4				
Designation	Lecturer	167	1.35	1	4	0.54
	Assistant Professor	74				
	Associate Professor	5				
	Professor	1				
Tenure	1-5	168	-	0.4	15	3.15
	6-10	63				
	11-15	16				
Total Experience	1-5	84	-	0.4	20	4.15
	6-10	142				
	11-20	21				

There are 140 male and 107 female is the sample size with the S.D of .4965. This show a male dominates culture in the public sector universities. There are 109 single and 138 are married people who participate in the survey, which indicate a tendency respondent to focus more on their careers and less prone towards their matrimonial life, which is a dangerous sign for society. According to Higher Education Commission recruitment policy the minimum criteria of appointment for any lecturer is M.Phil. So majority of respondents i.e., 172 faculty members satisfy this condition. Also there is an increasing trend of doing PhD in public sector universities as 49 people have doctorate degree, which are good sign and an indicator of quality education in public sector. Further only 22 people have master degree these people belong to medical profession and have done MBBS, which is equal to master degree.

The 167 respondents are lectures, because they have less administrative duties and they are more cooperative for filling the questionnaire as compare to other higher ranks faculty members. The 74 Assistant Professor are not having PhD degree but they are pursuing it and get AP title on the basis of their experience. The experience of 168 faculty members is less than 5 years , which shows a young blood in the universities and they are energetic to perform their duties and rest have experience from 6 to 16 years and have potential to guide the young generation from their life experience.

4.1.2 Reliability of the Scales

The reliability of all scales is estimated through the Cronbach's alpha coefficient. Although the reliabilities of all scales is above from the threshold level i.e., 0.70 for the social sciences as defined by the Hair et al (2003). The detail and items no. of every scale is mentioned in the table 4.2.

Table 4.2
Reliability of the Scales

S#	Scales	Items	Alpha
1	Organizational Performance	12	0.801
2	Knowledge Centered Culture	7	0.771
3	Knowledge Creation Process	8	0.731
4	Absorptive Capacity	8	0.792
5	Whole Scale	35	0.911

4.3 CORRELATION MATRIX

4.3.1 Correlation Matrix of Variables

Table 4.3 shows the standard deviation, mean and Spearman rho bivariate correlation analysis of the control variables and study variables as well. The table depicts that the knowledge creation process has positive and significant relationship with organizational performance (coefficient =0.610, $P < 0.01$) which provide support to our first hypothesis H1. There is also a positive and significant correlation between the absorptive capacity and knowledge creation process i.e., (coefficient=0.611, $p < 0.01$) and also support our hypothesis H2.

The most interesting phenomena which table show that education, designation and experience all have positive correlation with the organizational performance. On the other hand only designation and tenure have positive and significant correlation with knowledge centered culture and absorptive capacity and no other control variables have. The knowledge creation process has only positive and significant relationship with the education and total experience, means to say the more the faculty members are higher qualified the more they are supportive and part of knowledge creation activates and process .

Table 4.3
Mean, Standard Deviation and Correlations

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
Gender	1.43	.496	1										
Marital Status	1.55	.497	-.02	1									
Age	2.92	0.86	-.06	.418**	1								
Educa.	2.14	.577	-.03	.105	3.48**	1							
Desig.	1.35	.54	-.08	.141**	.264**	.476**	1						
Tenure	4.93	3.15	.004	.203**	.541**	.205**	.149*	1					
T.Exper	7.74	4.15	-.03	.275**	.599**	.328**	.410**	.652**	1				
KCP	3.55	0.59	.004	-.099	.52	.168**	.163*	.119	.214**	1			
KCC	3.47	0.70	.049	-.064	.039	.085	.142*	.181**	.230**	.570**	1		
AC	3.50	0.66	-.05	-.009	.087	.096	.182**	.172**	.237**	.611**	.602**	1	
OP	3.56	0.61	.01	.041	.095	.181**	.223**	.207**	.285**	.610**	.583**	.636**	1

* p < 0.05, ** p < 0.01

4.3.2 Dimensions of Study Variables

The EFA is performed to clearly visual the dimensions of the study variables, the following tables shows this reality.

1. The EFA is performed on Knowledge Creation process variable items with Varimax rotation Method, three dimensions have been created out of this rotation. The table show is reality

Table 4.4
Rotated Factor Matrix of KCP

	Factor		
	1	2	3
KCP1			.652
KCP2			.457
KCP3			.421
KCP7	.432		
KCP8		.524	
KCP9		.570	
KCP10		.642	
KCP11	.419		
KCP12	.537		
KCP13	.501		
KCP14	.465		

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

2. The EFA is performed on the knowledge centered culture variable items. The only one dimension is created, it mean the KCC has one aspect only. The table depicts this reality.

