IMPACT OF ORGANIZATIONAL LEARNING PROCESS ON ORGANIZATIONAL EFFECTIVENESS: THE MODRATED MEDIATION ANALYSIS
(Need for OL in Cellular Firms)

By

Syed Hussain Mustafa Gillani

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ABSTRACT

IMPACT OF ORGANIZATIONAL LEARNING PROCESS ON ORGANIZATIONAL EFFECTIVENESS: THE MODRATED MEDIATION ANALYSIS (Need for OL in Cellular Firms)

Since competition in telecom sector of Pakistan is at its peak and it has become hard to achieve effectiveness trough traditional means. Therefore it is very crucial to study the value addition means such as learning to gain effectiveness in organization. This study intends to answer how organizational learning process impacts on organization effectiveness under moderated mediation of organizational innovation and work attitude in cellular companies of Pakistan. Moreover, the operationalization of organizational learning process pertains gap. This research work has enhanced the operationalization of latent constructs by the incorporation of cognitive and behavioral aspect to address the literature gap. Questionnaire survey method has been used to gather the information from targeted sample frame of population of five cellular companies of Pakistan. In order to test the proposed hypothesis empirically, regression analysis has been applied using moderated mediation analysis of Andre Hayes (2014) and Structural Equation Modeling has been applied to testify the overall fitness of model.

The results revealed that the organizational learning process have significant indirect effect (through the mediation effect of organizational innovation) on organization effectiveness, positively moderated by work attitude. Hence, learning can be considered as a crucial antecedent factor for the attainment of organization effectiveness therefore, there is a dire need for organizations to enhance organizational learning process so that innovation can be promoted which will further lead organization in fostering organization effectiveness.

Cellular companies of Pakistan shall develop strategies in a way that it promotes culture of learning in their organizations. Moreover, it is recommended for future researchers to enhance the study by exploring learning's relationships among service quality, service innovation success and overall business model in their local context especially in under developed regions of the globe.

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LIST OF ABBREVIATIONS

AI 1	Structure Innovation
AI 2	Cultural Innovation
AI	Administrative Innovation
BC	Behavioral Changes
CC	Cognitive Changes
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CMIN / df	Chi-Square Degree of Freedom Ratio
CMPak	China Mobile Pakistan Limited
DV	Dependent Variable
FE 1	Market Effectiveness
FE	Organizational Effectiveness
FE2	Strategic Leadership
FE3	Cohesiveness
FE4	Organizational Climate
FE5	Product/Service Quality
FE6	Satisfaction
FMCG	Fast-Moving Consumer Goods
HR	Human Resource
IV	Independent Variable
JI	Job Involvement
KA	Knowledge Acquisition
KA1	Learning from Employees
KA2	Learning From other organizations
KA3	Learning through business contracts
KA4	Intentional search for knowledge
KR	Knowledge Retention
KT	Knowledge Transfer
KT1	Shifting the acquired knowledge to others
KT2	Absorption of Shifted knowledge by recipient
LO	Learning Organization

MI	Market Innovation
MV	Mediating Variable
NFI	Normed Fit Index
OI	Organizational Innovation
OLP	Organizational Learning Processes
PCA	Principal Component Analysis
PMCL	Pakistan Mobile Communications Limited
PTA	Pakistan Telecommunication Authority
PTML	Pakistan Telecom Mobile Limited
R & D	Research and Development
RMSEA	Root Mean Square Error of Approximation
SD	Standard Deviation
SEM	Structural Equation Modelling
TI 1	Product Innovation
TI 2	Process Innovation
TI	Technological Innovation
TLI	Tucker Lewis coefficient
WA 1	Motivation to Perform
WA 2	Job Involvement
WA	Work Attitude

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May ALLAH bless them all! (Ameen).

DEDICATION

This research work is dedicated to my parents, wife and teachers who taught me, groomed me and lead me in my life. I dedicate this work to my wife who has always been the source of inspiration, emotional enthusiasm, motivation and support for me in completion of this research work. I also dedicate this research work to my parents who have always prayed for me and been always there for my academic achievements. The love, trust, support and faith of my whole family have enabled me to accomplish my studies and made me proud of what I am today.

CHAPTER 1
INTRODUCTION

In this era of globalization, organizations are facing rapid pace of changes in market conditions which poses the organization to strive hard for magnifying their learning process and learning speed. Therefore, organizations need to learn in order to understand and give a rapid response to these environmental and technological changes. Thus, it further enhances their learning process. Organizational learning is not an end to the process but it is a tool that enables the organization to produce a state of the art products and services for the customer satisfaction as well as for the contribution of business success (Khoshkhoo and Nadalipour, 2016).

This study aims to investigate the relationship of study variables i.e. organization learning process, work attitude, organizational innovation and organizational effectiveness. This section discusses the background of research study illustrating the importance of organizational learning process for accomplishing organizational effectiveness through moderated mediation to bridge the research gap in the literature. The discussion then moves towards the research questions, objectives of the study, significance of study and finally the organization of study.

1.1. Background of Study

Organizations are always in an endless search for new strategies to strengthen their stance in competitive market conditions. Increased advancement in technology has not only opened new ways of doing businesses but has also increased the competitive dynamics of market conditions. Capturing the big piece of market share has become the challenge for market players with the realization of the fact that survival lies with the enhancement of organizational ability to innovate. Organizations see the innovation as a tool either for the business process improvement; or for gaining market leadership through strategic alignment with changes. There always lay a dire need to acquire new knowledge by enhancing organizational learning process

(Husain, Dayan and Di Benedetto, 2016). Hence, in order to cope with the dynamic market conditions, it is argued that the organization has to acquire knowledge and skills through learning which will help them in improving organizational effectiveness. It is believed that in future companies can only achieve organizational effectiveness by promoting their managers towards learning fast than their competitors (Fernandez-Mesa and Alegre, 2015).

Learning has been defined as the process in which individual acquire knowledge, skill and opinion. However, there is no common definition of learning as several researchers have defined organizational learning in several ways according to the context of the studies (Amin and Claudia, 2016). Although the concept of organizational learning is attractive for the researchers at the same time it is also equally beneficial for the practitioners as well (Fang, Li and Lu, 2016). Learning is one of the core element in enabling the effectiveness (Tamayo, Gutierrez, Montes and Lopez, 2016). However, in the past least focus was given by practitioners to use learning as a tool for enhancing effectiveness (Husain, Dayan and Di Benedetto, 2016; Sheng and Chien, 2016).

Organizational learning and organizational innovation are associated with more than one discipline such as strategic management, marketing, management, psychology and entrepreneurship, therefore, modern authors categorize the two constructs into the domain of organization sciences. Researches also reveal that both the constructs i.e. organizational learning and organizational innovation are determinants for achieving the effectiveness and competitive advantage (AlHrassi, Masadeh, Al-Lozi & Irtaimeh, 2016; Tidd & Aleman, 2016; Prajogo, 2016). Organizational innovation enables the organization to commence new product and services that can help foster business success in intense competitive market dynamics.

Organizational innovation is linked with organizational learning in a way that higher learning in the organization brings higher chances of innovation for an organization (Fang, Li and Lu, 2016; Husain, Dayan and Benedetto, 2016; Zhao, Li, and Liu, 2016; Sheng and Chien, 2016). Innovation is one of the channels through which organization responses to the faced

environment changes (Montes and Lopez, 2016). Organizational learning forms the context for the organizational innovation by supporting creativity, inspiring new knowledge and favoring them to the organizational intelligence. In simple terms, organizational learning forms the basis for the organizational innovation through acquiring new knowledge for introducing new products and services to survive the competitiveness of external environment (Hogan and Coote, 2014).

Generally, the organization engaged with learning activities favors the generation, acceptance and implementation of new ideas, products, process and services within the organization (Sheng and Chien, 2016). Organizational learning process establishes the innovative culture which consequently paves the way for the achievement of organizational effectiveness and above-average organizational performance (Huber, 1991). It has also been evident that organizational innovation is one of the strategic approaches for gaining organizational effectiveness. Thus, literature pertains to evidence that organizational learning is linked with organizational effectiveness (Walter, Lechner and Kellermanns, 2016; Edwards, 2016; North, Bergstermann, and Hardwig, 2016; Said, 2016).

Most of the researches on organizational effectiveness are carried out in the context of the analysis conducted in western countries of the globe, as there are negligible researchers for operationalization, which empirically check the effects of the aforementioned construct in developing areas of the globe due to different psychometric properties and cultural differences (Hofstede, 2001). In Pakistan, most of the segments and industries are moving from their traditional business to more innovative product and services due to technological advancements. Mobile-enabled services are one of the growing trends which is merging the financial institutions, government institutions, banking sector and other private entities in one shared platform.

1.2. Research Context of Study

Pakistan Telecommunication Authority (2017) reported that 86 percent of the Pakistani

population is operational mobile users that prove the growing imminent role of mobile phones in the daily life of Pakistan people. It is also reported that the mobile subscriber base is increasing with great momentum and therefore, cellular mobile segment is called to be the most competitive segment of the telecom sector. Furthermore, the introduction of IT-enabled financial services in Pakistan has further made market conditions more competitive by opening new avenues of public sector organizations inclusion in this industry (i.e. National Database and Registration Authority, Employee Old Age Benefits Institute, Federal Board of Revenue etc.). Introduction of new products and services of utility bill payments, e-commerce platform of National Smart Service, mobile banking etc. are all the growing trends that consequently left the existing players to maximize organizational effectiveness in order to sustain a position in the competitive market.

With the introduction of mobile-enabled financial services and growing pace towards joint ventures, the telecommunication industry has opened new avenues of emerging markets facilitating the general public of Pakistan with financial, education and health accessibility through information resources (PTA, 2017). Therefore, it is not unusual to state that key players of the telecommunication industry of Pakistan are facing diverse competitive and challenging environment nowadays. Furthermore, the feature of mobile number portability from one network to others provided to the customers has further fueled the competition among the five cellular companies. The statistics of the market share of five cellular companies reflects drastic changes in comparison to previous years (PTA, 2017). During the financial year 2011, the cellular companies remained quite stable (PTA, 2012) however, the competitive stance currently is unpredictable due to the quest of grabbing a big piece of market share and the ease of number portability by users. PTA (2017) has announced the Mobilink as the most dominant player with the market share of 38.0 percent among the all and Ufone holding the weakest stance of market share 13.0 percent as also depicted in figure 1. The giant cellular company Mobilink has also initiated the legal documentation for the merger of previous cellular company

Warid that took place first time in the history of Pakistan telecom sector. Thus, this evidences the need for the review of organizational effectiveness among cellular segment.

This tough competitive dynamics and market development has resulted in significant changes and shift of market shares of cellular companies (PTA, 2017). Thus, it has raised the need for mobile operators to embrace some strategies for overall organizational effectiveness in order to meet the changing market dynamics (PTA, 2017). Therefore, this research study attempts to study the underlying factors affecting the attainment of organizational effectiveness specifically among the cellular companies of Pakistan. This research study also attempts to study the issues of cellular companies from different angles keeping in view the recent market developments and tough competitive dynamics.

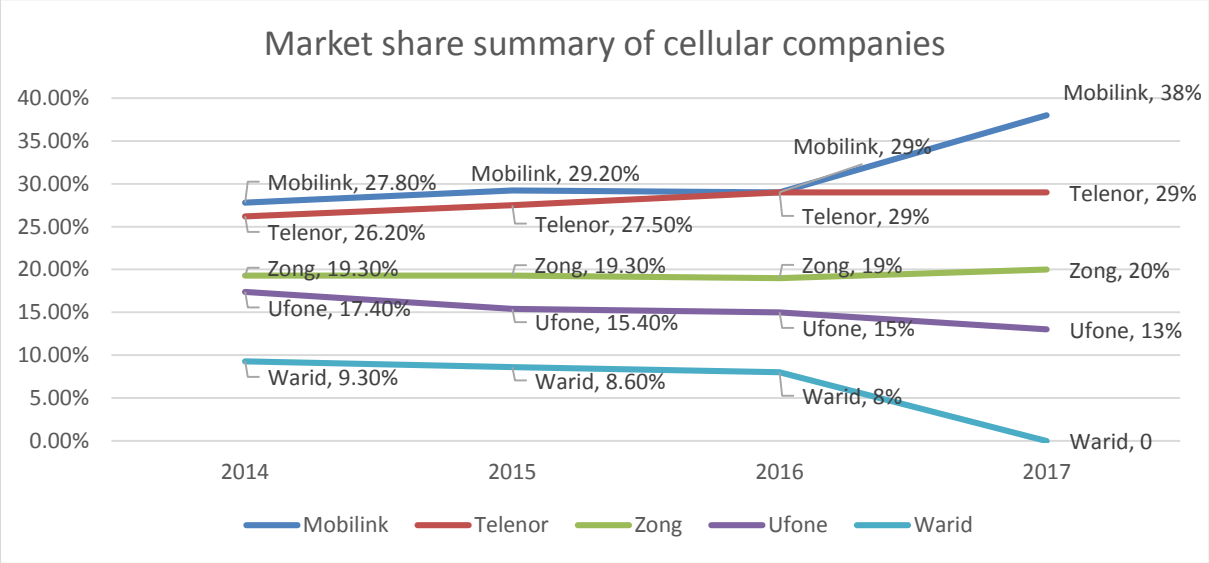

Figure 1. Graphical depiction of market share summary of cellular companies

Source PTA annual reports (2014, 2015, 2016, and 2017)

1.3. Identification of Literature Gaps

The problem area of this research work revolves around the sphere of the operationalization of the organizational learning process and validation of organizational

innovation conceptualization that further affects the organizational effectiveness within the tough competitive dynamics of organizations. Research studies have been conducted on the domain of learning, innovation and organizational effectiveness among the western countries, however, negligible researches have been conducted to test and validate the association of organizational learning process, organization innovation and work attitude impacting the organizational effectiveness in developing areas of the globe (Hussein, Omar, Noordin and Ishak, 2016). Specifically following are the brief gaps identified in literature after extensive critical analysis of literature in chapter 2 of the study:

i. Literature of organizational sciences reveals an association between the organizational learning process and organizational innovation in effecting organizational effectiveness. An organization with a strong organizational learning culture stresses high importance to the acquisition of knowledge. Once the information is acquired in raw form, it is transformed into knowledge that is interpretable. This interpretable information may then be transformed into actions. The degree of strength of this mechanism basically reflects the strength of organizational learning prevail by the organization (Skerlavaj, 2010). Organizations with strong organizational learning possess tends to possess innovative performance, however, the literature pertains the gap in the operationalization of the construct i.e. organization learning process (Argote, 2013, 2015; Sheng and Chien 2016; Ortenblad, 2018). Existing literature has merely emphasized on the flow of knowledge from acquisition stage to the preservation stage in form of organizational memory but the incorporation of newly learned knowledge in cognitive and behavioral changes still needs attention (Argote, 2013). It is pertinent to mention that fundamental concept of learning without relative permanent change in behavior is incomplete thus, the aspect of behavioral change is a crucial factor to be incorporated in the operationalization of organizational learning (Argote, 2013).

ii. The literature of existing theories also lacks the transparency in the conception of organizational innovation at one point (Lam, 2005; Birkinshaw, Hamel and Mole, 2008;

Keupp, Palmie, and Gassmann, 2012). Hence, the existing literature also pertains the gap in the validation of conceptualization of the organizational innovation as the different researchers have conceptualized the innovation in different ways in different cultural contexts (Hamel and Mol, 2008; Armbruster, Bikfalvi, Kinkel and Lay, 2008; Keupp et al., 2012). This could be evident from the fact that the existing literature of organizational innovation can be distinguished into three strands. The first strand of literature reflects the researches on the newness of product and technical process of the organization including their structural attributes (Burns and Stalker, 1961; Mintzberg, 1979; Teece, 1998). The second strand of literature reflects the researches at organization's macro level as adoption of new market, technological and environmental changes bring innovation in the organization in connection to the organizational changes (Levy and Mary, 1986). The third strand of literature reflects the researches at organization's micro level that how the newness incorporates with the passage of time in the organization from its time of evolution towards growth (Argyris and Schon, 1978; Amabile, 1988). Thus, the literature reveals that the characteristics of newness either in adoption or process are a central theme to the conceptualization of organizational innovation. However, the outcome of this innovation and the measure or conceptualization of innovative transformation in an organization is weak in existing literature (Keupp et al., 2012) that serves as a gap in existing theories of innovation. Lam (2005) also argues that the existing literature on innovation is scattered and there is a need to generate consensus on the conceptualization of innovation as different researchers have conceptualized it in different ways in different cultural contexts (Keupp et al., 2012; Crossan and Apaydin, 2010; McKinley, Latham and Braun, 2014; Jenssen and Nybakk, 2013). Armbruster, Bikfalvi, Kinkel and Lay (2008) have indicated that there is a need to further explore the theoretical conception of organizational innovation and conception may be viewed as specific to the certain organizational concepts and their impacts on the effectiveness or performance may be studied. Capello (2017) also pointed out that there is still a huge gap exists in the conceptualizations of innovations for different organizations, regions and different local

levels. Thus, it raises the need for future researches that can be helpful in bringing homogeneity in innovation surveys. Costa and Monteiro (2016) also argued that although the organizational innovation is the most widely researched area. However, their systematic review on innovation literature revealed that presently very broad and wide conceptualizations of organizational innovation are used in literature. Thus there is a need to validate the operationalization of organizational innovation as well as to establish further understandings on the empirical relationships of innovation and innovation outcomes (Costa and Monteiro, 2016).

iii. Although possible association of organizational learning on organizational effectiveness have been seen in the literature but there is a need to explore the nature of relationship between organizational learning and organizational effectiveness by taking in account the hidden variables in mediating and moderating nature of analyses (Argote, 2013; Ugurlu and Kurt, 2016; Said, 2016).