Table 4.5
Rotated Factor Matrix of KCC

	Factor
	1
KCC1	.552
KCC2	.574
KCC3	.588
KCC4	.540
KCC5	.688
KCC6	.679
KCC7	.535

a. 1 Factors extracted. 3 iterations required.

3. The EFA is performed on the absorptive capacity variable items with the Varimax rotation method. The three dimensions have been created, the table depicts this reality

Table 4.6
Rotated Component Matrix of AC

	Component		
	1	2	3
AC1		.794	
AC2		.800	
AC3		.628	
AC4			.890
AC6			.584
AC7	.538		
AC8	.689		
AC9	.699		
AC10	.641		

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

4. The EFA is performed on the organizational performance variable items with the Varimax rotation method. The three dimensions have been created and table show this reality

Table 4.7
Rotated Component Matrix of OP

	Component		
	1	2	3
OP1			.696
OP2			.658
OP3			.750
OP4	.460		.436
OP5	.629		
OP6	.564		
OP7	.644		
OP8	.709		
OP9	.559		
OP10		.641	
OP11		.587	
OP12		.691	
OP13		.636	

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

4.4 CONFIRMATORY FACTOR ANALYSIS

4.4.1 Fitness Index of CFA Model

The table 4.4 shows the measures of proposed model fit. The all indicator meet the minimum criteria for acceptance level for model fit .The table shows the value of CMIN/DF is 1.383 which is less than 3 and a good measure of normed chi squared. The comparative fitness index value is also 0.905 which is acceptable according to Hu and Bentler (1999). The values of SRMR, RMSEA and P Close also meet the required criteria and shows excellent result for model fit. According to Hair et al (2010) the only chi – squared is not suitable criteria to check the model fit because some time it is problematic. So the Hu and Bentler (1999) suggested a better criteria for model fit i-e., CMIN/DF is less than 3.

Table 4.8
Model Fit Measures

Measure	Estimate	Threshold	Interpretation
CMIN	753.496	--	--
DF	545	--	--
CNIM/DF	1.383	Between 1 and 3	Excellent
CFI	0.905	>0.95	Acceptable
SRMR	0.054	<0.08	Excellent
RMSEA	0.039	<0.06	Excellent
PClose	0.998	>0.05	Excellent

4.4.2 Factor Loadings

The table 4.5 shows the measurement construct to perform confirmatory factor analysis for the study variables. The standardized regression weights of the constructs are given below in the table, according to Hair et al (2010) all the constructs must have value greater than 0.5, and table shows that each construct has satisfied this condition and factor loading are up to the required standard. The missing items like KCP3, KCP4, KCP5 and etc. do not meet the standard criteria so these have been drop due to poor factor loadings.

Table 4.9
Standardized Regression Weights (Default Model)

		Estimate	P
D1	KCP	.727	.000
D2	KCP	.554	.000
D3	KCP	.801	.000
D4	AC	.807	.000
D5	AC	.820	.000
D6	AC	.796	.000
D7	OP	.839	.000
D8	OP	.855	.000
D9	OP	.824	.000
KCP2	D1	.637	.000
KCP1	D1	.586	.000

		Estimate	P
KCP10	D2	.666	.000
KCP9	D2	.569	.000
KCP8	D2	.568	.000
KCP14	D3	.535	.000
KCP13	D3	.560	.000
KCP12	D3	.524	.000
KCC7	KCC	.525	.000
KCC6	KCC	.645	.000
KCC5	KCC	.677	.000
KCC4	KCC	.574	.000
KCC3	KCC	.605	.000
KCC2	KCC	.583	.000
KCC1	KCC	.578	.000
AC3	D4	.626	.000
AC2	D4	.668	.000
AC1	D4	.651	.000
AC10	D6	.498	.000
AC9	D6	.543	.000
AC8	D6	.549	.000
AC6	D5	.496	.000
AC4	D5	.574	.000
OP3	D7	.582	.000
OP2	D7	.726	.000
OP1	D7	.624	.000
OP9	D8	.570	.000
OP8	D8	.555	.000
OP7	D8	.539	.000
OP6	D8	.662	.000
OP5	D8	.521	.000
OP13	D9	.512	.000
OP12	D9	.508	.000
OP11	D9	.534	.000
OP10	D9	.596	.000

4.4.3 Composite Reliability and Convergent Validity

The composite reliability of all study variables is mentioned in the table 4.10. All variable satisfy the minimum criteria of 0.7 and above. The convergent validity of the variables is also above 0.5 except the knowledge centered culture which is 0.36, according to Malhortra (2007) argues that AVE is sometimes too rigid in social sciences constructs to fulfill the required criteria because of the culture context and other environmental issues. So it is also acceptable is social sciences.