In order to address the mentioned gaps, this research study has attempted to enhance the operationalization of the organizational learning process and further checked its impact on organizational effectiveness in the local context. Furthermore, this research study also attempts to explore the nature of the relationship among the study variables through mediation and moderation analyses in order to bridge the literature gaps. Consequently, a hypothesized theoretical model is also presented by reviewing the existing literature and studying the context of telecom sector of Pakistan keeping in view the sector's growing technological and market changes, new product trends, competitive dynamics and being the highest contributing sector in economic conditions of Pakistan.

1.4. Problem Statement

In light of the discussed research context and identified literature gaps, the specific problem statement guiding this research work is as follows;

"The problem of this research study lies at the sphere of three broad literature gaps elaborated above. It illuminates the need to enhance the operationalization of organizational learning process, needs to investigate the direct relationship of learning process-effectiveness, and further investigate the indirect effect of work attitude and organizational innovation on the direct relationship of learning process-organizational effectiveness in the cultural context of cellular companies of Pakistan".

1.5. Objectives of the Study

The objectives of this research study are;

i. To operationalize and empirically test the dimensions of the organizational learning process in the local context.

ii. To validate the dimensions of organizational innovation in the cultural context of cellular companies of Pakistan.

iii. To empirically test the impact of the organization learning process on organizational effectiveness.

iv. To empirically testify the mediation effect of organizational innovation on the relationship of the organizational learning process and organizational effectiveness.

v. To empirically testify the moderation effect of work attitude on the relationship of the organizational learning process and organizational innovation.

vi. To empirically testify the moderation effect of work attitude on the relationship of organizational learning process and organizational effectiveness.

vii. To testify the impact of organizational learning process on organizational effectiveness (through mediation effect of organizational innovation) that is positively moderated by work attitude.

1.6. Research Questions

This research study seeks to address the answers to the following research questions:

i. What are the underlying factors that constitute the concept of the organizational learning process?

ii. What are the underlying dimensions of organizational innovation?

iii. To what extent the organizational learning process affect organizational effectiveness?

iv. To what extent the organizational innovation mediates the relationship between organizational learning process and organizational effectiveness?

v. To what extent the work attitude moderates the relationship between organizational learning process and organizational innovation?

vi. To what extent the work attitude moderates the relationship between the organizational learning process and organizational effectiveness?

vii. To what extent the organizational learning process impacts on organizational effectiveness (through mediation effect of organizational innovation) that is further positively moderated by work attitude?

1.7. Significance of Research Study

For this research study, cellular companies are chosen as population because of three reasons: (a) highly contributing in shaping economic conditions of Pakistan, (b) facing high competition in markets i.e. always in need of new product, package or services launches, (c) having knowledge of intensive nature of the sector. Telecom sector of Pakistan exerts a strong influence on the economy of Pakistan, particularly in the existing environment of competitive global markets. Telecom sector of Pakistan is one of the few sectors which are highly

competitive and achieving organizational effectiveness is the only way to sustain in the complex market. The significance of this study is as under:

i. This research study will enable the cellular companies of Pakistan to become effective and ensure proactive measures in order to tackle the changing competitive market dynamics by progressing towards organizational learning process. The study will enable the managers to use the concept of organizational learning and innovation strategically to exercise the characteristics of a learning organization by focusing on the attitude of their employees.

ii. Furthermore, this research work attempts to contribute to the body of knowledge by bridging the identified literature gaps. Modern authors such as Argote, Peter Senge, Ugurlu and Kurt have worked impressively well for the years to enhance the operationalization of organizational learning and learning organization as there always remained a point of difference in the operationalization of organizational learning. This research study attempts to fill these literature gaps by enhancing the operationalization of organization learning process with the missing link of the cognitive and behavioral changes after knowledge retention.

iii. This research study also attempts to contribute to the body of literature of innovation by validating the construct of organizational innovation by using three dimensions in the cultural context of Pakistan.

iv. This research study also attempts to contribute to the body of knowledge by empirically testing the impact of the organizational learning process for the accomplishment of firm effectiveness after incorporating the missing link of moderation and mediation effect.

1.8. Plan of Forthcoming Chapters

The study is planned to consist of seven chapters.

Chapter One “Introduction” explains the introduction section of research study mainly, the background of study, problem identification or research gap, objective of research, significance, research questions and methodology of research inquiry.

Chapter Two “Literature Review” discusses in details the existing reviews of literature and researches. Recent research theories and relevant information gathered through primary and secondary sources are reviewed and the instances of the literature review are quoted in this chapter.

Chapter Three “Theoretical Framework” confers the description of variables along with the operational definitions. Finally, the conceptual framework and the hypotheses are drawn reflecting the nature of the relationship between dependent, independent and mediating or moderating variables.

Chapter Four “Research Methodology” contains the methodology adopted to discuss the research design, population and sample size, sampling technique used for questionnaire development and pilot study of the research instrument.

Chapter Five “Data Analysis and Results” emphasizes the results of statistical analysis and investigation of hypothesized relationships of variables. Reliabilities and construct validities analysis are also reported along with the result of pilot testing. Descriptive Statistics, demographic analysis and the results of statistical tests will also be argued.

Chapter Six “Discussion” includes the arguments derived from research work in comparison to the posed research question and purpose of the study. The hypothesized relationships of variables will be dissertated in the light of results and existing literature.

Chapter Seven “Conclusion and Recommendations” includes the major conclusion derived from research work. Finally, the practical or managerial implications and future research dimensions are discussed.

CHAPTER 2

LITERATURE REVIEW

This chapter delineates the integrative view of study variables that are organizational learning, organizational innovation, work attitude and organizational effectiveness. It includes the in-depth overview of theories, framework and conceptions of the research variables in the light of existing literature on the basis of which the constructs of this research study will be operationalized.

2.1 Organizational Learning Process

In past few years, the concept of organizational learning has been the key focus in the field of organizational development as organizational learning elaborates frameworks and theories to understand how continuous learning process help the learning organization to achieve business success (Tsang, 1997). A major contribution to the organizational learning process had been made by Huber (1991), Nonaka (1994), Senge (1990), Garvin (2007). Different researchers have integrated the concept of organizational learning with a different unit of analysis i.e. learning at the individual, group or team, organization, and inter-organizational level etc. (Matusik and Heeley, 2005).

Organizational learning is most of the time puzzled with the learning organization, however, the literature pertains the difference between the two concepts. Tsang (1997) has attempted to describe the learning organization as a place or firm that is good in organizational learning. On the other hand, organizational learning is associated with the activities take place within the organization to promote knowledge sharing (Tsang; 1997). Organizational learning represents the ability of an organization to improve its process based on experiences and knowledge acquisitions (Goh and Richard, 1997). On the contrary, learning organization refers to an organization skilled at creating, acquiring and transferring knowledge, and modifying its

existing behavior to reflect what is learned (Goh and Richard, 1997). Table 2.1 explains the differences among the three basic concepts of literature that are organizational learning, learning organization and knowledge management.

Table 2.1. *Conception of organizational learning vs. learning organization vs. knowledge management*

Explaining the conception of		
Organizational learning	Learning organization	Knowledge Management
Organizational learning can be defined as the set of activities that help the organization in aligning organizational strategies and culture with the competitive environment (Desimone, Werner and Harris, 2002)	The learning organization is those organizations that facilitate the learning among its organizational members and transforms the learning in organizational process (Senge, 1999).	Dell and Jackson (1998) defined the knowledge management as a strategy of providing right knowledge to right recipients at right moment of time with an intention to help the individuals for performing the actions in a way to improve overall organizational performance.
Huber (1991) explained the concept of learning process as constituents of four dimensions; • Knowledge acquisition • Knowledge distribution • Knowledge interpretation • Organizational memory	Senge (1999) explained the dimensions of a learning organization are as follows; • System thinking, • Personal mastery, • Mental models, • Shared vision and • Team learning	Boisot (1987) categorized the concept of knowledge management into four dimensions that are; • Codified knowledge • Uncodified knowledge • Diffused knowledge • Undiffused knowledge
Argote and Spektron(2001) explained the concept of organizational learning process as a measure of three learning process that are; • Knowledge acquisition • Knowledge transfer • Knowledge retention	Marsick and Watkins (2001) explained the learning organization in seven dimensions of, • Continuous learning • Inquiry and Dialogue • Team Learning • System Connection • People Empowerment • Embedded systems • Strategic Leadership	Hedlund and Nonaka (1993) explained the knowledge management as a constituent of two main knowledge categories with sub-constructs as; • Articulated knowledge (Knowing calculus, performance analysis, organization chart, supplier's patent) • Tacit knowledge (cross-cultural negotiation skills, team coordination, corporate culture and attitude to products)
Nevis, Dibella and Gould (1995) explained the concept of organizational learning process as of three dimensions that are; • Knowledge acquisition • Knowledge sharing	Garvin, Edmonson and Gino (2008) explained the concept of learning organization in terms of three dimensions as, • Supportive learning environment	Demerest (1997) explained the concept of knowledge management into four dimensions that are; • Knowledge construction • Knowledge dissemination • Knowledge embodiment

• Knowledge utilization	• Concrete learning process and practices • Leadership behavior	• Knowledge use
Zietsma, Winn, Branzei and Vertinsky (2002) explained the concept of organizational learning process as a constituent of five learning process that are; • Intuiting learning process • Attending • Interpretation • Integration • Institutionalization		Heron (1996) explained the concept of knowledge management by five dimensions that are; • Propositional knowledge • Practical knowledge • Experiential knowledge • Presentational knowledge • Taxonomic knowledge

Desimone, Werner and Harris (2002) have indicated that learning organization is considered an intervention of organizational transformation in the scope of organizational development. While organizational learning involves the activities that help the organization in aligning organizational strategies and culture with the competitive environment. Goh and Richard (1997) defined learning organization as an organization skilled at creating, acquiring and transferring knowledge, and modifying its existing behavior to reflect what is learned. At the same instance, organizational learning refers to the ability of an organization to improve its process based on experiences and knowledge acquisitions (DiBella, Nevis and Gould, 1996).

Literature has explained learning at various levels and types. Fiol and Lyles (1988) have distinguished learning into higher and lower levels of learning. Senge (1990) has differentiated learning into adaptive learning and generative learning. Argyris and Schon (1978) have classified learning into three levels or typologies; single-loop learning, double-loop learning and deuteron-learning.

Senge (1990) description of adaptive learning is relevant to Fiol and Lyles (1988) description of lower-level learning and single-loop learning of Argyris and Schon (1978). Adaptive learning involves coping with the external environment and rarely involves the questioning of existing values (Fiol and Lyles; 1998). Argyris and Schon (1978) have referred this as single-loop learning that restricts from identifying and correcting the internal errors by

maintaining the status quo of organization central characteristics. Learning at this level is short-term oriented and takes place within the organizational contexts (Fiol and Lyles; 1998).

Generative learning is analogous to double-loop learning of Argyris and Schon (1978) that emphasizes and signifies the use of feedback for establishing transformational change (Argyris and Schon; 1978). Generative learning encourages organizations to change their values and beliefs that consequently help the organization in finding new customers and serve with new products and services (Rahim, 2001). Thus, the concept of organizational learning flourished from time to time with the diversified views of researchers including organizational culture, human resources, cognitive factors, organizational structure and organizational strategy.

The current section endeavors to evaluate scrupulously the organizational learning process by exploring the framework and theories of different researchers; clarifying the distinction between organizational learning process and organizational learning activities; and finally identifying the core elements of the organizational learning process.

2.1.1 Concept of Organization Learning Process

Researches in the area of organizational learning have been viewed as error detection and error correction phenomenon from the different viewpoints of knowledge creation, system thinking, mental models, organizational capability and organizational memory etc. in existing literature, however they expose the similarity that the learning of organization originates from the individual interaction and exchange of knowledge with each other (Lipshitz, Friedman and Popper, 2007).

The organizational learning process was viewed as originated from the stems of the organization of goal-oriented social structure that may enable them to learn in a natural manner like an organism (Maier et al.). The idea of learning in organizations was first explored by Argyris (1964) indicating learning within an organization as a process of uncovering an error

in business process and then correcting them with new knowledge. Later on, this concept of learning by Argyris and Schon (1978) was further evolved in the concept of single-loop and double-loop that consequently facilitates organizational learning. Argyris and Schon scrutinized single-loop learning as the phenomenon in which the individuals, groups, and organizations distinctions the expected results with the obtained results and accordingly finalizes their course of actions for error resolution. Double loop learning termed by Argyris and Schon (1978) is indeed the learning about the single-loop learning which actually put questions to the values, assumptions and policies of the organization. Later on, it concluded that organizational learning can be achieved through three key process, (a) acquisition and maintenance of the new knowledge about products and process; (b) understanding and consequently learn what has or is happened or happening in external surrounding environment; and finally (c) establishing the new creative solutions for error resolution using the obtained knowledge from previous steps (Argyris, 1999).

The process of organizational learning summarizes the types of learning which lead to the coveted outcome. The organizational learning process can be illustrated as the type of learning in which basic unit of organization i.e. individuals or members acquire the knowledge, then interpret, process and communicate the obtained knowledge for the effective problem – solving and decision making purpose (Mitchell, 1995). It can also be defined as a phenomenon to enhance the capabilities of the organization by means of integrating new knowledge and initiatives of technological, productive or commercial in business (Lopez, Peon and Ordas, 2006). Merely the concept of organizational learning constitutes five key phases (Gilley and Maycunich, 2000). The first phase involves the pre-learning stages where the organization goes for preparation for learning. The second phase covers the exchange of knowledge with the context; the third stage encompasses the process of acquiring relevant knowledge and practice. Fourthly, once the knowledge has been obtained the learning process shifts towards the transferring and acquisition of knowledge. Lastly, there holds the phase of accountability and recognition.

Garvin, Edmonson and Gino (2008) define organizational learning process as a phenomenon of creating, acquiring and transferring of the new knowledge. Garvin proposed that learning organization constitutes the three major learning process of (a) supportive learning environment, (b) concrete learning process and practices and finally, (c) leadership behavior that reinforce the learning. Garvin (2008) further elaborates that learning process of supportive environment pursue four major characteristics of openness to new ideas, time for reflection, and appreciation of differences, psychological safety which are managed by regulating the open interaction between the individual, group and organizations. This also elevates the performance of organizations (Davis and Daley, 2008). The second component of Garvin's study, concrete learning process and practices are elaborated as the process of generating, collecting, acquiring, interpreting and disseminating information (Garvin, 2008).

2.1.2 Critical Analysis of Established Theories of Organizational Learning Process

This section implicates the meticulous illustration of different theoretical models and frameworks pertaining to the key study variable "organizational learning process". Additionally, different perspectives of organizational learning process conceptualized by different researchers will also be explored with an objective to grab the key understanding of the variable.

The review of the literature on organizational learning process witnesses that the Dewy's model (1933) widely covers the different perspectives of organizational learning process (Daft and Weick, 1984; Davis and Luthans, 1980; Bandura, 1986; Ulrich et al., 1993). Dewy's model of reflective thinking (1933) scrutinizes the development of reasoning when it comes to knowing that the present problem cannot be solved with the uncertainty. The work of Dewy (1933) was later on summarized in the research work of Argyris and Schon (1978). Argyris and Schon (1978) argued that four interlinked process (a) discovery, (b) invention, (c) production and (d) generalization foster the successful learning process in the organization. This body of research work formed the foundations of organizational learning process concept. The

concept of organizational learning is viewed in a cognitive perspective by framing the individual as acting on behalf of the organization in the learning process. Left column instrument and other reflective instruments of action diagram are all advocates of the statement that learning embeds in members of the organization (Argyris and Schon, 1978). However, the non-cognitive aspect of learning and collective learning are neglected aspects of this theory.

Researchers have also explained the concept of organizational learning in terms of the information processing perspective (Daft and Weick, 1984). The organization has been regarded as the organized interpretative structure that fosters the effectiveness by interchanging the stimulus with its external environment. The extent to which an organization learns depends upon its capacity of acquiring information from its surrounding and in which manner this acquired information is interpreted to make meaningful (Daft and Weick, 1984). It is necessary for an organization to interpret the complex dynamics of its surrounding in order to cope with survival. However, it is also crucial to state that it is the organization who interprets the information, not the individuals. It is a fact that both individuals and organizations possess different kinds of interpretative systems or structures. Managers of the organization also play their vital role in formulating these interpretative systems of the organization (Daft and Weick, 1984).

Organizations differ with each other in the way they interpret their surroundings systematically. Therefore, the mechanism of how the organizations interpret that acquired information is also essential to elaborate besides giving emphasize to the interpretative manner of the organization only. It may also constitute that what are the internal activities foster to internal adjustments for the interpretation consequently, influences the learning (Daft and Weick, 1984). It is generally believed that organizations cannot scan and interpret the external environment until or unless it is aligned with the internal factors of organizations (i.e. people, process, strategy, culture, structure etc.). In this way, the process of scanning that includes the data collection process and the process of interpretation in which the collected data was given some meaning may be interlinked with each other. It further paves the way towards the learning

process in which some action is taken on the basis of meaningful data. Thus, organizational learning can be viewed as the interrelationship between the organization's external environment and its action. But, it very critical to state that this theory has neglected the operational aspects of the organization. The practical procedures, routines and patterns of coordination across the organizations are essential to be discussed in the conception of organizational learning that are neglected by this theory.

Huber (1999) proposed a theoretical model of organizational learning which incorporated the all laid down previous works of researchers. Huber used the two terminologies "information" and "knowledge" interchangeably in his research work. The term "information" was used for the data that gave meaning by reducing the uncertainty of situation or problem while on the other hand, the term "knowledge" was used for the data with the complex output of knowledge such as interpretation of information and beliefs of cause-effect relationships of variables. Organizational learning can be conceptualized in terms of four related process and sub-process (Huber, 1999).

Knowledge acquisition was also generally agreed by all OL researchers as the stage of acquiring information from the internal and external environment of the organization. The process of knowledge acquisition was further constituted with five sub-constructs and sub-process that were congenital learning, experimental learning vicarious learning, grafting and finally the searching and noticing. The second sub-process "experimental learning" was further categorized into five process that were organizational experiments, organizational self-appraisal, experimenting organizations, unintentional or unsystematic learning and finally, the experience-based learning curves. The fifth sub-process "searching and noticing" was further categorized into three process that were scanning, focused search and finally the performance monitoring. Information distribution refers to the dissemination of acquired information to all those who need that information in the organization. Information interpretation means that disseminated information is given meaning to further utilize in order to ensure the course-of-action and resulting actions. The process of information interpretation further constituted the

four sub-constructs and sub-process that were cognitive maps and framing, media richness, information overload and finally the unlearning. Organizational memory is the final fourth construct of the organizational learning process that stores the information either in form of paper files, computer digital files or in the human brain. The process of organizational memory further constituted the two sub-constructs and sub-process that were storing and retrieving the information and finally the computer-based organizational memory. Information can be stored in a number of places such as the human brain, paper files, computer files, repositories etc. The extent of learning depends upon the accuracy in storing the information that could foster the complete recall of information (Huber, 1991).

Besides these aspects, there could be some key factors that directly impact the organizational memory that, consequently impacts the strength of the organizational learning process. One of these factors could be employee turnover. As the employee's turnover led to the great loss of organizational memory in terms of the human factor. Secondly, no expectancy of future needs for some information consequently led to non-storage of some useful information. Thus, it also lessens the strength of organizational memory (Huber, 1991). Moreover, organizational members who need the information often did not know where the information was stored by other members. It may be stated that humans are reluctant to store some organizational information and knowledge to the repositories. These all contribute to the serious influence on organizational memory.

Literature has also conceptualized the learning as the differences between the level of expectation of an individual and his current understanding (Dixon, 1992). Putting a goal that is unreachable reflects the difference in current and visualizes the state of a person which operationalizes the learning process. An individual need to hold that difference within their mind for a long time period in order to initiate the learning process. At the organizational level, learning may be delineated as the phenomenon in which organization strategically utilizes the planned learning process at individual, group and organizational level with a clear objective of increasing the satisfaction of all organization's stakeholders. Thus, the concept of

organizational learning process may include the generation, interpretation, integration and retrieval of knowledge within the context of the organization. The concept of organizational learning was operationalized in four steps which were believed to be interdependent and mutually supportive. The foremost generation of knowledge is the process of generating knowledge includes both the internal as well as external sources (Dixon, 1992). Knowledge can be generated by the organization through informative seminars, research workshops, participation in organizational networks, joining cross-organizational projects, conducting literature studies etc. secondly, integration of knowledge that includes the process of integrating the knowledge includes the picking of relevant knowledge generated at first stage for the organizational usage. The supportive environment facilitating the dialogue among employees plays a crucial role in the diffusion of knowledge. The extent to which communication flows across the organization at different levels and the management styles were also critical for the integration of knowledge. In addition, the interpretation of knowledge that involves the process of interpreting the knowledge includes the translating and arguing the integrated knowledge at a previous stage in comparison to the present issues of the organization. Consequently, new effective meaningful structures were created due to mutual consensus and collective understanding of the differences in contextual conditions of organization (Dixon, 1992). Moreover, the negotiation, equal participation of workforce and mutual commitment were believed to be key drivers for the interpretation of knowledge in the organization. Finally, the action that was as possession of giving organized series of the act to the interpreted knowledge. This stage of the act may include the execution of new strategies, systems, methods, tools and techniques in the organization for the continuous improvement in organizational performance.

It is pertinent to state here that Dixon's process of organizational learning was originated from the theory of Kolb's learning cycle and Deming cycle (1982). Deming's cycle holds the concept of continuous policy making and executing the policies for the continuous improvements in process and products in order to improve organizational performance. However, Dixon's process of organizational learning emphasized the continuous improvement

through getting experiences and letting the experiences to execute learning at the next step. Dixon (1992) integrated the Argyris concept of mental models, the concepts of action learning with the Kolb's learning cycle and Deming cycle (1982) to conceptualize the efficient capacity of work actions in the context of learning.

Literature also evidences that there is an interlink between the human actions and the knowledge depicted as the SECI model of knowledge creation (Nonaka and Takeuchi, 1995). Basically, it is the message that holds the information and this information in addition to the personal beliefs of individuals forms the knowledge. Thus, knowledge can be viewed as the combination of beliefs, values, and contextual information. Nonaka has conceptualized the organizational learning process at the individual level with more emphasis on knowledge creation. Tacit knowledge involves the deep commitment, involvement and difficult to transmittable through formal language while explicit knowledge, on the other hand, includes rational knowledge and easy to transmit through formal language (Polanyi, 1958). Nonaka and Takeuchi's model of SECI presented the conversion of knowledge in four modes, (a) conversion from tacit knowledge to tacit knowledge, (b) conversion from explicit knowledge to explicit knowledge, (c) conversion from tacit knowledge to explicit knowledge, and finally the (d) conversion from explicit knowledge to tacit knowledge. The process of organizational learning was depicted in four stages. The first stage comprises of socialization that involves the interaction among the individuals facilitates the conversion of tacit knowledge into tacit knowledge. It was believed that observations and simulation served to be more dominant in the conversion of tacit to tacit knowledge in comparison to language. Thus, language did not serve as a barrier among the individuals. Furthermore, the sharing of experiences among the individual's triggers the thinking process of individuals (Nonaka and Takeuchi, 1995). The second stage elaborated as combination depicts the conversion from explicit knowledge to explicit knowledge. It involves the sorting, organizing, adding and re-contextualizing the existing explicit knowledge for more meaningfulness. Implementation of modern computer systems can be exemplified for the better understanding of this concept (Nonaka and Takeuchi,

1995). Similarly, externalization involved the conversion from tacit knowledge to explicit knowledge. Metaphors are crucial at this stage. Execution and actions are crucial at the internalization process that involves the conversion from explicit knowledge to tacit knowledge.

The theoretical explanation of organizational learning by Nonaka and Takeuchi (1995) contributes to the body of literature by incorporating the cognitive as well as the practical aspect (that is lacking in previous studies). As it has illustrated the concept of organizational learning in terms of the cyclic process of knowledge among individual, groups, organization and inter-organization levels. However, the aspect of performativity was lacking. It was also deficient in explaining organizational learning as the precursor of organizational ability to perform. This statement can be made on the fact the theory does not explain the linkage and differentiation among the tacit knowledge and skills to perform.

Generally, it is believed that the growing organizations learn with its past activities and experiences. The conception of organizational learning process may evolve in answering the three basic aspects that how the organizations learn, what are the factors and process that facilitate the learning, and finally what are the practices within the organization which determine the capability of learnt and the nature of what is learnt (Nevis, DiBella and Gould, 1995). These three-stage cycle of organizational learning includes knowledge acquisition, knowledge sharing and knowledge utilization. These three organizational learning process may be facilitated by information gathering practices for surrounding environments, identification of performance gaps to motivate learning process, extent of effort made on factors that determine the needs for learning and outcome of learning, supporting experimentation, climate of openness, continuous education, range of procedures and methods that allows the adaptation process, multiple advocates at all levels of learning to advance new ideas, involved leadership and interdependence of organizational units which paves the way for accountability (Nevis, DiBella and Gould, 1995). However, these organizational learning process were reflected by seven learning orientations, practices that foster the organizational learning process such as

knowledge source, product-process focus, documentation mode, dissemination mode, learning focus, value-chain focus and the skill development focus.

Crossan, Lane and White (1999) had contributed in the area of organizational learning researches by studying the two-way flow of learning process at three levels (namely individual, group and organizational) simultaneously. The model of Crossan, Lane and White (1999) identified the four key organizational learning process that were intuiting, interpretation, integration and institutionalization. The intuiting process takes places at the very basic individual level. Intuiting is the process in which patterns and probabilities were identified on the bases of past experiences. However, the model presented by Crossan, Lane and White (1999) had some critiques. Firstly, the process of intuition generally believes as a constituent of the human conscious process which was not covered or explained with reference to social cognitive theory by the Crossan, Lane and White. Interpretation process takes place at both individual and group levels. This process refers to giving words to the insight of person and involves the transformation of an idea from one member to other. Thus, the flow of information occurs from individual level to group level, fostering collective learning. Integrating is the process in which coordinated activities with the mutual understanding groups member occurs. The member of the group needs dialogue to plan activities for the development and sharing of mutual understanding in a group. Institutionalizing is the process in which the learning was embedded through individual level towards group level and then to the organizational level in order to ensure the routine activities occur. The two-way flow of information was termed as feed-forward and feedback from the individual level to the organizational level. The information flows from information level to group level through intuition and interpretation process and vice versa. Through integrating process, the information flows from the group level to organizational level which led to the institutionalization process. the flow of information has been elaborated from individual level to group level and then group level to organizational level as the feed-forward and on the other hand, the reverse flow of information from organizational level to a group level, group level to individual level as the feedback. The theory of Crossan et

al. (1999) has very deliberately explained the concept of organizational learning in process manner however, the theory has neglected the conscious aspect.

Zietsma, Winn, Branzei and Vertinsky (2002) further extended the concept of organizational learning process by Crossan, Lane and White (1999). Their major contribution was the addition of a conscious process in learning which was previously missed by Crossan, Lane and White (1999). Two learning process were added, "attending" at intuition stage of individual level and "interpreting" at interpreting stage of group level during the feed-forward process. Furthermore, Zietsma et al. (2002) discussed in details the facilitators and impediments in organizational learning process. Attending process adopted by the work of Kleysen and Dick (2001) took place at the intuition stage of individual-level during the feed-forward learning process. Attending is the process of focusing on external stimuli with great focus in addition to the intuition and interpretation. Exposure from external environment did not necessarily guarantee the change but those who attend the sources of information with focus could establish new possibilities with the company's dominant intuited frame. The experimenting process took place at the interpretation stage of group level similarly during the feed-forward learning process. It was an action-based cognitive process which involved the put-in-action the interpretation phase. Individuals, groups tested and validated their interpretation through experimenting which happened in case the individual has the authority to act, or the consensus exists for the collective move to ahead, thus challenges become more complex.

With the passage of time external environment trapping of organization due to over-dependence on institutionalized knowledge evolved in link with the conception of organizational learning. The concept of "legitimacy trap" was introduced that reflects the trapping of organization in complex dynamic external challenges. Legitimacy traps occurs because the organization believed the source of external challenges as illegitimate and further organization traps itself on institutionalized interpretations or actions. Consequently, the feedforward learning of the organizations blocks. The theory of Zietsma et al. (2002) highlighted the impact of power and autonomy to perform freely in organizational learning

process. Castaneda and Perez (2005) further extended the recent theories of organizational learning process with the addition of human capabilities aspect. Crossan, Lane and White (1999) elaboration of organizational learning process was the major contribution which was enriched with all the conception of Social Cognitive theory proposed by Bandura (1986).

This research work was worth fully contributed to the Ziestma (2002) with the addition of conscious process. However, the learning also incorporates other aspects of human capabilities identified by Bandura (1986) which were still lagging in the existing theorizing of organizational learning process. This research gap was filled by the work of Castaneda and Perez (2005) which proposed the new organizational learning model with the addition of human capabilities aspect and psychological mechanism at the individual level.

Castaneda and Perez (2005) incorporated three new process in existing theorizing of organizational learning process that were (a) retention, (b) production and finally, (c) motivation. Castaneda and Perez (2005) further incorporated five human capabilities in organizational learning process that were symbolizing, learning through modeling, forethought, self-regulation, and finally the self-efficacy. These process and capabilities play along with the socialization and interpretation process of human learning. The conception of intuition, interpretation and socialization were also used from the previous research works, all operating at the three levels of individual, group and organization. Literature has also conceptualized the concept of organizational learning in two type process such as dynamic equilibrium process and teleological process (Cayla, 2008). Dynamic equilibrium process was the stable one which may be reflected in individual behavior or in the adoption practices of the organization. These process moved in defined trajectory possessing some logic behind them. Teleological process were the one of stimulus-response notion which defined their trajectory in relation to the system's behavior. In simple, these process hold instable contexts.

However, most of the organizations did not possess the uniform level of all learning process (Jansen et al., 2005). Some of the organizations were relatively inefficient at exploiting

the acquired knowledge and emphasized much on the searching for new knowledge from the external environment (Lichtenthaler, 2009). The technological and market knowledge can also be considered as the two key components of organization prior knowledge. It is also evident from the literature body that the conception of organizational learning process was operationalized with three new measures of the absorption capacity of an organization that were an exploratory learning process, transformative learning process and exploitative learning process (Lichenthaler, 2009). The exploratory learning process refers to the knowledge acquisition process in which the external knowledge was recognized in light of the organization's need and then the acquired knowledge was assimilated. This learning process was categorized into two aspects of recognizing the information and assimilating the information. Transformative learning process refers to retaining the knowledge with the passage of time, which leads to cumulative knowledge. This learning process was categorized into two aspects of maintaining the information and reactivating the information. Exploitative learning process refers to the activities of transmuting and applying the knowledge to present. It did not include the exclusive implication of knowledge. This learning process was categorized into two aspects of transmuting the information and applying the information.

On the other hand, the literature also holds the opinion that it was the organizational experience that generates knowledge by interacting with its context (Argote and Spektor, 2011). Routine or unusual tasks of organizations served as the source of learning as these tasks accumulated in the organizational memory as the experiences (Argote and Spektor, 2011). The number of tasks attempted to perform by the organization, either successful or failed, reflects the extent of organizational experience. However, the contexts of the organization refer to all those elements lying outside the boundary of the organization. These environmental contexts may include the regulatory bodies, clients, government, institutions and industry competitor's etc. which shape the market conditions for the organization either volatile or stable. The conception of organizational learning was explained at three levels of analysis that were individual, group and organization. Furthermore, the internal process of the organizational

learning are categorized as curved arrows that are also termed as learning the cycle of the organization (Argote and Spektor, 2011). In sum, the literature has operationalized the concept of organizational learning into three interlinked process of knowledge creation, knowledge transfer and knowledge retention (Argote and Spektor, 2011). Knowledge creation refers to the generation of knowledge by a set of experiences of owns unit (individual, group or organizational). When individual, group or organization acquire some knowledge by doing some task or activity, thus leads to the creation of knowledge. This process of organizational learning was shown as bottom curved arrows (between task performance experiences to knowledge) in the theoretical model. Knowledge transfer refers to the generation of knowledge by a set of experiences of other's unit (individual, group or organizational). When individual, group or organizations acquire some knowledge by the other's unit work activities; this led to the transfer of knowledge. This process of organizational learning was also shown as bottom curved arrows (between task performance experiences to knowledge) in the theoretical model. Knowledge retention refers to the storage or flow of the knowledge in the organization which was reflected as organizational memory by Huber (1991). It was the process of organizational learning through which the knowledge stayed with the organization. This process of organizational learning was also shown as upper right curved arrow (between knowledge to active context) in the theoretical model.

Organizational learning is a continuous and spontaneous process which also involves the learning from failures (Desai, 2012). Organizations learn from the failures as the failures serve as the operating experience for the organization and it helps the organizations to buffer against threats with the higher survival rates and further helps the organization to improve poor performance with increased productivity. Desai (2012) has conducted in-depth analysis and has attempted to draw a boundary between the two conflicting theoretical perspectives of organizational learning that are a behavioral theory of the firm and threat-rigidity theory. A behavioral theory of firm perspective of organizational learning states that the organizations keep on learning new things even from its failures and bad experiences as organizations

continuously thrive for acquiring new knowledge for the good performance (Cyert and March 1963; Greve, 1998; Desai, 2012). While the second perspective of threat – rigidity theory states that the failures are the threats to organizational survival and reduces the organization's ability to acquire new knowledge and discourage the learning ability of organization.

It is also critical to state that literature also evidences the role of timing factor in generation and development of organizational learning conception across the organization (Bernerds and Antonacopoulou, 2014). The conception of organizational learning process was categorized in three aspects of time as duration in organizational learning, timing in process of organizational learning, and effect of past, present and future in organizational learning. Basically, time is an opportunity for the acquisition of more experience, exploitation of external developments, performing more learning activities and observing the delayed outcomes in the organizational learning process. However, on the same way the time also acts as the threats to organizational learning as the knowledge becomes obsolete and needs continuous updating; and secondly, the acquired learning content may get forgotten which can be overcome through the development of learning systems (Bernerds and Antonacopoulou, 2014). The second aspect of timing in organizational learning process indicates that the structuring the organizational learning over time helps in synchronizing the learning among the members of the organization timely. It enables the members to identify the windows of opportunity in the working environment by making the members adopting the doing-and-thinking style. Furthermore, the past present and future aspect of organizational learning help the organization in a better understanding of ambiguities. Past events are better interpreted, understood and exposed to solutions with the clarity and enriched organizational learning. New experiences would help in redefining the past events and a better understanding of the present organizational pictures. This would enable the organization to interpret and foresee the future and potential threats and opportunities posed to the organization. Bernerds and Antonacopoulou (2014) indicated that there is a need to study the concept of organizational learning in terms of process and emergent nature. They further argued that this open ups the opportunity for the future researches to

explore the concept of organizational learning in terms of time, timeliness and member's experience of learning itself.

Argote (2015) extended her research work on the conception of organizational learning and argued that the organizations with the cross-sectional teams possessing the information memory systems perform better than those who do not possess the teams with information memory systems. The concept of the transactive memory system is critical to be linked with the conception of organizational learning (Argote, 2015). Transactive memory system basically refers to the combined learning system of encoding, storing and then retrieving the desired information at team-levels. It thus promotes the organizational learning among the members of the organization at the different section or departmental level. The members of the organizations specialize in their skill sets and work – knowledge and enable themselves to perform well. Specializing in their skill sets would also help them in sharing their skill knowledge to other members and thus, reinforces the team learning within the organization with the more strengthen transactive memory system. A further call for new researches has been made by the author on the conception of organizational learning process as the behavioral aspects of teams are non-calculative in nature.