Table 4.10
Reliability and Validity

Variables	CR	AVE
Absorptive Capacity	0.916	0.830
Knowledge Creation Process	0.824	0.619
Knowledge Centered Culture	0.796	0.360
Organizational Performance	0.877	0.704

4.5 HYPOTHESES TESTING

The researcher has used the stepwise linear regression to test the hypothesis, interaction and mediation effects. The table 4.7 shows the detail analysis of all the models.

4.5.1 Knowledge Creation Process and Organizational Performance

It is predicted from the model 4 of the table 4.7 that age, gender, material status, education and experience which are treated as dummy variables (Cohen and Cohen, 1983) do not have any significant impact on the organizational performance, although age and material status has negative effect on the organizational performance. In model 5, the knowledge creation process is regressed upon the organizational performance and have positively and significantly impact (coefficient = 0.578, $p < 0.01$). Therefore the null hypothesis is rejected and our alternative hypothesis H1 is accepted that knowledge creation process has significant positive effect on organizational

performance. The one unit increase in knowledge creation process will result in 0.578 unit increase in organizational performance. Hence H1 is accepted

Table 4.11
Linear Regression Models

Knowledge Creation Process				Organizational performance			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Control							
Gender	.012	.042	.003	.031	.023	.061	.047
Marital Status	-.180	-.135	-.111	-.129	-.025	-.082	-.037
Age	-.060	-.026	-.009	-.085	.050	-.050	-.041
Education	.109	.115	.112	.081	.018	.087	.049
Designation	.062	-.014	-.017	.135	.099	.057	.061
Tenure	.001	-.008	-.012	.019	.018	.010	.012
Total Experience	.035	.018	.012	.037	.016	.019	.013
Independent							
Absorptive Capacity	-	.523**	.695**	-		.544**	.370**
Knowledge Creation Process	-	-	-	-	.578**	-	.334**
Moderator							
Knowledge Centered Culture	-		.573**	-			
Two Way Interaction							
AC X KCC	-	-	-.095^	-	-	-	-
R-Square	0.091	0.404	.466	.125	.409	0.443	0.505
F	3.408	20.20**	20.59**	4.886	20.59**	23.66**	26.892**

[^] p < 0.10, * p < 0.05, ** p < 0.01

4.5.2 Absorptive Capacity and Knowledge Creation Process

The model 1 from the table 4.7 shows that the dummy variables (control variables) like age, gender, education, experience and material status are regressed upon the knowledge creation process, they do not have any significant effect upon the knowledge creation process, rather age and material status have negative impact upon knowledge creation process. The model 2 shows that when absorptive capacity with control variables is regressed upon the knowledge creation process it has significant positive effect (coefficient =0.523, p<0.01) upon the knowledge creation process. Thus it provides to our second hypothesis that H2 is that absorptive capacity is significantly and positively impact the knowledge creation process. The one unit increase in

absorptive capacity will result in increase of 0.523 units in knowledge creation process. Hence our H2 is supported.

4.5.3 Mediation of Knowledge Creation Process between the Absorptive Capacity and Organizational Performance

The mediation of knowledge creation process is tested through the Barron and Kenny's four steps. The H3 states that knowledge creation process plays a mediating role between the absorptive capacity and organizational performance. The first step is already performed in the H1 hypothesis which is supported i.e., the knowledge creation process has positive and significant effect on the organizational performance ($\beta = 0.578$, $p < 0.01$). The second condition is also satisfied thorough the support of hypothesis H2 i.e., the absorptive capacity has significant and positive effect on the knowledge creation process ($\beta = 0.523$, $p < 0.01$). The third condition is satisfied in model 6 i.e., the absorptive capacity has significant and positive effect on the organizational performance ($\beta = 0.544$, $P < 0.01$). The fourth condition is satisfied with partial mediation that , when the both the mediator (knowledge creation process) and independent variable (absorptive capacity) regressed together on the dependent variable (organizational performance) both have significant positive effect on the organizational performance see model 7 absorptive capacity, $\beta = 0.370$ and knowledge creation process, $\beta = 0.334$ both with $p < 0.01$ and value of independent variable drops down significantly from 0.544 to 0.370 so there is partial mediation of knowledge creation process between the absorptive capacity and organizational performance . Hence the H3 is partially supported

4.5.4 Moderation of Knowledge Centered Culture on Absorptive Capacity-Knowledge Creation Process Relation

To test the moderation effect of knowledge centered culture between the absorptive capacity and knowledge creation process, the model 1 shows that when all control variables are regressed upon the knowledge creation process, there is no significant effect of control variable upon the dependent variable. However age & material status have negative effect upon the knowledge creation process. In model 2 when absorptive capacity is regressed upon the knowledge creation process with all control variables it has positive and significant effect upon the dependent variable i.e., (coefficient =0.523, $p < 0.01$). In model 3 when moderator (knowledge centered culture) and interaction term KCCxAC plus absorptive capacity and control variables is regressed upon organizational performance. The interaction term beta is

negative i.e., (coefficient =-0.095, $p < 0.1$) and shows that our H4 is rejected rather it is mild negative moderation is happening between the absorptive capacity and knowledge creation process. Means that public sector universities culture is not supportive for knowledge creation rather it mildly impact negative for knowledge creation because of bureaucratic style of governance in public sector universities of Lahore .The moderation graph also show this reality .