Researchers attempted to answer the question (posed by previous studies) that how the geographically disbursed organization can overcome the barriers in organizational learning process (Erkelen, Hoff, Huysman and Vlaar, 2015). A conceptual model has been proposed by Erkelen and his colleagues. The conceptual model illustrates the network of experts facilitating the organizational learning process through a combination of learning practices (of knowledge sharing at various geographical locations) and organized networks (organization's established mechanism of knowledge sharing). The multinational corporations and other organizations operating in different cultural contexts face the complexities in organizational learning due to the differences among organizational members carrying knowledge at different levels or extents or types. This locally embedded knowledge serves as a hindrance in the accomplishment of organizational learning overall (Erkelen et al., 2014). In such geographical dispersed

organizational setting, the management of people is much to do than the process or procedural considerations. Decreased social interaction among members and the lack of direct collaboration between organizational and member's unit further heighten the complexities in organizational learning. Therefore, such organizations are left with the option to un-embed the local knowledge carriers by facilitating the flow of information sharing, interaction among the members of different geographical locations. Exchanging the people involved in the organizational learning process would facilitate the sharing of knowledge as well as the breakdown of locally embedded mindset. Thus, the workers may automatically re-embed themselves in different cultural locations and settings with shared practices. But how this phenomenon occurs?

The whole process of unlocking the local knowledge embedders and then re-locking the knowledge embedders may take place through the two process of learning in practice and network learning (Erkelen et al., 2014). Learning in practice refers to the introduction of such activities that may encourage the organizational members at different locations to get engage with each other in shared practices. It may include the heedful interrelationship (between experience and contexts), decision making, creating project overviews, and discussion with other colleagues on process or mechanisms or technology. Network learning refers to the establishment, maintenance and interaction of organizational members with the same level of experiences, knowledge and skill sets with an objective to facilitate the sharing and flow of knowledge among each other. It may include seeking advice from another member, consultation, building a cordial relationship with other members within projects and within other locations.

Researchers have also conceptualized the organizational learning as process of knowledge transfer within the organization (Gil and Carrillo, 2016). The development of a learning environment helps in establishing strategic intervention process that further facilitates the learning within the organization. Establishment of these strategic interventions engages the members of the organization towards learning at the individual as well as team level thus fosters

the learning environment within the organization. Such a learning environment where the members of the organizations feel free to share, coordinate and discusses the acquired knowledge with each other in a facilitative way. Thus, it results in establishing the organization as a learning organization. Learning organization is the one that facilitates their employees to learn and continuously transform itself with the newly acquired knowledge while the traditional organization lacks the element of continuous learning. While organizational learning has been defined as the process of creating new knowledge and development of new knowledge (Gil and Carrillo, 2016).

It is very crucial to state that the learning environment establishes the learning among the organizational members that impacts the process of knowledge interaction. Learning environment effects the creation of knowledge, strong learning environment results into the qualified knowledge creation among members or teams while weak learning environment results into the little knowledge creation. Once the organizational member interacts in learning environment, the knowledge sharing further facilitates the learning environment. The knowledge creation and learning process are cyclic process where the organizational members interacts to create knowledge and share the acquired the knowledge thus results in fostering learning environment. Fostering learning environment leads to organizational learning which again back accelerates the knowledge creation with the more and more organizational member's interaction (Gil and Carrillo, 2016). This association of organizational learning and knowledge creation happens at all four unit levels. Within the organization, the members interact with their surrounding contexts for knowledge creation and then interacts with other organizational members for sharing of created knowledge thus fostering learning environment. Similarly, in good organizations the departmental heads or members hold the meetings at defined time span (inside departments or sections or interdepartmental) thus representing the organizational learning process at team level. In same lines the organization interacts with the external environment and thus fosters the learning at inter-organizational level. Strategic alliances and joint ventures also serve as the source of learning among organizations.

2.1.3. Gap-1 Identified from Existing Literature

The theory of organizational learning presented by Argyris and Schon (1978, 1996) was the most prevalent and dominant among them all. Individual are considered as the central initiator of learning process within the organization at the time a problematic scenario is encountered. The concept of organizational learning is viewed in cognitive perspective by framing the individual as acting on behalf of organization in learning process. Left column instrument and other reflective instruments of action diagram are all advocates of the statement that learning embeds in members of the organization (Argyris and Schon, 1978). However, the non-cognitive aspect of learning and collective learning are neglected aspects of this theory. Huber (1999) proposed a theoretical model of organizational learning which incorporated all the laid down previous pieces of work of researchers. However, the extent of learning by the organization depends upon the accuracy in storing the information (Huber, 1991). There could be some key factors that directly impact the organizational memory. One of these factors could be perception of members that some information would not be needed in future consequently led to non-storage of some useful information. Thus, it also lessens the strength of organizational memory (Huber, 1991). Moreover, organizational members who need the information often did not know where the information was stored by other members. It may be stated that humans are reluctant to store some organizational information and knowledge to the repositories. These all contribute to thee serious influence on organizational memory (Huber, 1991). Past events are better interpreted, understood and exposed to solutions with the clarity and enriched organizational memory. New experiences would help in redefining the past events and a better understanding of the present organizational pictures. This would enable the organization to interpret and foresee the future and potential threats or opportunities posed to the organization. Thus, there is a need to study the concept of organizational learning in terms of process and emergent nature (Bernerds and Antonacopoulou, 2014). This open ups the opportunity for the future researches to explore the concept of organizational learning in terms of member's experience of learning itself (Bernerds and Antonacopoulou, 2014).

Argote (2011) explains that the dimensions of organizational learning process are important as it reflects the degree to which the organizational learning process are distributed across the members. Argote (2011) called for future research on the exploration of dimensions of organizational learning process in terms of cognitive developments. It has been claimed that a complete set of dimensions to explain organizational learning process needs to be developed in future researches (Argote, 2011).

Argote (2015) extended her research work on the conception of organizational learning and argued that the organizations with the cross-sectional teams possessing the information memory systems perform better than those who do not possess the teams with information memory systems. A further call for new researches has been made by the author on the conception of organizational learning process as the behavioral aspects of teams are non-calculative in nature.

Thus, there are a plethora of studies that theorize and analyze the concept of organizational learning process in detail. Nevertheless, the literature still pertains the gap in the conceptualization of organizational learning process as indicated by some of the researchers (Bernerds and Antonacopoulou, 2014; Argote, 2011; Ortenblad, 2018). The existing literature has merely emphasized on the flow of information from acquisition stage to the preservation stage in form of organizational memory but the incorporation of newly learned knowledge in behavioral aspect has not beencomprised and needs to be reviewed (Argote, 2011). The existing literature has elaborated the concept of knowledge retention as organizational memory, including but not limited to the theory of Huber (1991), however, the literature of conceptualization of organizational learning process pertains the gap in view of behavioral changes consequent of what is learnt (Argote, 2015).

Hence, this research study has attempted to fill this literature gap identified by Bernerds and Antonacopoulou (2014), Argote (2011) and Ortenblad (2018) by reviewing and validating the research construct of organizational learning process taking into account the learned

changes in behavioral and cognitive aspects. This research thesis has reviewed the extensive past literature and researches on the conceptualizations of established theoretical frameworks of organizational learning process. Consequently, this research work attempts to contribute in the body of existing literature by extending the operationalization of Argote's (2011) with the addition of two dimensions of cognitive change and behavioral change in line with the three dimensions indicated by Argote (2011) knowledge acquisition, knowledge transfer and knowledge retention. The researcher Argote (2011) has presented the theory and called for future research on the empirical testing of the proposed conception of organizational learning. This research contributes to the body of knowledge by empirically testing the proposed theory of Argote (2011). Detailed operationalization and sources of research measures are discussed in consequent chapters.

2.2 Work Attitude

The conception of motivation is complex and multidimensional. Latham (2007) has defined the term motivation as derived from the Latin language word "movere" which means movement, displacing from one position. Bjorklund (2001) defined motivation as the extent of the intrinsic desire of an individual to perform specific action or behavior. Another researcher has defined motivation as the extent of employee's intrinsic desire to perform job and responsibilities in a better way (Katou and Budhwar, 2006).

Some researchers believed the extent of motivation as a personal trait. They described this phenomenon as two individuals placed in one context will behave in different ways as the factors driving their intrinsic desire for motivation were different (Gudmundson and Andersson, 2009). Kessler (2003) argued that it was the beliefs and values of the individuals which elaborate on the differences in the motivation of individual at the same time, same capabilities and same context. Kessler (2003) further suggested that higher motivation could be achieved by addressing the respective needs of the individuals as the combination of needs and intrinsic desire will motivate the actions of the individuals.

In order to understand the complexities of employee motivation, literature has categorized the motivation in two major schools of thoughts; content theories of motivation and process theories of motivation. Content theories of motivation revolve around the conception of human needs that led to the arousal of motivation desire. Theories falling under this school of thought focus on investigating the factors that affect the employee motivation. On the other hand, process theories of motivation revolve around the conception of interlinks between variables that influence motivation.

Maslow hierarchy of need proposed the theory of motivation with the five levels of human needs categorized as deficiency needs and growth needs (Abraham Maslow, 1943). Deficiency needs involve the very basic essential necessities of human including three levels of need as (i) physiological needs, (ii) safety needs and (iii) social needs. Growth needs involve the individual's need for personal growth that was supposed to be never filled at any scenario thus keeping the individual motivated. Growth needs involve the further two levels of need that were (iv) esteem need and finally the (v) self-actualization needs.

McGregor (1960) further developed the concept presented by Maslow in the context of the workplace. The motivation was explained in terms of two perspectives of Theory X and Theory Y. The first perspective explained that individuals were less interested in work and needed to be coerced and threatened for the accomplishment of organizational goals. The latter perspective of Theory Y explained that some individuals are more interested in work and termed it as their play. Such an individual falls in the level of growth needs explained by Maslow. Alderfer (1972) defined motivated into three levels of existence need, relatedness need and growth need. McClelland (1961) explained the motivation as the need for achievement, need for affiliation and finally the need for power.

Equity theory of motivation refers to that individual at workplaces wanted to maintain equity among each other (Adam, 1965). The perception of inequalities in the distribution of resources among employees put them in the chase to balance the performance of themselves or

either to adjust the level of the co-worker. Literature has also defined motivation as the process of voluntarily opting for the behavior that renders individual currents results with the desired results (Vroom, 1964). This motivation phenomenon of the individuals is also proposed in the expectancy theory of motivation. This theory highlighted that motivation was the result of complex cognitive process in relation to the decision making of the individual.

Literature survey revealed that researchers have defined the motivation in various ways. Pinder (1998) defined the phenomenon motivation as the blend of whole internal and external forces that shapes the degree, intensity and direction of employee's attitude or behavior towards the work. Edwards (1999) defined the motivation as a combination of intensity and feelings of an individual's choices. It is termed as purposive behavior aimed for the accomplishment of goals (Hodgson, 2001). Morris (1970) explained the motivation as the intense desire and drive toward a certain act. In the context of adult learning, motivation was defined as the individual's intensive learning behavior towards the learning activities for the personal benefit and growth (Wlodkowski, 1999). Colquitt et al. (2000) have defined motivation to perform as the pursuance of learning related behavior for the individual's own benefit of knowledge gain.

Armstrong (2003) was of opinion that there were four factors that shape the motivation of employees that are (a) personal growth (b) occupational autonomy (c) task achievement and finally, (d) money reward. He further explained that the first two factors of personal growth and occupational autonomy have a long-lasting impact on the motivation of the employee. However, the remaining two, task achievement and money reward possessed the short-term influence on the motivational level of employees at work as the employee's proceeds with the passage of time.

Organizations usually do heavy investments in order to make their workforce stay motivated. These investments may include distribution of small gifts among employees, arranging gatherings for the purpose of delivering motivational speeches, cultural and entertainingly events etc. But such organizational efforts and financial investment have short

term impact and needs to practice again and again for the achievement of desired results (Mathis and Jackson, 2004). In this way, the organization needs to plan for the same motivational interventions after the short time of span. Mathis and Jackson (2004) argued that motivation is an individual based complex phenomenon that requires persistent efforts on part of the management of the organization.

Job involvement has been viewed in numerous ways in the literature. Some researcher has defined job involvement as the degree to which an employee is found to be psychologically attached to the assigned tasks (Lodhal and Kejner, 1965). Job involvement was also defined as the degree to which an employee associates the output of task performed with his personal esteem (Lodhal and Kejner, 1965). Other researches have also defined the concept of job involvement as the extent to which an employee is mentally engaged with the tasks assigned to him (Paullay, Alliger and Stone-Romero, 1994). They were further of the view that job involvement is a crucial factor in strengthening the employee's participation in decision making. It enhances the employee's empowerment (Paullay, Alliger and Stone-Romero, 1994).

Researchers have also termed the job involvement as the psychological affiliation of the employee towards work (Lawler and Hall, 1970). In their opinion, job involvement was the cognitive measure and had nothing to do with intrinsic motivation. Saleh and Hosek (1976) explained the job involvement as the active participation of employee towards the assigned tasks and perceive his performance worthwhile for the pursuit of organizational goals. The constructs of Job involvement for conceptualized and interpreted in four different ways by Saleh and Hosek (1976) as job involvement is termed as the degree to which the work and assigned tasks were regarded as important to central life. This perspective characterizes the job involvement as the need for employee reflecting in terms of employee satisfaction. The second perspective referred the job involvement as the psychological participation of employee towards work that revolves the behaviors of cooperation, commitment and finding significance for control and autonomy at the workplace. The third perspective as laid down by Saleh and Hosek (1976) regarded the job involvement as the precursor of the individual self-esteem.

Fourthly, job involvement was the perception of performance as consistent with the individual's self-concept.

Literature has also defined the concept of job involvement as the employee's psychological attachment and affiliation towards his assigned job and responsibilities (Kanungo (1992). Rabinowitz and Hall (1977) have also explained the concept of job involvement in two major perspectives. The first perspective explained the job involvement as the degree to which the self-esteem of the employee was affected by the job performance of the employee. In simple, it explained that 'job involved employees' putt their best efforts to their work performance as it reflects their self-esteem. The second perspective explained the job involvement as the degree to which an employee psychologically associates himself with the assigned tasks. McKelvey and Sekaran (1977) argued that job involvement is the crucial factor in having a symbiotic relationship with the employee performance.

However, there was a conceptual flaw in the description of job involvement (Paullay et al., 1994). The measures of job involvement do not counterpart with the measures of work centrality. Job involvement is a phenomenon that increases the motivational process at the workplace thus further enhances the organizational performance (Dietendorff et al., 2002). It reveals that job involvement represents the extent to which the assigned tasks fulfill the needs of an employee (Elloy, Everett and Flynn, 1991).

Literature has also elaborated the concept of job involvement in six major dimensions of (a) job ambition, (b) job centrality, (c) job conscientiousness, (d) striving for the perfection, (e) non-interest in job and finally, (f) job interest due to non-financial reasons (Schwyhart and Smith, 1972). Wood (1974) conceptualized the job involvement as the combination of five constructs that were, (i) work attraction, (ii) failure sensitization, (iii) work commitment, (iv) job pre-eminence, and finally (v) work identification.

Job characteristics model points out that the features of the job have a direct influence on the degree of job involvement (Hackman and Oldham, 1980). The nature of job shapes the

internal motivation of employee which further impacts the degree of job involvement. Other researches also agreed with the phenomenon that the job design increases job involvement (Lawler, 1992). However, a job is crucial to the self-image of an employee who possesses a high degree of job involvement (Kanungo, 1982).

Researches also revealed that the degree of job involvement is higher among full-time employee in comparison to part-time employees (Martin and Hafer, 1995). In simple, it can be argued that those employees who spent more time with job get their self-more involved if there were allowed to do work with their own way enthusiastically (Allport, 1943). Some of the researches have also argued that the practitioners should not neglect the concept of job involvement as it is one of the crucial factors of work attitude that boosts the productivity (Hackman and Lawler, 1971; Kahn, 1990; Lawler and Hall, 1970).

Hence, this research thesis has reviewed the extensive past literature and researches of the established theoretical frameworks on motivation and job involvement. This research work has adopted the Kanungo (1992) conceptualization of job involvement and has adopted the scale from the work of Kanungo (1992). On the other hand, Katou and Budhwar's (2006) conceptualization of motivation has been adopted for the operationalization of construct motivation to perform. Detailed operationalization and sources of research measures are discussed in consequent chapters.

2.3. Organizational Innovation

2.3.1. Conception of Organizational Innovation

Recent researchers have revealed that different researchers have viewed organizational innovation in a different perspective (Tang and Yeh, 2015; Schuchmann and Seufert, 2015; Hurley, 2015; Vargas, 2015; Fraj, Matute and Melero 2015; Fernandez-Mesa and Alegre 2015; Fang, Li and Lu, 2016; Tamayo, Gutierrez, Llorens-Montes and Martinez-Lopez, 2016; Husain,

Dayan and Di Benedetto, 2016; Zhao, Li, and Liu, 2016; Sheng and Chien, 2016). There are many other conceptualization of innovation by different researchers who have focused the innovation at the organizational level. Some researcher has defined organizational innovation as a new product, service or idea espoused by the organization (Tushman and Nadler, 1986). Others have argued that organizational innovation is different from the creativity and is the measure of four major dimensions that are creativity, strategy, application and profitability (Dundon et al., 2005). Some have categorized organizational innovation in two major categories of technological innovation and administrative innovation. Technological innovation refers to the new product, services and process. Administrative innovation refers to the organizational structure and administrative process (Subramanian and Nilakanta, 1996). Literature has also viewed the organizational innovation as any policy, structure or a market opportunity that is perceived as new to the manager of the innovation unit of organization (Nohriaand Gulati, 1996).

Generally, the innovation occurs when the organization attempts to learn the things, activities or process which she is not doing before that (Shephard, 1967). Zaltman, Duncan and Holbeck (1973) have defined the organizational innovation as an idea or practice that is newest to the existing adopted ideas or process of adopting unit. The conceptualization of Zaltman et al. (1973) focused on the innovation at organizational business units. It can also be said that the organization innovation may refer to any practice or technology that organization uses first time irrespective of the fact that another industry organization is using it or not (Klein, Conn and Sorra, 2001).

Literature also pertains the distinction of organizational innovation as a process of several stages. The review of extensive literature reveals that the conception of innovation has been categorized in four-stage process in the existing body of knowledge that includes initiation or pre-adoption stage, adoption stage, implementation stage and finally the post-implementation stage. Initiation or pre-adoption stage consists of the factors that identify the need for adopting and consider the innovation. Adoption stage constitutes the process where

the managers of the organization inclined themselves towards the new and earliest idea. This is the stage at which the innovation is introduced in the organization. Implementation stage constitutes the process in which activities are being coordinated for the execution of adopted innovation. Training and support programs for other organizational members are also part of the implementation stage. Post-implementation stage constitutes the process where the organizations realize the consequences or pros and cons or benefits and losses of the innovation implemented. Numerous authors have distinguished the concept of organizational innovation in a different manner.

2.3.2. Critical Analysis of Established Theories of Organizational Innovation

This section covers the in-depth illustration of different theoretical models and frameworks pertaining to the key study variable "organizational innovation". In this section, different perspectives of organizational innovation conceptualize by different researchers will be reviewed with an objective to grab the key understanding of the variable.

The concept of innovation has been the earliest practice by Daft (1978) as the use of an idea among the set of organizations with similar goals. It is also the adoption of an idea that is new to the organization. Primarily, the innovation was conceptualization as to explore the early stages in the innovation process to explore where the new ideas are proposed and what are the reasons behind that (why). Generally, the innovative ideas flow and moves across the hierarchy of organization among different directions and the function of task differentiation at any point of hierarchy originates the innovative ideas. In simple, these are the most knowledgeable workers of the organization who are well-aware of the organizational challenges and context. These innovative actions of the organizations took place in two major areas or cores of the organization that may be in a technical and administrative manner (Daft, 1978). Technical innovation refers to the earliest ideas for new product, process and service of the organization (Daft, 1978). While on the other hand, administrative innovation refers to the earliest new ideas

for the policies of recruitment, resources allocation, tasks structuring, authorities and extent of reward (Daft, 1978).

However, the specialization of task relating to innovation initiation is dependent upon the level of professionalism of the members of cores. The professionalism level was associated with the member training, educations and participation in professional activities. When the professional level of core employees is low then the process of innovation initiation will also be inactive in the organization. In such organizations, the strategy of collaboration is effective for engaging the employees in the innovation process (Daft, 1978). It can be concluded that the members of each core are crucial for innovative initiation process in the organization as the member of each core is expected to initiate the innovation process relating the organizational goals. These members of each core are expected to heighten the innovation initiation process with the increase in organization size and level of professionalism. Consequently, the number of an absolute innovative process initiated by each group is expected to increase with the increase in organization size and level of professionalism. The greater numbers of innovative proposals are not expected to produce greater extent of innovation adoption because of two reasons; high level of professionalism (may cause non-consensus) and large organizational size (Daft, 1978).

The answer to "why" found by Daft was the notion that there are some organizational variables that simultaneously produces the innovative proposals. He further explained some unexpected findings of his research that the organizational memory for the adopted innovation proposal seemed to be short. It was reported to be unusual to reject the innovative proposals in the organizations. Consequently, it highlights that the stage of proposing an innovative idea is crucial to the innovation process (Daft, 1978). Each core has its own objectives, goals, resources, problems and environment or context. Most important to mention that each core is crucial for the functioning of the organization as organizational innovation can take place in either core.

The review of literature has also revealed that some researchers have focused the innovation adoption as the five characteristics of innovation conception and also explored the effect of these characteristics on the rate of adoption of innovation (Rogers, 1983). The rate of adoption is basically the relative speed with which an innovation is absorbed by the members of the social system. It reflected the number of employees who adopted new ideas in a specified period of time. In other words, the rate of adoption of innovation can be termed as the quantified indicator measured with the steepness of the adoption curve of innovation. However, up to 87 percent of the variance in the rate of adoption of innovation can be explained by the five perceived characteristics of innovation that are a relative advantage, compatibility, complexity, trial-ability and lastly the observability (Rogers, 1983). Besides the perceived attributes of innovation, there could be other variables that determine the rate of adoption of innovation in the organization as the type of innovation-decision, communication channels, nature of the social system and extent of change agent's promotion efforts (Rogers, 1983). However, the innovative decision can be either optional, collective or authority (Rogers, 1983).

It is very crucial to state that each innovative decision type requires certain knowledge persons for effective decision-making. This number of persons involved in the decision process affects the adoption rate of innovation. It is obvious that a huge of a number of persons involved leads to delayed decisions as each individual carries viewpoint towards the unit of the decision. In simple, more number of persons, the adoption rate of innovation is slower. On the other hand, a communication channel that is used to flow the information to recipients also affects the adoption rate of innovation. The choice of the communication channel can speed up or slow down the adoption rate of innovation. The mass media communication channels are good but satisfactory for the less complex innovations (Rogers, 1983). While the interpersonal communication channel found to be more effective for complex innovations adoption rate with change extension agents. In simple, the selection of a communication channel is crucial to the adoption rate of innovation. If the inappropriate communication channel opts than it possesses the adverse effect on the adoption rate of innovation. As concluded, using the mass media

channels for the complex innovation type would result in a lower adoption rate of innovation and vice versa (Rogers, 1983).

Nature of social system refers to the norms of the system (organization) and the degree to which the communication network infrastructure of the system (organization) is highly interconnected with each other. This nature of the social system also explained to have an effect on the adoption rate of innovation (Rogers, 1983). The extent of promotion efforts of change agent may not directly affect the adoption rate of innovation. It happens such that the efforts of change agent of promoting the innovative idea would work effectively when the opinion leaders adopt it. When the substantial level of critical mass adopters is achieved, after the adoption by opinion leader, there will be slow gradual diffusion of innovation irrespective of further change agent's promotion efforts (Rogers, 1983).

Some researcher has also defined innovation as the endorsement of any new idea or behavior relating to the system, policy guidelines, process, product or service or structure of the organization (Damanpour, 1992). Basically, the adoption of newness was not restricted to final outcome product or service rather it covered the wider aspects of the organization. Damanpour (1992) has conducted 20 meta-analysis empirical studies and concluded that there were some other factors that influence the extent of innovation in an organization. Damanpour (1992) found that organizational innovation was positively related to the size of the organization. Furthermore, the stage of adoption and type of organization were found to moderate the relationship between innovation and organizational size. It was also found that there was a positive association between the functional differentiation, ration of managers to employees and specialization with the organizational innovation.

The mechanism of organizational innovation has also been illustrated as the innovation implementation effectiveness model, depicting the innovation as the extent to which an organization was effected in the implementation phase of innovation (Klein, Conn and Sorra, 2001). The model presented by Klein et al. (2001) was theoretically based on the reviews of

previous case studies. The construct of Klein et al. (2001) model highlighted the phenomenon of collective behavior towards the implementation of innovation within the organization. It explained that the innovation effectiveness was related to how effective the innovation was implemented in the organization. Thus, it can be stated that innovation effectiveness was caused by the effective implementation of innovation (Klein, Conn and Sorra, 2001).

The concept of innovation effectiveness is different from the concept of innovation implementation effectiveness. The organizations who successfully implement the innovations did not refer to the attainment of related benefits of implementation of innovation. In other words, the effective implementing the innovation did not necessarily mean that the whole related benefits of innovation have been gained and achieved by the organization as well. These were two different concepts that must be distinguished in the theories of innovation. Effective innovation implementation was related to the implementation climate of the organization. The differences in innovation implementation among different organizations across the nations lied here with the differences in the implementation climates of the organizations. Each organization has its own different attributes of organizational climate such as safety climate, service climate, flexibility, employee empowerment, style of management, the degree of autonomy etc. and these factors of climate influenced the extent of effective innovation implemented. Some researchers have defined the innovation implementation climate as the shared perceptions of organizations employees relating to the importance of implementation of new ideas, products, services, events, behaviors or businesses (Klein, Conn and Sorra, 2001).

The key factor innovation implementation climate was related to the degree of implementation of policies and practices within the organization (Klein, Conn and Sorra, 2001). The key factor of innovation implementation climate may be influenced by the implementation policies and practices of the organization. As each new idea, product, service or business implementation laid the foundation on the associated new policies, process and practices, thus crucial for the innovation implementation effectiveness. These implementation policies and practices may constitute the detailed process, infrastructure, policies relating workforce i.e.

retention, development, the flow of goods or communications or hierarchy etc. In short, the implementation policies and practices are the collective constructs of members, units and organization.

However, the implementation policies and practices may be costly and expensive for the organization and may not be executed in absence of sufficient financial resources. Thus, the availability of financial resources and willingness of management were also two crucial factors that influenced the degree of innovation implementation policies and practices across the firms. In such circumstances, the support of top management of the firm for bringing the change efforts and innovation may be the foremost element in bring effective innovation. Thus, financial resource availability and top management support were the two antecedents of innovation implementation policies and practices (Klein et al., 2001).

Literature has also reviewed the concept of organizational innovation as the means of value chain process (Hansen and Brinkinshaw, 2007). Organizations can improve innovation by reviewing their innovation efforts end-to-end view and trace the weaknesses and loopholes in the existing process. Once the weaknesses had been identified, the corrective measures and best innovation practices would embark the identified gap to boost the innovation performance in the organization. It leads to the statement that the innovation can be comprised of idea generation, idea conversion and diffusion of innovation activities across the organization in-house and externally (Hansen and Brinkinshaw, 2007). Basically, idea generation involves the process in which the new idea, event, information had been collected, gathered and produced by the knowledge workers or members of the organizations. Generation of idea in-house points to the generation of newness within the organizational units. It includes the extent to which the knowledge workers of the organization produce the new idea on their own. For any organization, the performance indicator of in-house idea generation would be the number of high-qualities ideas generated by the unit. On the other hand, the generation of ideas across the organization may be termed as cross-pollination. Cross-pollination refers to the extent to which the units cooperate with each other for the shared objective of new idea generation. It stresses

the team cooperation of units for the ultimate generation of new ideas. For any organization, the performance indicator of cross-pollination would be the number of high-quality ideas generated by the units in the organization. However, the generation of ideas may uphold externally. External includes the third activity that refers to the extent of collaboration and cooperation of the unit with the external parties for the generation of new ideas. In other words, it refers to the quality of the sourcing of new ideas from the external environment of the organization. For any organization, the performance indicator of external would be the number of high-quality ideas being sourced and generated by the units from outside the organization.

Idea conversion involves the process in which the generated idea, of later step, was converted for execution by the knowledge workers or members of the organizations. Idea conversion was termed as the second process of innovation by Hansen and Brinkinshaw (2007). Selecting the idea involves the screening and initial funding the generated new idea. It refers to the extent to which the knowledge workers of the organization shortlist the idea generated by their own. For any organization, the performance indicator of idea conversion would be the percentage of all generated ideas that end up being selected. Development, on the other hand, means the progress, growth, advances. It refers to the extent to which the ideas were converted into progressive positive results. In other words, it states the transition of a selected idea into profitable new product, services or business. For any organization, the performance indicator of idea development would be the percentage of all selected ideas that end up with the revenues to the organization.

Literature also treats organizational innovation in terms of the level of idea diffusion across the organization (Hansen and Brinkinshaw, 2007). Diffusion involves the process in which the converted idea, of later step, was disseminated across the organization for the information of all members of the organization. For any organization, the performance indicator of the diffusion rate of new ideas would be the percentage of penetration of organization in desired target markets and customer's groups.

The organization should identify the weaknesses and loopholes in the value chain framework of innovation as grabbing the gap would foster the increased innovation level across the organization (Hansen and Brinkinshaw, 2007). The companies poor in new ideas basically fails to establish the quality links between the external factors and the internal cross-unit networks which served as a hindrance in the adoption of innovation. There may be some poor idea companies that are a week in the generation of new ideas and it was due to the poor linkage between the organization's internal cross-unit networking and the external sourced networks of ideas. However, poor idea conversion companies are those companies who possessed strong new ideas but they themselves are a week in selecting and developing the new ideas into new products or services or businesses. This loophole and weakness in the organization may be due to the bureaucratic style of management and the factors of organizational climate. While there may be some diffusion poor companies that may be poor in the dissemination of information across the organization and it may be due to the delays by the managers or the in-effective communication channels.

Armbruster, Bikfalvi, Kinkel and Lay (2008) have classified the organizational innovation in two approaches, structural organizational innovations and procedural organizational innovations. Structural organizational innovation refers to the all forms of innovation that transform from an organizational structure of functions (such as the development of products or services, personnel management, production, marketing functions, financing or audit functions etc.) to the product – oriented or customer – oriented segments, divisions, business units. While on the other hand procedural organizational innovations deals with the innovation among the routines, process and operational activities of the organizations. It involves the implementation of new policies, process, methodologies that may affect the production process as well as the quality of product or services. Besides that, the authors have also classified the organizational innovation into intra-organizational innovation and inter-organizational innovation. Inter-organizational innovation occurs at a top organizational level that may include all the forms of innovations that occurs outside the boundaries of the

organization i.e. the adoption of new organizational structures or modification in existing organizational structures etc. While, on the other hand, intra – organizational innovation includes all the forms of innovations that occur inside the boundaries of organizations. Intra – organizational innovation merely revolves arounds the teams, departments and functioning business units that impacts the overall extent of innovation within the organization.

Literature also supports the fact there exist a vast category of innovation within and outside the organization. Thus, the Armbruster, Bikfalvi, Kinkel and Lay (2008) classification of all the major forms of innovations in terms of procedural organizational innovation, structural organizational innovation, inter-organizational innovation and intra-organizational innovation was supported by previous existing literature. However, the author has indicated that there is a need to further explore the concept of organizational innovation with the specific forms of innovation rather than general type as the different types of innovation has a different impact on the performance indicators and it is inaccurate to study their impacts as a whole. It highlights that there is a need to further explore the theoretical conception of organizational innovation and conception may be viewed as specific to the certain organizational concepts and their impacts on the effectiveness or performance may be studied among different cultural settings (Armbruster et al., 2008). Ambruster et al. (2008) also pointed that there is still a huge gap exists in the conceptualizations of organizational innovations for different organizations and future researches needs to be conducted in order to bring homogeneity in innovation surveys.

A researcher has synthesized the previous 27 years of all the literature and researches relating the organizational innovation with the objective to condense the determinants and dimensions of organizational innovation at one point (Crossan and Apadyn, 2010). The synthesis of organizational innovation conception revealed the three sequential perspectives such as innovation leadership, innovation as a process and finally, innovation as the outcome. The role of strategic leadership in most of the organizations of the world paves the way towards the adoption of innovation. With the passage of time, the adopted innovation momentum towards the innovation as a process and consequently ensures the innovation as the outcome in

operational activities. This sequential overview of innovation also highlights the interconnected factors and process affecting the degree of innovation in the organization.

Concluding the determinants of innovation may be viewed as three-layered meta-theoretical constructs of leadership level, managerial level, and business process level, preceding the dimensions of innovation (Crossan and Apadyn, 2010). Each construct of determinants of innovation was supported with each theoretical basis, consequently defining a determinants framework of innovation formed by connecting the different theoretical units as the leadership level was supported by the Upper Echelon theory which stated the leader's plays the influential role in achieving company profitability (Crossland and Hambrick, 2007). The behavior of leaders shaped by their personality attributes and experiences. Innovation leadership level constituted the top management of organization including the CEO and board of members who served as fuel in the initiation process of innovation. They serve as the motivator for the organizational innovation at initial creative stage.

Managerial levels were supported by resource-based view and dynamic theory of capabilities (Barney, 2001; Eisenhardt and Martin, 2000). Managerial lever connects the individual and group level of leadership level with the organizational factors through the five sets of constructs that may be missions, goals and strategy; structure and systems; resource allocation; knowledge management; and organizational culture. Business process were supported by Process theory explaining how the inputs of innovation were converted into output. Process level involved the generative mechanism that constituted the five process of initiation and decision making; portfolio management; development and implementation; project management; and finally, commercialization.

However, there exists a connection between the determinants of innovation and dimensions of innovation. The systemically review of existing literature reveals that all dimensions of innovation can be generally categorized broadly as innovation as process and innovation as an outcome (Crossan and Apadyn, 2010). Innovation as a process covers the

queries relating “how” of innovation such as how the levels (individual, group organization splits) How internal and external factors drive the innovation process? How the process of innovation starts and develops with the passage of time? Whereas innovation as outcome covers the answers of the queries pertaining “what” of innovation such as what is the degree of newness of innovation? What kind of new process to adopt? What type of new product, process and technologies used?

It is also important to mention that the behavior of middle managers plays an essential role in the effective implementation and adoption of innovation within the organization. Each and every organization carries some policies and practices that form the basis for productivity. Adoption of innovation among these policies is essential for the organization striving to achieve organizational innovation. However, the behavior and extent of middle manager’s commitment decide the fate of innovation adoption (Birkan, Lee and Weiner, 2012). The implementation of innovation climate is positively achieve if and only if, the organization successfully diffuses the innovation information, successfully synthesis the innovation information, managers positively strategize the day-to-day activities, and most important they effectively sell the innovation implementation among the organizational members. All these factors, positively helps the organization to establish the innovative culture within the organization and thus fosters the innovation implementation effectiveness (Birkan, Lee and Weiner, 2012).

However, the conception of organizational innovation can also be viewed as the process of implementing the significant changes in workplace business process, practices and external relations to the environment (Merona - Cerdan and Nicolas, 2013). Basically, the organizational innovation comprises of innovation objectives and innovation adoption practices that represent the extent of organizational innovation within the firm. These innovation objectives may be constitute of response time, innovation skills, quality, cost, and knowledge sharing. These five innovation objectives affect the different forms of adopted innovation among the members of organizations (Merona - Cerdan and Nicolas, 2013).