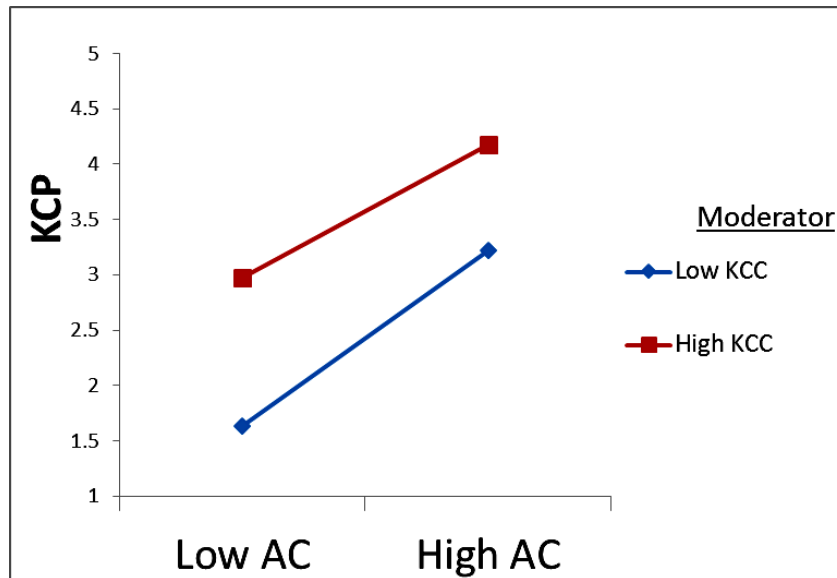


Figure 4.1: Interaction Effects

4.6 SUMMARY OF THE RESULTS

The comprehension of results is shown in the table as well as in the diagram that our H1, H2, H3 are supported but H4 is rejected.

Table 4.12
Results of Hypotheses

Sr#	Description	Result
H₁	There is positive association between knowledge creation process and organizational performance	Supported
H₂	The individual's absorptive capacity is positively related to knowledge creation.	Supported
H₃	Knowledge creation process plays a mediating role between the absorptive capacity and organizational performance	Partially Supported
H₄	Knowledge centered culture plays a moderating role between the absorptive capacity and knowledge creation process.	Not Supported

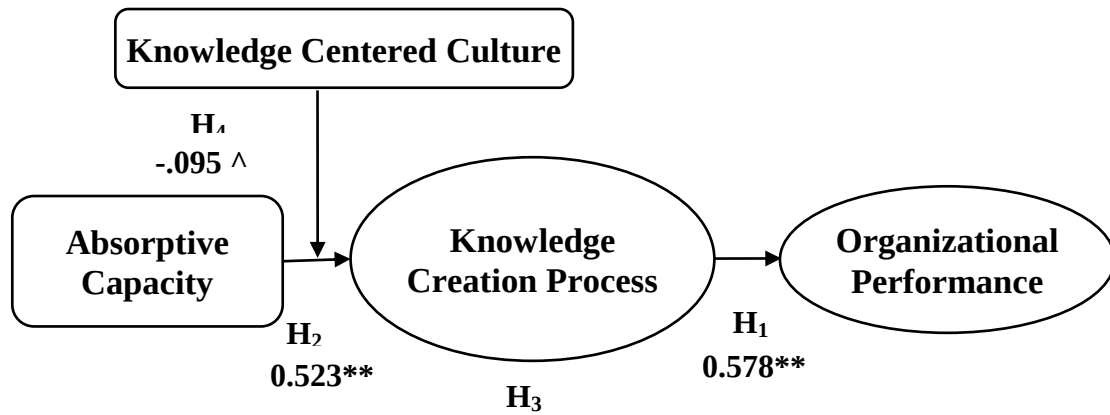


Figure 4.2: Research Model Results

4.7 A NON HYPOTHESIZED RESULT

The researcher also wants to investigate whether the absorptive capacity can play the mediating role in between the knowledge creation process and organizational performance. The argument in the support for this role is that , once the organization start the knowledge creation process, through the SECI model, the knowledge worker is in better position to absorb the knowledge and then contribute in the organizational performance by using its core skills and knowledge. The mediating role is checked through the Barron and Kenny (1986) mediation conditions. The model 3 in Table 4.9 shows that the control variables do not have any significant effect on the dependent variable, the organizational performance. The model 4 depicts that knowledge creation process has a positive and significant effect on the organizational performance with beta value of 0.578 and having significance level of ($P < 0.01$), so first condition is satisfied. In model 5 absorptive capacity has a positive and significant effect on the organizational performance with beta value of .544 with ($P < 0.01$) level of significance, so second condition is also satisfied. The third condition is satisfied in model 2, where the knowledge creation process has a positive and significant effect on the absorptive capacity, having beta value of .585 and with ($P < 0.01$). In model 6 the last condition of mediation is also satisfied , as when both the mediator and independent variable both are regressed together on the dependent variable, both beta value remain significant with ($P < 0.01$). So there is a partial mediation of absorptive capacity between the knowledge creation process and the organization performance.

Table 4.13
Linear Regression Models for Non Hypothesized Results

Absorptive Capacity				Organizational Performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	-.157	-.186	.031	.023	.061	.047
Marital Status	-.061	0.16	-.129	-.025	-.082	-.037
Age	-.251	-.169	-.085	.050	-.050	-.041
Education	.126	0.64	.081	.018	.087	.049
Designation	.118	.014	.135	.099	.057	.061
Tenure	.025	.046	.019	.018	.010	.012
Total Experience	.05	.001	.037	.016	.019	.013
Absorptive Capacity	-	-	-	.544**	.370**	
Knowledge Creation Process	-	.585**	-	.578**	-	.334**
R-Square	0.105	0.287	.125	.409	0.443	0.505
F	3.045	9.129**	4.886	20.59* *	23.66* *	26.892**

* p < 0.05, ** p < 0.01

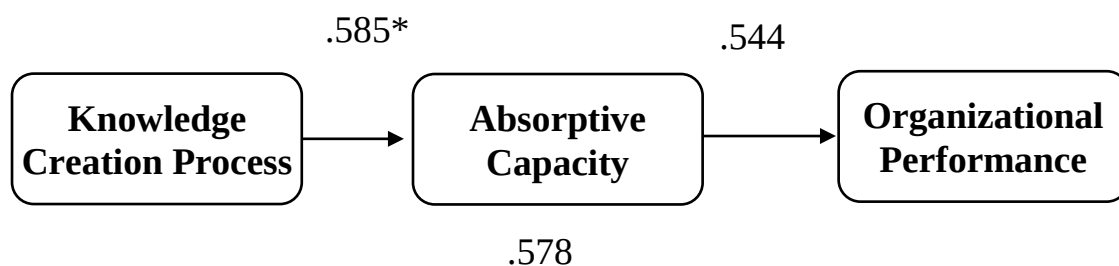


Figure 4.3: Non Hypothesis Research Model

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 DISCUSSION ON RESULTS

The prime purpose of the current investigation is to empirically unfold the relationship between the absorptive capacity and organizational performance. It explore the potential mediating role of knowledge creation process between absorptive capacity and organizational performance .Moreover it also attempts to observe the moderating role knowledge centered culture between the absorptive capacity and knowledge creation process . The conceptual model is empirically tested through a sample size of 247 faculty members working in a different public sector universities of Lahore. The descriptive analysis of the sample has been estimated and described .The research hypothesis are tested through the stepwise liner regression models and interaction effects.

The results of research study are very interesting and up to expectation as proposed theoretically. The absorptive capacity has significantly and positively relationship with both knowledge creation process and organizational performance .In addition the knowledge creation process partially mediate the relationship between the absorptive capacity and organizational performance .The strange outcome is the slight negative moderating role of knowledge centered culture between the knowledge creation process and absorptive capacity .The outcome of study are discussed below with the empirical implications , contribution plus the limitation and future directions .

According to results, *our study first hypothesis*, knowledge creation process has positive and significant relationship with the organizational performance. This also confirm the previous research findings (Li et al., 2009).According to this investigations findings knowledge creation is one of the major driving force for achieving desired organizational performance . The organization can only achieve its objectives when there is successful knowledge creation mechanism exist in the organization. As the external environment changes frequently and it create new problems for organization such as the fall in sales, new technology invention, competitor's pressures (Nonaka et al, 2000) etc. the solution of all these problems lies in the creation of knowledge and research activities with in organizations. As new knowledge

find's new methods of production and new marketing strategies for increasing sales volumes (Knight and Cavusgil, 2004).