Some researchers have viewed the conception of innovation as something novel either in terms of product or services or production process that advance from existing prior product to the introduction of significantly different product or service or production process or outcome (McKinley, Latham and Braun, 2014). Organizational innovation may be categorized as flexible innovation and inflexible innovation. Flexible and inflexible are taken as the two attributes of innovation that enables to deeply understand the concept. The researchers have defined these two attributes of innovation on the basis of two sub-constructs of "range" and "temporal". On the parameter of these two sub-constructs, the two categories of innovation that are flexible innovation and inflexible innovation are conceptualized. Range refers to the extent to which the existing products or services or process adopts the possible novelty and newness in post-introduction configurations. Temporal dimension refers to the time to which these existing products or services or process take in the transformation to the possible novel outcome. It can also be called speed of transition period. Thus, the flexible innovation is the one in which there is a wide range of possible novel post-introduction configurations among product or service or process with the rapid speed of transition between the two configurations (i.e. existing and post-introduction). On the other hand, inflexible innovation is the one in which there is less range of possible novel post-introduction configurations among product or service or process with the slow speed of transition between the two configurations. It is essential to know that how these conceptions of innovation affect the survival or decline of the organization in competitive dynamics. In answer to that, it is essential to state that the organization with possible declining stage, if exhibits concentrated power with the managerial attributes of controlling declining causes and carries the flexible innovation (wide range of possible post-introduction novelty and speedy transition configurations) would meet with survival. However, the same organization with possible declining status quo, if exhibits concentrated power with the managerial attributes of controlling declining causes (similar to earlier turnaround through innovation case) but carry the inflexible innovation (narrow range of possible post-introduction novelty and slow transition configurations) would meet with the organizational decline. Similarly, the same organization with the possible declining status quo, if exhibits the diffused

power with the decline managerial attributes to uncontrollable causes or temporary causes and carries the flexible innovation (wide range of possible post-introduction novelty and speedy transition configurations) would meet with the survival. However, the same organization with the possible declining status quo, if exhibits the diffused power with the decline attributed to uncontrollable causes or temporary causes and carries the inflexible innovation (narrow range of possible post-introduction novelty and slow transition configurations) would met with the organizational decline (McKinley, Latham and Braun, 2014).

The pros of the theory presented by McKinley, Latham and Braun (2014) lies with the fact that it offers the extended version of dynamic capabilities framework of organizational innovation with the illustration that the organizations strive hard to operate in tough market dynamics by absorbing the functional knowledge from the external-internal integration routines. The productivity improvements and enhancement can be attained with a better understanding of innovation process of organization and thus, the innovation process of any organization are crucial to being studied. The organizations acquire the functional knowledge from the external environment keeping in view the complexity and uncertainty of the external environment. The complexity of the external environment is reflected by the client or other stakeholder's requirements and the supply chain mechanism of the organization, while on the other hand, the uncertainty of external environment is reflected by the extent of market volatility and the extent of technological advances incorporated in the external environment. The organization also absorbs the functional knowledge from the internal environment taking into account the internal structures and culture of the organization. These acquired functional knowledge from the external as well as the internal environment is absorbed by the organization's internal dynamic capabilities. Some researchers have viewed the innovative capabilities of the organization in terms of cognitive routines and organizational routine. Cognitive routines include those internal process of the organization that identifies the new opportunities from the surrounding (i.e. external and internal environment) and operates to

incorporate these newly identified patterns and opportunities into the existing organizational practices.

Gajendran et al. (2014) have conceptualized the cognitive routines as the combination of three sub-process that are sensing, seizing, and reconfiguring. The process of sensing involves the identifying of the new patterns or any new opportunity available to the organization. The process of seizing involves the probability of leverage that could be attained by adopting the sensed opportunity or new pattern through the effective use of an organization's endogenous knowledge and exogenous external or inter-organizational networking. The process of reconfiguration goes in parallel with the earlier two process that involves the continuous alignment and confirmation of the assessed opportunity or new pattern into the existing routine practices of the organization. When the new opportunity or pattern is sensed, seized and reconfigured, the whole process may keep moving into cognitive routines until the new opportunity or pattern is sensed. These cognitive capabilities are being supported by the organizational or functional capabilities at each sub-process level of sensing, seizing and reconfiguration that leads to the institutionalization and encourages the adoption of cognitive routines at the organizational level (Gajendran et al., 2014).

With the development of these integrative organizational routines (cognitive and functional), the organization gets enable herself to acquire increase exogenous resources and service development with more managerial mobility and engagement towards the external environment. New resources may get introduced to an organization that may further enhance the organization's dynamic cognitive ability to scan the new opportunities from the external environment. Thus, the cyclic process goes on with the enhanced outcome of innovation (Gajendran et al., 2014). This innovation outcome can be classified in terms of product or service innovation, process innovation, market – based innovation, supplier – based innovation, organizational innovation and business model innovation. These integrative organizational routines also reflect the extent of a firm's ability to define boundaries for effective communication, controls and management of its all tangible and intangible assets and resources

of the organization. In addition, these dynamic capabilities enable the organization to discard the out-of-date and obsolete resources with the integration of new and improved resources and skill sets.

Ferreira et al. (2015) has extended the Tidd and Bessant (2009) model of organizational innovation and has attempted to address the two major issues of innovation literature that are identification and validation of innovation process and practical implications of these determinants of innovation process on innovation performance. In view of existing literature, Ferreira et al. (2015) have operationalized the organizational innovation as the constructs of process at five levels that are a strategy, process, organization, learning and networking. Strategic innovation implies the concept that the organizations deploy their resources in order to acquire new ideas for better performance. Process innovation implies the improvement in business process, product or service revival and redefining the distribution or production means to acquire the optimal solutions and better productivity. Innovation at the organizational level implies the introduction as well as the adoption of unique and improved methodologies, to manage the external as well as the internal relations. Learning, as the determinant is self – explanatory, striving hard to acquire, share and retain new knowledge with the objective of adopting new ideas. Extending the knowledge reserve of the organization through sharing the failure or success stories enhances the innovation within the organization. Networking is also viewed as a crucial determinant of innovation as the cordial inter-organizational relationship results in resource sharing or interdependence that further results in new ways of doing businesses with improved technologies and methodologies.

Jantz (2015) has conducted in-depth research on the conception of organizational innovation and has come up with the illustration of determinants of innovation. The author has also explained how the organization turns itself into being innovative by changing their cultures. Jantz (2015) explained that organizational innovation can be categorized into two major aspects on the basis of their characteristics that are administrative innovation and technological innovation. Administrative innovation reflects the adoption of new and unique ideas,

methodologies, process or events etc. in internal mechanisms of the organization that may include the resource allocations, personnel management, procurement of resources, finances or audits, marketing activities, operational activities etc. On the other hand, technological innovation primarily focuses on the external relations of the organization with the clients, end users and other stakeholders of the external environment that may also include the introduction of new products or services in the market.

It is very important to inform that these two innovation characteristics have also explained the "extent of change". This further redefines the nature of innovation from incremental to radical along the continuum. Radical innovation uses wholly new acquired knowledge to foster innovation (either administrative or technological) within the organization while on the other hand, incremental innovation involves the use of existing knowledge to foster new ideas, products or services etc. among the organization. Literature revealed the fact that radical innovation is riskier and possess a more profound impact on the organization in comparison to incremental innovation (Jantz, 2015). In this manner, organizational innovation can be termed as the construct of five essential determinants that are behavioral integration, structural differentiation, external environment and finally the ambidextrous orientation. The concept of behavioral integration lies at the group or team level and sourced from the upper echelon theory by Hambrick (2007). The behavioral integration as the ideal feature of a group or team that holds the differences in opinions and arguments, able of viewing the events, ideas or activities from different perspectives and comes up with the constructive decision and solution to the present problems (Hambrick, 2007). Basically, the difference in the opinions and the different perspectives from the members of such teams originates from their personal or departmental objectives, agendas, motives and personality attributes. Literature has operationalized the behavioral integration as the construct of three sub-constructs that are the extent of collaborative behavior among members, quantity and quality of information exchange, and ability to make a joint decision (Hambrick, 2007).

In good organizations, generally, decisions are made by the group of peoples (referred to as top management team) rather than a single individual (Hambrick, 2007; Jantz, 2015). These behaviorally integrated teams are better in resolving present issues and effectively handles the complexities of the organization. With the minimal face-to-face interaction, (as the top management team primarily does not conducts meeting daily or weekly basis) these top management teams affect the organizational outcomes. The essential characteristics of a group or team that could term it as "behaviorally integrated" are their collaborative nature among members, holding different and conflicting opinions and arguments, and ability to conclude a constructive winning argument or decision.

An important determinant of organizational innovation "organizational structure" is sourced from structural contingency theory that states that the structure of the organization should be flexible enough to adapt the growing trends and align according to the changes of external environment. Present literature has also classified organizations with such organizational structure as organic organizations. The literature also pertains the information that the organizations with the centralized decision making, fewer management layers and informal structures are keener to produce radical innovation while on the other hands, the organizations with the decentralized decision making, well – structured management layers and formal structures are keeners to produce incremental innovation. Thus, it would not be wrong to state that the organizational structure is crucial in determining innovation.

Ambidexterity characteristics of the organization refer to the ability of the organization to effectively manage the internal process and affairs and events as well as the effectively cope with the dynamic condition of the external environment through the effective acquisition, adoption and retention of new knowledge. Ambidexterity orientation is operationalized as the third determinant of organizational innovation. Existing literature of organizational development explains that there are two types of ambidexterity oriented organizations, structurally ambidexterity and contextually ambidexterity. Structurally ambidexterity organizations are the one that is flexible enough to adapt dual organizational structures with the

objective to adopt new knowledge, process, methodologies, strategies or innovation. Structurally ambidexterity organization focuses on the exploration and exploitation of the knowledge from the external and internal environment through dual structures. While on the other hand, contextually ambidexterity uses the social and behavioral means (mid-level positions of organization) to focus on exploration and exploitation of the knowledge.

The organization should merely more keen towards its external environment in which it is operating. The present external environment of the 21st century is more unstable and complex for the organization due to the globalization and growing technological advancements and thus favors radical innovation (Jantz, 2015).

2.3.2. Gap-2 Identified from Existing Literature

Thus, there are studies and investigations in surplus that postulate and inquire about the conception of organizational innovation in detail. However, the literature also pertains the gap in the conceptualization of the organizational innovation as the different researchers have conceptualized the innovation in different ways in different cultural contexts (Lam, 2005; Hamel and Mol, 2008; Armbruster et al., 2008; Keupp et al., 2012). This could be evident from the fact that the conception of organizational innovation in the existing literature is diverged into three strands rather than focus on any central point. The first strand of literature contemplates the researches on the newness of product and technical process of the organization including their structural attributes (Burns and Stalker, 1961; Mintzberg et al., 1979; Teece et al., 1998). The second strand of literature demonstrates the researches at organization's macro level as the adoption of new market technological and environmental changes bring innovation in the organization in connection to the organizational changes (Levy and Mary, 1986). The third strand of literature exhibits the researches at organization's micro level that how the newness incorporates with the passage of time in the organization from its time of evolution towards growth (Argyris and Schon, 1978; Amabile, 1988). The literature reveals that the characteristics of newness either in adoption or process are a central theme to the

conceptualization of organizational innovation. However, the outcome of this newness (innovation) and the measure or conceptualization of innovatively transformed organization is weak in existing literature (Keupp et al., 2012) that serves as a gap in existing theories of innovation. The existing literature on innovation is scattered and there is a need to generate consensus on the conceptualization of innovation as different researchers have conceptualized it in different ways in different cultural contexts (Rachivadran, 2000; Birkinshaw et al., 2008; Keupp et al., 2012; Crossan and Apaydin, 2010; McKinley, Latham and Braun, 2014; Jenssen and Nybakk, 2013).

Armbruster, Bikfalvi, Kinkel and Lay (2008) have indicated that there is a need to further explore the theoretical conception of organizational innovation and conception may be viewed as specific to the certain organizational concepts and their impacts on the effectiveness or performance may be studied. Ambruster et al. (2008) also pointed that there is still a huge gap exists in the conceptualizations of organizational innovations for different organizations and future researches need to be conducted in order to bring homogeneity in innovation conception. Costa and Monteiro (2016) also argued that although the organizational innovation is the most widely researched area. However, their systematic review on innovation literature revealed that presently very broad and wide conceptualizations of organizational innovation are used in literature. Thus there is a need to validate the concept of organizational innovation (Costa and Monteiro, 2016).

Thus, this research study has attempted to fill these literature gaps identified by Armbruster et al. (2008), Lam (2005), Keupp et al., (2012), Costa and Monteiro (2016) by reviewing and vindicating the research construct of organizational innovation. This research work also contributes in the body of literature by attempting to ponder the organizational innovation in terms of outcome (innovatively transformed) that is identified to be quite weak in existing literature by researchers Keupp et al. (2012). This research thesis has used the research instrument developed by Skerlavaj (2010) based on the conceptualization laid by Popadiuk and Choo (2006). Some of the researchers have called for future research to justify the conception

of organizational innovation with an objective to establish homogeneity in the conception of a variable across different cultural settings. Few researchers have also attempted to validate this research instrument in the cultural setting of different countries and sectors but negligible or no research study has been conducted for the validation of this instrument in the cultural context of Pakistan. Consequently, this research work attempts to contribute in the body of existing literature by validating the research instrument developed by Skerlavaj (2010) on the conceptualization by Popadiuk and Choo (2006) in order to address this identified literature gap. Detailed operationalization and sources of research measures are discussed in consequent chapters

2.4. Organizational Effectiveness

The current section attempts to review in depth the study variable organizational effectiveness by discussing the previous theoretical frameworks and theories of different researchers in order to clarify the conception of this research construct.

The concept of effectiveness is an essential theme of a number of researches on organizational studies. This argument is also supported by Hall (1980) who has entitled organizational effectiveness as the ultimate question in major forms of organizational analysis. Different theories and researches have viewed the organizational effectiveness from different perspectives and accordingly defined the organizational effectiveness in different ways. Generally, it can be explained as the combination of two words; organization and effectiveness, whereas, the group of people working together for common goals and objectives with some sense of commonality is known as organization and obtaining the desired goals and objectives within the limit of defined resources, cost and time is known as the effectiveness. Organizational effectiveness has also be defined as the attainment of an organization in achieving those results to which that organization, firm or venture was established (Muhammad, 2011). Organizational effectiveness is regarded as the agent for accelerating the developments in organizations (Aybar, 2001).

Some researchers have also viewed the concept of organizational effectiveness as value-concept in literature and generally, the determination of the value also depends upon the extent of human perception of the usefulness of the outcome. The organizational effectiveness has also been referred to as the evaluation of outcomes desirable by the human for the benefits of the organization (Zammuto, 1984). The overall satisfaction of all the constituents of the basic process of the organization from inputs to outputs in an efficient manner is also considered to be fall under the concept of organizational effectiveness (Mathew, 2005).

Literature pertains the number of school of thoughts explaining the concept of organizational effectiveness. Different researchers have reviewed the organizational effectiveness in different perspectives that was covered in detail in the consequent paras;

2.4.1. Critical Analysis of Established Theories of Organizational Effectiveness

This section covers the in-depth illustration of different theoretical models and frameworks pertaining to the key study variable "organizational effectiveness". In this section, different theoretical framework conceptualizes by different researchers will be reviewed with an objective to grab the key understanding of the variable.

Goal attainment approach by Price (1968) is the most used, logical and discussed approach in existing researches for the conception of organizational effectiveness. Generally, the goal attainment approach defines the concept of organizational effectiveness as the extent to which a business entity accomplishes its targeted goals and objectives. The mere objective of this approach was the identification of organizational objectives and to ensure the knowledgeable organizational members well-aware with the organizational goals as well as their assigned individual goals and targets. The overall performance of the organization was also viewed in terms of the extent of organizational goals achieved. However, the goal attainment approach was the most discussed and used approach in existing literature but this approach also receives some criticism from opponent's researchers. The opponents hold the

view that pursuing the organizational goals is a basically partially measure of organizational effectiveness. Organizational effectiveness is a broader conception which cannot be defined or reflected by the organizational goals only. Furthermore, the business entities hold the conflicting goals at the same time due to internal inconsistencies and goals are the continuous targets that do not remain the same with the passage of time and keep on changing with the market changes and technological advancements and competitive dynamics (Hossein et al., 2011).

Generally, cost-benefit analysis is regarded as a goal and objective centered view of an organization striving for effectiveness. Campbell (1977) argued that the cost-benefit analysis is usually done by the firms with an objective to choose the best possible options. It involves the comparison of merits of each available option to finalize the course of action, rather than measuring the effectiveness as a whole in the firm.

The conception of management by objectives was first conceived by the founder of management Drucker in 1964. The management guru, Peter Drucker (1964) explained the "management by objectives" as the process of setting the clear goals and objectives within the organization in such a manner that all the employees or workers of the organization define their behavior, attitude and work activities in pursuit of the defined objectives. Basically, it is the process in which the subordinates and supervisors jointly identify their goals and then allocate the responsibilities of the member in light of the set goal in order to evaluate the performance of the member in terms of goal contribution (George, 1965). This may also lead to a clear understanding of the roles and responsibilities of the member of organizations. It may also help them to clarify their roles and activities expected of them. Setting the objectives encourages the workers to meet the targets but on the expense of the quality of output (Deming, 994). The major dilemma in the inaccuracy is due to the lack of awareness of the interconnectedness of things or work activities. In simple, the management by objectives has its benefits with the clarity of roles and responsibilities to workers (Drucker, 1964; George, 1965) but on the other hand, it has some shortcomings as reflected by Deming (1994).