The second hypothesis of the study indicate the absorptive capacity has a significant and positive relationship with knowledge creation process and ours research outcome validate this statement. The absorptive capacity is the individual learning capacity to observe the outside environment and improve his knowledge, skills and abilities to play a vital role in knowledge creation process and becomes a catalyst for it (Alavi and Leidner,2001). The absorptive capacity is considered as prerequisite for knowledge creation process (Nonaka, 2008). If a person does not have a potential for creativity then he cannot start knowledge creation process. The public sector universities faculty members have the required and up to mark potential to start knowledge creation process. The reason behind this is the competitive selection process to recruit the faculty also the Higher Education Commission guide lines for selection process and minimum eligibility criteria for lecturer, assistant professor, associate professor and professor. As the competition increasing with the passage of time so the, faculty members indulge themselves in research activities mean to say actively participate in knowledge creation process. The results of this study also justify this claim and provide support for the second hypothesis.

The third hypothesis states that the knowledge creation process plays a mediating role between the absorptive capacity and organizational performance. The results of our current research study provide a partial evidence for that argument. As we find a partial support for our third claim i.e., hypothesis 3. The knowledge creation process play partial mediating role between the absorptive capacity and knowledge creation process. Means to say absorptive capacity also directly contribute in organizational performance but indirectly(the knowledge creation process) it play a more stronger role for organizational performance (Jantunen, 2005).The direct effect of absorptive capacity is due to the individual efforts and personal initiatives to take the organizational performance to higher levels (Zahra and George,2002). The indirect effect is stronger as it is an official level and institutional level effort to promote the creativity and rewards and incentives are attached with it for superior performance (Ittner and Larcker, 1998). The examples of institutional efforts includes like business incubation centers, workshops, seminars and conference to promote the research activities in universities.

Our final Hypothesis states that knowledge centered culture play a positive moderating role between the absorptive capacity and knowledge creation process. The results of the study are quite reciprocal to the statement and show a slightly negative role of knowledge centered culture in public

sector universities of Lahore. Therefore, our fourth hypothesis is rejected. The main reason for this phenomena is typical and old bureaucratic system which exist in public sector universities and create administrative hurdles for promoting research culture (Elias Sarker, 2006).The culture of favoritism ,nepotism discourage the others to put efforts for getting higher positions .Furthermore , the culture of organization effects the absorptive capacity of individuals , when culture is rigid or negative it will stop the learning capacity of people and they do not show interest for more learning (Abdalla et al, 1998). The blow diagram 5.1 depicts this reality. The implied role of public sector universities of Lahore should be supportive and encourage people to do more research rather than the create problems for scholars.

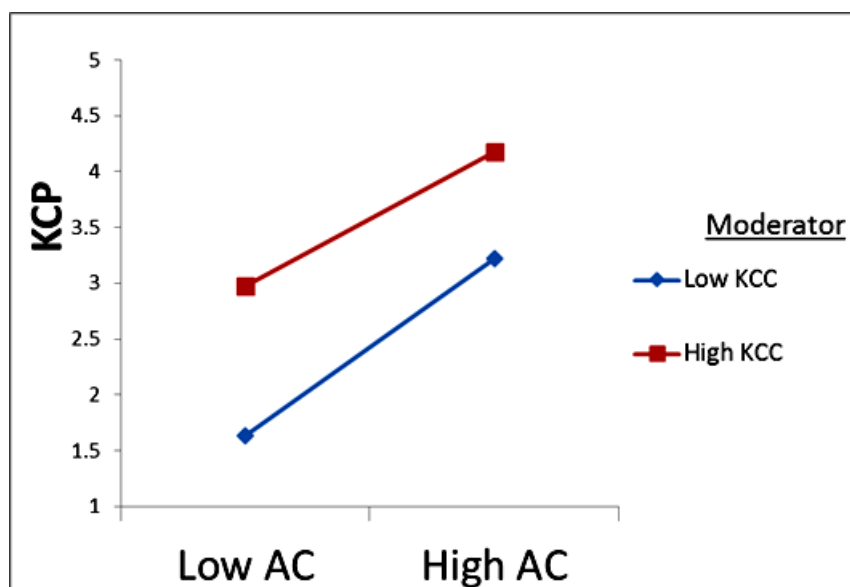


Figure 5.1: Interaction Effects

5.2 PRACTICAL IMPLICATIONS

The outcome of the study shows that the knowledge creation process play partial mediating role in between the absorptive capacity and organizational performance (Aragón-Correa et al, 2007). This finding indicate that no doubt the individual learning capacity play a significant role in organizational performance , as a faculty member who is more qualified and experienced (PhD plus experience) as compared to less qualified (non-PhD) , former is more significant contributor as compare to later .But this effect is more profound if , at official level these knowledgeable people are engaged in knowledge creation process at group level and organizational level (Alavi et al, 2005) like workshop , seminars , conferences and business incubation centers and office of research and innovation center (ORIC). In public sector

universities , where these offices are placed and regular seminars and conference are held , the performance of organizations are high and they are ranked high in HEC ranking , because HEC has assigned and allocate specific numbers to these activities in ranking criteria. So universities must take initiatives to build these offices and conduct seminars and workshop to use the skills of high qualified faculty members.

The second outcome of the study also put forward some significant implication for higher authorities of public sector organization. Although role of culture in any organization is to provide support to the line function staff, provide solution to the problems (Quinn et al, 1997), so they put their best efforts for achieving the organizational goals and objectives. But the culture in public sector universities is quite different; the implied role of culture is to support (Rousseau, 1989) but in contrast, its play a negative role for faculty members who take active part in knowledge creation process. The knowledge creation process is the heart and soul of any university and university ranking criteria is largely based on it. So when there is negative culture in public sector universities, so how they can achieve higher position in HEC ranking and world ranking, that's why, most of public sector universities are not in top of list in HEC ranking except few. The knowledge centered culture is basically is research culture (Donate and Guadamillas, 2010) to support the faculty members to engage themselves in research activities and culture means the higher authorities provide support to them in fulfillment of organizational goals. The public sector universities cannot afford the negative culture, because it is a global world and now its knowledge economy era, where knowledge works are appreciated and respected (Allee, 2012), so when the talented people feel this negative culture of nepotism, favoritism and red-tapism, the people will switch to better place, where they can achieve their personal goals and organizational goals as well.

5.3 CONTRIBUTION

The results of our study enhance the empirical body of research on the organizational performance and absorptive capacity. The findings suggested that the knowledge creation process is an important path way between the absorptive capacity and knowledge creation process. Also the absorptive capacity has positive and significant relationship with organization performance .In other words we find an important antecedent of knowledge creation process i.e., absorptive capacity (the learning capacity of individual).No other study has found this antecedent.

The second contribution is the moderating effect of knowledge centered culture between the absorptive capacity and knowledge creation process. This effect has never been discovered before this. The knowledge centered culture enhances the learning capacity of individual by motivating them, they perceive that organization value them and appreciate their contributions towards achieving organizational goals. The culture of public sector universities is slightly negative, so faculty members feel demotivated to contribute in knowledge creation process. This study highlight this reality on the surface. The top management should notice of these things and take steps to remove hurdles in way of knowledge creation.

5.4 LIMITATIONS AND FUTURE DIRECTIONS

Some limitations of the study are discussed here, firstly, the problem of common method biases which can disturb the outcome of research investigation. The respondent bias due to any reason, while completing the questionnaire can affect the results of the study. So we use different format of questionnaire in study variables to handle this problem and more care should be taken to avoid this type of error like reverse coding. The multiple sources of data are also suggested solution for the common method biasness. In this case the data collection from higher authorities and other supporting staff, regarding the study variables is also a possible solution. So that multiple point of view of people is gathered to understand the real picture.

Second the data is collected from the public sector universities of Lahore, so it can extended to other cities of Pakistan and moreover the data can also be collected from the private sector universities and results can be compared to in the context of knowledge centered culture and qualified faculty personals. The longitudinal data should be collected to further verify the results of study.

The role of knowledge oriented leadership is also an important antecedent of absorptive capacity and need to be investigated, to improve the learning capacity of individuals. So the double mediation is expected and two mediators are there one is the absorptive capacity and other is knowledge creation process.

5.5 CONCLUSION

In short, this research investigation suggested that organizational culture specially the knowledge centered culture profoundly affect the attitude and

behavior of the individuals. This will ultimately influence their creative abilities, the supportive culture will enhance their skills and more new knowledge will be created through the knowledge creation process. On the other hand non-supportive or weak culture will diminish the creative activities in the organization. The negative culture in the public sector universities of Lahore is the main hurdles in the way of knowledge creation and main reason of low ranking in the HEC universities ranking as compare to private sector universities.

The individual efforts of employees no doubt, contribute towards the organizational performance. But if their efforts are recognized and appreciated at group level and organizational level, then it play a more vital role in organizational performance. The results of study indicate that knowledge creation process play a partial mediating role between the absorptive capacity and organizational performance. When the workshop, seminar and conferences are conducted in organizations, and qualified personnel take part in these activities, they share their knowledge and experiences with other. The end result of this will be in the shape of organizational performance. Thus the mediating role of knowledge creation process wills more strength the relationship of absorptive capacity and organizational performance.

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ANNEXURE A

SURVEY QUESTIONNAIRE

Dear Sir/Madam!

We are studying the influence of absorptive capacity through knowledge creation process upon the organizational performance under the influence of knowledge centered culture. Please share your experiences of currently working in present organization and how you feel organization culture facilitates individual's creative and innovative skills to improve organizational performance. Your anonymity and personal identity will be strictly retained. The results will be used for research purposes only. Thank you very much for your precious time and co-operation.