Some researchers have elaborated organizational effectiveness as the ability of an organization to successfully achieve the desired outputs and internal operations and process in a consistent way (Gregory and Ramnarayan, 1983). All the organizations are said to be effective if they account for themselves and the activities of the organization are found relevant and acceptable by the members of the organization and relevant task environment. To whom the organization creates and operates its account is referred to as the audience for an account. Organizations generally account for themselves in two different ways either internally or externally. Thus, the operations and process and procedures and policies and work structure and even the personnel that organization carries differs for these two different audiences internal and external. Furthermore, the organizational effectiveness also includes the character of activity accounted for. It may revolve around the nature of activity operated by the organization for the mentioned audience (dimension one of organizational effectiveness). Activities are also of different natures. Some activities conducted by organizations are operational in nature while others develop the structures and networks and systems. Framework setting basically refers to the creation and consideration of certain decision including staffing, planning, resource acquisition, resource allocation but not limited to. However, the performance within the framework refers to the measures of output and productivity that reflect the performance of the organization.

The depiction of organizational effectiveness by Gregory and Ramnarayan (1983) was debated to have some missing links. Tying the basics of the model, the researchers came up with the proposed new framework of organizational effectiveness that depicts the concept in four approaches. Accounting for the outputs (performance within the framework) to the external sources (the character of activity accounted for) generally takes the form of productivity index. The organizations under this scenario are merely keener towards productivity and conceptualize their organizational effectiveness as the measure of its productivity index. This approach is also explained as accounting for external consumption as “auditing”. Reports to the concerned regarding the trial and error, correction and implementation. Accounting for the outputs

(performance within the framework) to the internal sources (the character of activity accounted for) generally takes the form of organizational specific output measures. It means that the organization under this scenario are merely more focus towards the organizational goals and targets specific measures and conceptualizes its organizational effectiveness as the extent to which it has achieved its specific organizational goals and targets. It involves the implementation process that is self-analytical in nature and contains information on input-output activities quality, values and efficiency. Evaluations are made at the individual as well as a departmental level for the measure of the extent to which the targeted goals are achieved. This approach is very influential for the attainment of desired effectiveness. Literature also pertains the conception of organizational effectiveness as the accomplishment of interests of multiple constituents of the organization. This approach interpreted the organization as the constituent of multiple stakeholders, each possessing its own interest. The pursuit of interests of each stakeholder and their nature of interaction among each other reflects the concept of organizational effectiveness (Pennings and Goodman, 1977; Bernard, 1938; Bass, 1952; Zammuto, 1982). Bernard (1938) argued that there were two key requisites of organizational effectiveness that were efficiency and effectiveness. He further attempted to clarify the meanings of these two concepts. He explained that efficiency was termed as to reduce the time and cost of the process or resources with the maximum output and return. In simple, it was meant to the input ratio output with getting maximum output with minimal input. On the other hand, effectiveness was termed as doing things in the right manner. In simple, effectiveness was meant to the ratio with which the output met with the desired output.

Bass (1952) was the first who coined the basis of multiple constituency approaches of effectiveness. Organizational effectiveness is said to accomplish if each stakeholder of the organization sets its own goals and targets and accomplishment of those goals determines the level of organizational effectiveness attained by the organization (Bass, 1952). Bass explanation of organizational effectiveness gained acceptance by numerous researcher of

Industrial psychology (Connolly et al., 1980; Pennings and Goodman, 1977; Zammuto, 1982; Friedlander and Pickle, 1968; Thompson, 1967).

However, the multiple constituency approach or multiple values approach leads to a query that criteria of which stakeholder will conclusively decide the effectiveness of the organization worthwhile. As each organization, operating in an industry has a number of stakeholders and decisiveness of organizational effectiveness poses confusion as unlike, goal-oriented approach, the effectiveness of the organization is determined by the achievements of managerial goals. Zammuto (1982) further advocated the multiple constituency approaches by explaining this issue with the argument of "meta criterion".

Supporting his arguments with previous literature in his research article, Zammuto (1982) argued that there is three comprehensible meta-criteria base on the concept of relativism, power and social justice. Relativist meta criterion considers that there are no single criteria that can decide the effectiveness of the organization, however, different criteria with different levels of accomplishments decides the effectiveness of the organization relevant to the external environment of the organization (Connollay et al., 1980; Zammuto, 1982).

However, the power-based theory does not explain the concerns and issues of those who are less powerful within the organization and thus, points towards the concerns of justice. People of the organization may think that they contribute a lot towards the organization however, the cost provided to them may be far less. This is what Keeley (1978) attempted to justify with the research model of organizational effectiveness stressing the more need towards meta criterion of social justice. The effectiveness was re-conceptualized as the means of maximizing the well-being of the least advantageous people of organization (Keeley, 1978).

The 7-S Model of Mc Kinsey management consultant of Peter and Waterman (1982) has defined organizational effectiveness as the combination of "hard" and "soft" factors of an organization. The hard factors are those, which are more concrete and reflected by the organizational policy documents and plans. These hard factors include three crucial elements

that are structure, strategy, and systems. The other soft factors are those, which are substantial and difficult to describe as intangible type. These factors are the one who is dependent upon the behaviors and attitudes of the members of the organization. It includes skills, style (culture), staff, and shared values. It is crucial to mention that change in one S-factor may cause a change in the other six S-factors. Thus, managing these factors in time of uncertainty and complex competition can fosters organizations with organizational effectiveness (Peter and Waterman, 1982)

The concept of organizational effectiveness as competing values framework was coined by Quinn and Rohrbaugh (1983) who worked with the organizational theorists and researchers. They conducted an extensive research survey and come up with the list of 30 criteria grouped into three dimensions that conclusively decide the organizational effectiveness in terms of organizational structural properties. The three conflicting perspectives elaborating the organizational effectiveness were as the well-being of internal employees of the organization and their development in context to the external environment of the organization with the objective of the final development of the organization. The attribute of being centralized for the effective control, structure and stability of the organization, but in the same way, decentralized for the innovation, change and flexibility. A differentiating understanding of concerns for means and process (planning and goals) and concerns for ends (productivity).

These organizational conflicts were several times debated in the literature by the numerous researchers but, Quinn and Rohrbaugh (1983) were the ones who first time collectively explained them in a single model with the connection to organizational effectiveness. Quinn and Rohrbaugh (1983) specified four models as the human relation model, open system model, rational goal model and the internal process model. The human relation model emphasizes flexibility and internal focus. The means (process and goal-targets) for the organizational effectiveness are the employee morale, cohesion, commitment, participation, openness (with emphasis on group culture) and the ends for the organizational effectiveness are the human resource development of the organization. The open system model emphasizes

flexibility and external focus. The means (process and goal-targets) for the organizational effectiveness are the innovation, external support, readiness; adaptation (with emphasis on development culture) and the ends for the organizational effectiveness are the growth and resource acquisition of organization. The rational goal model emphasizes on the control and external focus. The means (process and goal-targets) for the organizational effectiveness are the planning, goal-setting, goal clarification, decisiveness; direction (with emphasis on rational culture) and the ends for the organizational effectiveness are the productivity and efficiency of the organization. The internal process model emphasizes on the control and internal focus. The means (process and goal-targets) for the organizational effectiveness are the information management, communication, documentation; continuity of process (with emphasis on hierarchal culture) and the ends for the organizational effectiveness are the stability and control of the organization.

Literature has also explained the organizational effectiveness as the resultant of three approaches that are system resource approach, internal process approach and goal approach, on the basic functioning of an organizational activity that is input, process and output (Daft, 1998). The system resource approach occurs at the first step of business-unit activity that is ‘input’. It assesses the effectiveness by analyzing the key input factors that acquired resources may be effective enough as desired. The internal process approach works at the second level of business-unit activity that is ‘process’. It assesses the effectiveness by the efficiency of internal factors such as the extent of employee empowerment in task performance. It involves the organizational climate, cohesiveness, teamwork of the organization. The goal approach proceeds at the final step of business-unit activity that is ‘output’. It assesses whether the business-unit has achieved its desired goals and targets or not. It involves the evaluation of performance, productivity, market share, return on investment, market effectiveness of the organizations.

Different organizations need different strategies in order to achieve organizational effectiveness (Galbraith, 2002). Designing the organizational policies in an effective manner of

five categories can help the organization in accomplishing organizational effectiveness. These five categories of policy designs influence the employee behaviors, controllable by the leadership, thus they skill the leadership in an effective decision with aligning the employee behaviors towards the organizational goals. The five categories of policy design are people, strategy, structure, process and rewards. Designing policies for people leads towards the development of skills and organizational mindsets, paving the way for higher productivity. Similarly, designing policies for the strategy leads towards the more effective direction and control inside the organization (Galbraith, 2002).

Designing policies for the structure leads towards the powerful empowered organizational structure, paving the way for effective management and execution of policies. Designing policies for process leads towards the effective flow of information for the end-users. Designing policies for rewards leads towards higher morale and motivated workforce.

Hence, this research thesis has reviewed the extensive past literature and researches of the established theoretical frameworks on organizational effectiveness. This research work has adopted the validated items from the previous work of Chen and Klimoski (2003), Taylor and Bower (1972), Lese (2000), Delaney and Huselid (1996). Detailed operationalization and sources of research measures are discussed in consequent chapters.

2.5. Theoretical Justifications of Model / Hypotheses Development

The concept of organizational learning has been explored in different fields of studies as in business and management studies by Argote (2013) Smith and Lyles (2011), in organizational psychology by Dierkes (2001) Argote (2013) Kozlowski (2012), in the field of organizational education by Gohlich (2009). However, the literature lacks the well-articulated theoretical framework on organizational learning as an antecedent to other organizational factors (Argote, 2013). The review of the existing literature has also indicated some of the critical gaps that are discussed and covered in this research work. The attempts to address these

identified literature gaps have determined the scope of this research work to three broader theoretical perspectives of theories of organizational learning (Argyris and Schon, 1978; Senge, 1990), normative model of Theories of organizational effectiveness (Steers, 1975) and Schumpeter's Theory of innovation (Sweezy, 1943).

The concept of organizational effectiveness originates from the normative models of theories of organizational effectiveness (Steers, 1975). The *normative approach* implies that there are some resources, capabilities and elements of the organization that needs to work on in order to achieve the overall organizational effectiveness and strengthens competitive positioning in the market (Steers, 1975). However, the continuous improvement and sustaining the newness in resources and process is something challenging for organizations (Jantz, 2015). This problem may be overcome among the organizations who tend to involve themselves in bringing novelty and newness in products, process and existing resource bases (Daugherty et al., 2011; Bravo, 2016). This is what *Schumpeter's Theory of Innovation* explains (Sweezy, 1943).

The concept of innovation is established on the importance to invent something new by the organization. However, there are other individuals and organizational factors that affect these activities of bringing innovation for strong competitive positioning (Hitt, Ireland, Camp and Sexton, 2001). However, when the innovation may not be compatible with the previous knowledge or experience, it may require the formal technological innovation of the organization mediating the association of organizational prior learning and outcome of the innovation (Tang and Murphy, 2012). Thus, organizational learning occurs to tradeoff innovation in the organization (Mariano and Casey, 2015).

Theories of organizational learning (Argyris and Schon, 1978; Senge, 1990) implies that organization learns through its individual members and the way they are developing their abilities to competitively run the organizational process (Oh, 2018). The behavioral aspect of theories of organizational learning states that the organizations keep on learning new things

even from its failures and bad experiences as organizations continuously thrive for acquiring new knowledge for the good performance (Desai, 2012). This new learning by the organization further contributes to the better individual performances and strengthen competitive positioning of the organization (Mainert, Lens and Greiff, 2018).

2.6. Hypotheses development from Existing Literature

A number of research studies have been conducted on the domain of learning, innovation and organizational effectiveness among the Western countries (Hogan and Coote, 2014; Hussein, Mohamad, Noordin and Ishak, 2014; Hussein, Omar, Noordin and Ishak, 2016). However, negligible researches have been conducted to explore and validate the concept of organizational learning process, organization innovation and organizational effectiveness in Pakistan. Thus, it highlights that there is a need to further explore the domains of organizational learning and innovation that contributes to the areas of organizational studies.

Generally, organizational learning is itself not an end to process but it is a tool that enables the organization to produce state-of-arts product or services for the contribution of business success as well as the achievement of organizational effectiveness. Organizations need to learn in order to better understand these environmental changes of business and technology so that they can effectively sense the dynamics and respond on an immediate basis in the right way.

Number of previous research studies have confirmed the existing relationship between the organizational learning process and organizational effectiveness (Yang, 2007; Santos, Lopez and Trespalacios, 2012; Wu and Chen, 2014; Wei, Yi and Guo, 2014; Pokharel and Choi, 2015; Lee and Lee, 2015; Chung, Yang and Huang, 2015; Nystrom and Starbuck, 2015; Walter, Lechner and Kellermanns, 2016; Edwards, 2016; North, Bergstermann, and Hardwig, 2016). Thus, in light of these existing research work, the following research hypothesis has been developed as;

H1: *Organizational learning process has a positive impact on organizational effectiveness.*

The review of the literature has also revealed that organizational learning will enhance the innovation among organizations who are operating in the same market condition for a long period of time (Argyris and Schon, 1978). Literature has also disclosed that the organizational learning process supports creativity, inspires new knowledge and ideas across the organization (Garcia, 2007). This further increases the potential of the employee to understand the events, mechanisms and apply them that consequently favors organizational intelligence and with this culture forms a background for orientation to organizational innovation.

Another researcher has pointed that organizational learning may have a direct effect on the administrative and technological innovation of the organization and it was also found that the effect of organizational learning on administrative innovation was much greater than the effect on technological innovation (Lin, 2003). Moreover, the different organizational learning styles may have a different impact on innovation activities (McKee, 1992). Single loop learning may have the quantitative effect on the innovation activities of the organization whereas the other form of organizational learning style (that is double loop learning) may have the qualitative effect on the innovation activities. The combination of single loop and double loop learning (that is termed as meta-learning) may have the overall enhancing effect on the extent of organizational innovation (McKee, 1992). Therefore, it is very crucial to state that overall organizational learning may have some influential effect on organizational innovation.

Garcia, Ruiz and Llorens (2007) argued that organizational learning forms the context for the organizational innovation by supporting creativity, inspiring new knowledge and favoring them to the organizational intelligence. The process of organizational innovation originates from the idea generation and adoption. The idea is generally generated and adopted by the individuals and teams and organizations through the acquisition of knowledge from its external environment. Employees learn from their external contexts as well as with each other. Similarly, organizations learn from their operating experiences, joint ventures, franchising and

licensing experiences, agreements with other stakeholders, networking and other organizational practices. Individual learning with the passage of time transforms into team learning and organizational learning. Thus, it paves the way for doing things, process, and tasks in new ways that further fosters the organizational innovation. In simple, organizational learning forms the basis for the organizational innovation through acquiring new knowledge for introducing new products and services to survive the competitiveness of external environment (Cefis and Marsili, 2005).

Some of recent researches have also highlighted the empirical evidences that organizational innovation is linked with organizational learning (Tang and Yeh, 2015; Schuchmann and Seufert, 2015; Hurley, 2015; Vargas, 2015; Fraj, Matute and Melero 2015; Fernandez-Mesa and Alegre 2015; Fang, Li and Lu, 2016; Tamayo, Gutierrez, Montes and Lopez, 2016; Husain, Dayan and Benedetto, 2016; Zhao, Li, and Liu, 2016; Sheng and Chien, 2016). Thus, the review of mentioned existing literature probes the research hypothesis as;

H2: *Organizational learning process has a positive impact on organizational innovation.*

The vast literature of organizational innovation associated with different disciplines of strategic management, marketing and entrepreneurship also reveal that organizational innovation is a key determinant for achieving the organizational effectiveness.

Innovation is a channel through which organization responses to environmental changes (Peters and Waterman, 1982). Organizational innovation enables the organization to commence new product and services that can help foster competitive advantage in intense competitive market dynamics (Zahra, Ireland and Hitt, 2000). Basically, the innovation occurs within the organization when the employees interact with each other in a facilitative manner (Nonaka, 1994). They share information and knowledge with each other and help each other in understanding the events, process or information etc. With this process of sharing knowledge

with each other, the employees came up with new insights, deeper illustrations and exploration of new capabilities that further paves the way for the innovation.

Some of recent researches have also highlighted the empirical evidences that organizational innovation has positive effects on organizational effectiveness (Glisson, 2015; Jacobs, Weiner, Reeve, Hofmann, Christian and Weinberger, 2015; Vries, Bekkers and Tummers, 2015; Peralta, Lopes, Gilson, Lourenço and Pais, 2015; Zauskova and Mendelova, 2015; Birken, Lee, Weiner, Chin, Chiu, and Schaefer, 2015; Kim, Song and Triche, 2015; AlHrassi, Masadeh, AlLozi and Irtaimeh, 2016; Tidd and Aleman, 2016; Prajogo, 2016). Thus, in light of this existing reviewed literature, the following research hypothesis 3 has been formulated as;

H3: *Organizational innovation has a positive impact on organizational effectiveness.*

2.6.1. Identification of Gap-3: Role of organizational innovation as a mediator

The review of the existing literature has promulgated that different researchers have tested the role of organizational innovation as the mediating effect on the relationship of organizational learning and performance (Liao, Chang, Hu and Yueh, 2013; Ugurlu and Kurt, 2016). These research studies examine the possible relationship between organizational learning and innovation and pointed out that the positive association exists between these two study variables. Nevertheless, there is further need for exploring the nature of the relationship by keeping in view the mediating and moderating nature of the analysis.

Ugurlu and Kurt (2016) indicated that the future researches are needed to consider the firm size, and different segments and sectors need to be studied for the validation of the positive mediation effect of organization innovation among the organizational learning and effectiveness. Costa and Monteiro (2016) also argued that although the organizational innovation is the most widely researched area. However, their systematic review on innovation

literature revealed that presently very broad and wide conceptualizations of organizational innovation are used in literature. Thus there is a need to validate the concept of organizational innovation (Gap-2 of this research study) as well as there is need to establish further understandings on the empirical relationships of innovation and innovation outcomes (Costa and Monteiro, 2016).