Personal Information:

a) Gender: ☐ Male
☐ Female

b) Marital status:
☐ Single
☐ Married

c) Age:
☐ Below 25
☐ 26-30
☐ 31-35
☐ Above 35

d) Highest Educational Degree: _____

e) Designation in organization: _____

f) Tenure in this organization years: _____

g) Total work experience (years): _____

Knowledge Creation Process	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My organization usually adopts collaborative projects across the departments.	1	2	3	4	5
My organization usually uses trainees and mentors to transfer knowledge like workshops and seminars.	1	2	3	4	5
My organization usually adopts brainstorming retreats or camps like business plans competitions or business incubation center.	1	2	3	4	5
My organization usually adopts employee rotation across areas.	1	2	3	4	5
My organization usually adopts a problem solving system like case base reasoning (solving new problems based on similar past problems)	1	2	3	4	5
My organization usually adopts groupware (Collaboration Software) and other collaboration tools like any learning management system.	1	2	3	4	5
My organization usually captures and transfer expert's knowledge.	1	2	3	4	5
My organization usually adopts web-based access to data.	1	2	3	4	5
My organization usually uses web pages.	1	2	3	4	5
My organization usually uses databases.	1	2	3	4	5
My organization usually adopts repositories of information, best practices , and lessons learned.	1	2	3	4	5
My organization usually adopts on the job training.	1	2	3	4	5
My organization usually adopts learning by doing.	1	2	3	4	5
My organization usually adopts learning by observation.	1	2	3	4	5

Knowledge Creation Process	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My organization provides a good place to share things with other like a family.	1	2	3	4	5
My organization respects every employee's participation and team spirits.	1	2	3	4	5
Our working environment is open and harmonious (pleasant) as the employees highly support and believe in one another.	1	2	3	4	5
Our organization is extremely formalized and structured and manages employees tasks based on certain procedures like standard operating procedures.	1	2	3	4	5
Our organization values each employee's creativity and challenges.	1	2	3	4	5
Our organization possesses a high level of support and trust on employees.	1	2	3	4	5
Our organization owing to extremely open working environment, dares to take high risks.	1	2	3	4	5

Absorptive Capacity	
We are successful in learning new things within groups.	Not at all 1 2 3 4 5 To a great Extant
We are effective in developing new knowledge or insights that have the potential to influence services/product development.	Not at all 1 2 3 4 5 To a great Extant
We are able to identify and acquire internal (e.g., with in group) and external (e.g., market) knowledge.	Not at all 1 2 3 4 5 To a great Extant
We have effective routines to identify, value and import new information and knowledge.	Not at all 1 2 3 4 5 To a great Extant
We have adequate routines to analyze the information and knowledge obtained.	Not at all 1 2 3 4 5 To a great Extant
We have adequate routines to assimilate new information and knowledge.	Not at all 1 2 3 4 5 To a great Extant
We can successfully integrate our existing knowledge with new information and knowledge acquired.	Not at all 1 2 3 4 5 To a great Extant
We are effective in transforming existing information into new knowledge.	Not at all 1 2 3 4 5 To a great Extant
We can successfully exploit internal and external information and knowledge into concrete application.	Not at all 1 2 3 4 5 To a great Extant
We are effective in utilizing knowledge into new products/ services.	Not at all 1 2 3 4 5 To a great Extant

Organizational Performance	
Over the past two years, my organization has improved its ability to innovate new product/service.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to identify new business opportunities.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to co-ordinate the development efforts of different departments.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to anticipate potential market opportunities for new products/services.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to rapidly commercialize new innovations.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to adapt quickly to unanticipated changes in external environment.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to anticipate surprises and crises in external environment.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to quickly adapt its goals and objectives to industry/market changes.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to decrease market response time.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to react to new information about the industry or market.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to be responsive to new market demands.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to streamline its internal processes.	Not at all 1 2 3 4 5 To a great Extant
Over the past two years, my organization has improved its ability to reduce redundancy of information and knowledge.	Not at all 1 2 3 4 5 To a great Extant

ANNEXURE B

Table A
One-Sample Kolmogorov-Smirnov Test

		Organizational Performance	Knowledge Creation Process	Knowledge Centered Culture	Absorptive Capacity
Normal Parameters a,b	Mean	3.5601	3.5577	3.4783	3.5025
	SD	0.61581	.59583	.70752	.66512
Most Extreme Differences	Absolute	0.078	.087	.108	.069
	Positive	0.030	.058	.050	.040
	Negative	-.078	-.087	-.108	-.069
Kolmogorov-Smirnov Z		1.223	1.374	1.703	1.080
Asymp. Sig. (2-tailed)		.100	0.046	0.024	.194