Keeping in view the literature gap identified by Ugurlu and Kurt (2016) and Costa and Monteiro (2016), this research study attempts to fill these identified gaps by substantiating the mediating effect on the relationship of the organizational learning process and organizational effectiveness. Thus, the proposed hypothesis 4 has been developed as;

H4: *Organizational innovation mediates the relationship between organizational learning organization process and organizational effectiveness.*

2.6.2. Identification of Gap-4: Role of work attitude as moderator

It is pertinent to mention here that the impact of work attitude as a moderating variable in the relationship between organizational learning, innovation and organizational effectiveness is one of the newest proposals to emerge in organizational studies research. As no or negligible work has been found on the moderation effect of work attitude on the relationship between organizational learning, innovation and effectiveness as also highlight by survey evidence on recent researches table 2.3.

Humans are different from each other based on some demographic and personal factors and different humans possess different work behavior. Generally, it is not wrong to state that each organization possesses the employees with different work-related attitude. Some employees may be very keen to their work or other may not be. This may highlight the importance of context (Argote, 2011). The context in which the organization or the individuals are operating shapes the motivation and attitude of the employees (Argote, 2011).

Consequently, it may lead to an interruptive or boosting effect on the learning and innovation across the organization (Argote, 2011). It also further influences the performance levels of individual or organization (Argote, 2011)

Chiva, Ghauri and Alegre (2014) have conducted research on the exploration of a complex system model illustrating the interrelationship between organizational learning, effectiveness and internationalization antecedent to the edge of chaos and stability of the system. They argued that adaptive learning fosters the incremental innovation resultantly possesses low internationalization while generative learning fosters the radical innovation resultantly possesses the global internationalization. The researchers have called for the further research on the exploration of this interrelationship in different case studies, different countries, different segments and sectors with an in-depth empirical study on the other possible variables influencing and affecting the interrelationship.

Basically, managers play an important role in engaging employees towards innovation (Peters, 1982). The literature also highlights that the motivation of employees and the extent to which the employees are heartily involved with their assigned jobs and tasks affects the innovation within the organization (Peters, 1982; Argote, 2011). Thus, there possibly may exist some relationship among the motivation of employees to perform, job involvement and organizational innovation that further needs to be explored (Said, 2016).

Ugurlu and Kurt (2016) have also pointed out that there is a further need to explore the nature of the relationship by taking into account the mediating and moderating nature of the analysis. Argote (2011) has also called for future research on the effects of these context factors such as motivation to examine how motivation alone and in combination with other factors influence the organizational learning and its consequents.

By keeping in view the gap identified by the Argote (2011), Ugurlu and Kurt (2016) and Chiva, Ghauri and Alegre (2014), this research study also attempts to fill these literature gaps by exploring the moderating role of work attitude (motivation and job involvement) on

the relationship of organizational learning process and organizational innovation. Thus, the identification of gap and the literature support for the possible association of constructs, further probes the research hypothesis 5 of this research study as:

H5: *Work attitude moderates the relationship between organizational learning process and organizational innovation.*

It is also crucial to pinpoint that a researcher Argote (2011) has called for the future research on effects of contextual factors (such as motivation alone and in combination with other factors) on the consequents of the organizational learning as well. Thus, this probes the research hypothesis 6 of this research study that may check the possible effect of work attitude on the relationship of organizational learning and proposed consequential factor (organizational effectiveness).

H6: *Work attitude moderates the direct relationship of the organizational learning process and organizational effectiveness.*

The bottom line of the whole literature review portion of this research work postulates that six testable research hypotheses have been derived on the basis of past research work and also in search of answers to the literature gap identified by the previous research work. The newness and contribution of this research work can also be evident by the mechanism used in this research work to address the identified literature gaps as summarized in table 2.2.

The formation of six testable research hypotheses with an objective to address the mentioned gaps will consequently pave the way towards the formation of the proposed theoretical framework of this research work. The proposed theoretical framework illustrates that the organizational learning process affect the organizational effectiveness in two manners, (i) direct effect on organizational effectiveness and (ii) indirect effect on organizational effectiveness. The direct effect of the organizational learning process on organizational effectiveness is the simplest path that may be tested through the already developed research

hypothesis 1. However, the indirect effect of organizational learning process on organizational effectiveness routes through the mediation effect of organizational innovation and simultaneously along with the moderation effect of work attitude. This indirect effect is represented in diagram form (figure 3.1) as the proposed theoretical framework of this research work and thus needs to be tested. Hence, the research hypothesis 7 has been developed to testify the proposed theoretical framework that explores the association of the key study variables in terms of conditional process analysis. Thus, the research hypotheses 7 is articulated as follows:

H7*: Organizational learning process has a significant indirect effect (through organizational innovation) on organizational effectiveness that is positively moderated by work attitude.*

Table 2.2 summarizes the nature of literature gaps identified in the light of previous research work and the mechanism to be adopted by this research work in order to address these literature gaps.

Table 2.2. *Derivation of research hypotheses on the basis of identified gaps from the literature review*

Nature of Gaps	Gaps Refer to Authors	Mechanism to address the Gap
Gap – 1 : Organizational learning needs to be conceptualized	Bernerds and Antonacopoulou (2014), Argote (2011) Ortenblad (2018)	Self-administer research instrument is developed. Since the constructs have not been used before, therefore exploratory factor analysis will be conducted to check the validity measures. In order to endorse these sub-constructs, confirmatory factor analysis will also be conducted to confirm the underlying sub-constructs and their interrelationship (if any).
Gap – 2 : The concept of organizational innovation need to be validated	Armbruster et al. (2008) Lam (2005) Keupp et al., (2012)	The concept of organizational innovation will be validated by further validated adapted research instrument. The psychometric properties of the instrument were tested by conducting reliability, constructing validity and discriminating validity. Confirmatory factor analysis will also be conducted to validate the relationship (if any) of underlying sub-constructs.

	Costa and Monteiro (2016)	
Gap – 3 : There is a need to establish further understandings on the empirical relationships of innovation and innovation outcomes. Furthermore, future researches are needed. Different segments and sectors need to be studied for the validation of the positive mediation effect of organization innovation	Costa and Monteiro (2016) Ugurlu and Kurt (2016)	Hypothesis 4 is formulated to fill this identified gap. Hypotheses 1, 2 and 3 are also made in foundational support of hypothesis 4. Hypotheses testing will be made to address this identified gap.
Gap – 4 : There is a need to explore the other possible variables affecting the interrelationship among learning innovation and effectiveness. In-depth empirical studies are needed focusing on different case studies, different countries, different segments and sectors. Furthermore, future researches are needed to check the effects of different context factors such as motivation to examine how motivation alone and in combination with other factors influence the organizational learning and its consequents It is further needed to explore the nature of the relationship by taking into account the mediating and moderating nature of the analysis	Chiva, Ghauri and Alegre (2014) Argote (2011) Ugurlu and Kurt (2016)	Hypotheses 5, 6 and 7 are formulated to fill these identified gaps. Hypotheses testing will be made to address the literature gaps.

Below mentioned table 2.3 summarizes the important literature survey highlighting the crucial researches discussing the association of study variables of the study. Table 2.3 elaborated the objective, respondents and results in details of the major literary works.

Table 2.3. *Survey evidence pertaining to the association of study variables*

Researcher	**Focus**	**Respondent**	**Results**

Ugurlu and Kurt (2016)	Examined the effect of organizational learning on the product innovation in the manufacturing sector	Employees from 120 Turkish Firms ranked in Top 1000 Firms of world	Results indicated that a positive association exists between organizational learning and product innovation. Called for future research on the nature of the relationship between the two variables in different contexts of mediation moderation analysis
Bouncken, et al. (2016)	Studied how the entrepreneurial orientation and absorption of knowledge from partner alliance affects the joint product innovation	Employees from 171 firms in the manufacturing industry	The results showed that the absorption of knowledge and learning from partner alliance positively affects the joint product innovation of manufacturing firms
Prajopo (2016)	Investigates the role of surrounding business competitiveness on the innovation effectiveness and product innovation in delivering firm performance	Employees from 207 Australian manufacturing firms	The results showed that the dynamic business environment positively strengthen the effect of product innovation on organizational effectiveness while on the other hand, the competitive business environment weakens the effect of product innovation on organizational effectiveness in Australian manufacturing firms
Baker, Grinstein and Harmancioglu (2016)	Examines the association among the entrepreneurial orientation, learning from external networks, product innovation and innovation performance	Employees from U.S firms	The results indicated that the learning process of acquiring information from the external networks act as the primary driver for the innovation effectiveness of firms
Valaei, Rezaei and Emami (2016)	Investigates the research question that to what extent the exploitative learning strategy affects the creativity and innovation	206 online surveys from 1850 SMEs of Malaysia	It was found that the exploitative learning strategy possesses a strong positive association with improvisational creativity, compositional creativity and innovation. It was also found that the number of employees moderates the association between the exploitative learning strategy and innovation in Malaysian SMEs.
Obeidat, Suradi, Masdeh and Tarhini (2015)	Studies the explore the association of learning process (such as knowledge acquisition, knowledge sharing and utilization) and innovation	266 Employees from Jordan Consultancy Firms	The results revealed that all the three learning process of acquisition, sharing and utilization has a significant and positive effect on the innovation among the Jordan Consultancy Firms. However, it was also found that the process of social network approach have the significant negative effect on the innovation while on the other hand, the process of codification

			and learning personalization approaches have a significant positive effect on the innovation.
Fraj, Matute and Melero (2015)	Proposed a hypothesized model depicting the relationship between organizational learning orientation, environmental challenges and competitiveness	Employees from 232 Spanish hotels	The results indicated that organizational innovation and environmental challenges foster competitiveness. Furthermore, it was also found that the organizational learning orientation and innovation can be viewed as crucial determinants of competitiveness among Spanish hotel
Fernandez-Mesa and Alegre (2015)	Investigates the association between the entrepreneurial orientation, organizational innovation, organizational learning and export intensity specifically in the cultural context of SMEs	Managers from Italian and Spanish ceramic tile companies	The results showed that the two study variables organizational innovation and organizational learning strongly positively mediates the relationship between entrepreneurial orientation and export intensity among ceramic tile firms
Chadwick and Raver (2015)	Proposes a multilevel model to conceptualize the conception and definition of organizational learning process		The results showed that the motivation of employees for the attainment of their assigned individual and team goals are the determinants of organizational learning process. It was also found that these team and groups level goals embed in the organizational culture and positively significantly effects the organizational learning process.
Vargas (2015)	Investigates the empirical analysis on the association of organizational learning causing the organization to response positively to market opportunities. It also investigates the possible association between organizational learning and leadership styles.	Employees from listed SMEs firms	The results revealed that organizational learning and innovation enable the organization to achieve higher productivity, good performance, and competitiveness. It was also found that the blend of two leadership styles transformational and transactional significantly affects the organizational learning and innovation performance of the firms.
Jian and Hailin (2015)	Explores the nature of the relationship between the organizational learning process, innovation and firm performance	Employees from 217 enterprises in the Pearl River Delta Region	The results revealed that organizational learning moderates the association between organizational innovation and firm performance. It was also found that organizational learning and innovation has a positive significant effect on firm performance

Leal-Rodríguez, Eldridge et al (2015)	Explores the linkage between the acceptance for new knowledge, innovation, organizational unlearning, firm size and firm performance	Employees from 145 Spanish automotive manufacturing firms	The results showed that organizational unlearning positively mediates the association between innovation and firm performance. It was also found that the firm size negatively significant effects this mediation indirect associations of variables.
Fernandez and Alegre (2015)	Studied the relationship between organizational learning and innovation in entrepreneurial orientation	Employees of Spanish and Italian ceramic tile firms	Results suggested that organizational learning capability and organizational innovation positively mediates the relationship between entrepreneurial orientation and exports intensity.
Dulger et al. (2014)	Investigated the role of organizational learning on Porter's generic strategies of Innovation	Employees of the 121 firms operating in Turkey	Two organizational learning dimension, (internally -focused learning; market-focused learning) have a significant effect on innovation.
Chiva, Ghauri and Algere (2014)	Examined the possible interrelationship between the organizational learning, innovation and internationalization.	103,690 Employees of Spanish Clothing industry	Results indicated that adaptive learning fosters incremental innovation with the low internationalization while on another hand generative learning fosters radical innovation with the global internationalization
Sungand Choi (2014)	Examined the effect of training, development and learning practices within the organization on organizational innovation	Employees of 260 Korean Companies	Results suggested that corporate expenditure on training and development predicts the organizational learning practices which further increases the organizational innovation of firm
Li et al. (2014)	Studied how the managerial ties of entrepreneurs in new ventures are affected by organizational learning in capturing the new opportunity	Employees of 159 new ventures	Results suggested that learning affects the relationship of managerial ties and opportunity capture in a positive way
Lyles (2014)	Studied the impact of organizational learning, knowledge creation, problem formulation and innovation in addressing the organizational problems		Results indicated that allowing innovation and employee choice of action in the organization positively resolves messy organizational problems. The results also suggested that organizational learning and knowledge creation positively affect innovation and choice of actions.

Li et al. (2014)	Studied how the managerial ties of entrepreneurs in new ventures are affected by organizational learning in capturing the new opportunity	Employees of 159 new ventures	Results suggested that organizational learning effects the relationship of managerial ties and opportunity capture in a positive way
Li and Liu (2014)	Reviewed the relationship between organizational learning culture and innovation from the perspective of self-dependent innovation.	Employees of Chinese Firms	Results showed that organizational learning culture has a positive effect on the self-dependent innovation of the Chinese firms
Fernandez and Alegre (2014)	Investigated the role of perception of the high degree of differences and environmental uncertainty on the relationship of organizational innovation and effectiveness	Employees of 186 Swedish export companies	Results indicated that innovation has a positive effect on the psychic distance and organizational effectiveness of Swedish export companies.
Chang et al. (2014)	Based on organizational learning theories, it has attempted to explore the relationship of innovation, market orientation and firm performance	A sample of 441 employees from Service and Manufacturer firms	Findings indicated that radical and incremental innovation play a different mediating role across different product types on the relationship of market orientation and performance of the firm.
Mahajan and Chaturvedi (2013)	Studied that a blend of learning process and innovative technologies effect the achievement of competitive advantage.		Findings indicated that female managers possessing experience less than five years proved to be a more successful manager in banking sector than the managers of other demographics
Lin et al. (2013)	Addressed the question that how knowledge transfer and learning together facilitate the achievement of radical and incremental innovation	Employees of 214 Taiwanese owned SBUs drawn from several industries practicing innovation	It was found that the combination of organizational learning and knowledge transfer has a significant effect on the degree of innovation. Furthermore, results showed that innovation plays a mediating role between learning capability and business performance
Gunzel and Holm (2013)	Studied in detailed the business model innovation process	Employees from three Danish newspaper companies	It was found that organizational learning plays a crucial role in front-end and back-end business innovation process when faced with the disruptive technologies

Qinxuan (2013)	Aimed to fill the literature gap by exploring the mediating role of learning and psychological safety between the relationship of social capital and innovation at the team level	151 Research and Development teams with 585 members from 9 Chinese high-tech Companies	Results showed that learning from mistakes and psychological safety partially mediates the effects of social capital and innovation
Bucicand Ngo (2013)	Attempted to address the question that whether the greater alliance learning and innovation process affects the competitive advantage	Employees of 389 Australian firms	Results showed that the alliance learning mediates the relationship between alliance creativity and alliance innovation
Alegre andChiva (2013)	Investigated the relationship between organizational learning capability and organizational innovative performance.	Employees of Spanish ceramic tile firms	Findings showed that the organizational learning capability and innovation performance are the key contributors to achieving organizational performance.
Budihardjo (2013)	Focuses on the organizational effectiveness in a competitive environment. Investigates the effect of organizational learning, motivation and affective commitment on organizational effectiveness		Three independent variables significantly correlate with one another and havea significant impact of organizational effectiveness
Xue et al. (2012)	Studied the moderation effect of nature of industry on the relationship of innovation and efficiency in IT firms		The result showed that organizations operating in higher complex environment tend to possess increased innovation with associated IT asset portfolio
Sharma et al. (2012)	Focused on exploring the relationship of job involved with motivation and exploring their key predictors	A sample of 98 senior managers of Central Public Sector	Results showed that job involvement was predicted by three critical variables of personal attributes and motivation. However demographic factors possess no effect on job involvement.
Sathyapriya et al. (2012)	The focus was to study the paradigm changes and linkages between organizational learning, motivation, innovation, employee behavior when an employee moves upward in the organizational hierarchy	50 employees from the industrial hub of City Chennai and Bangalore	Results suggested that employee behavior has significant positive effects on organizational learning, employee motivation and firm innovative performance

Mohrman and Lawler (2012)	Studies in-depth the knowledge generation of the organization and how organizational redesign helps an organization in achieving organizational effectiveness	`	The results indicated that the knowledge generation process has a significant and positive effect on the organizational effectiveness
Mohanty and Kar (2012)	Attempted to study the organization as a whole from the learning perspective and diagnoses for the organizational learning capability of firms	Employees from HP Computers firm	The results revealed that organizational learning is the antecedent factor that significant effects the organizational innovation and firm's competitive success specifically in HP Computers.
Lin (2012)	Explores the linkage between the knowledge acquisition, organizational learning and organizational innovation	Employees of 224 Taiwanese information firms	Results showed that organizational learning mediates the impact of knowledge acquisition on organizational innovation positively.
Liao et al. (2012)	Attempted to investigate the relationship between organizational culture, knowledge acquisition, organizational learning and organizational innovation in the banking sector of Taiwan	489 Employees of Taiwan's banking and insurance institutes	Results showed that organizational learning fully mediates the relationship of knowledge acquisition and organizational innovation and serves as a partial mediator between the organizational culture and organizational innovation.
Lee and Oguntebi (2012)	Based on the Social Learning Cycle by Boisot (1995), attempted to propose a new Learning cycle by exploring the association of organizational learning, knowledge creation and knowledge dissemination.		Results showed team learning raises when there was increase research-based inquiries and anticipation involved querying and planning for future events
Schweitzer et al. (2012)	Highlighted the role of external challenges in the innovation process of organization	Employees of 101 manufacturing firms	Results showed that stakeholder integration affects the innovation process in turbulent markets. Furthermore, it was found that open innovation activities were more important in turbulent markets than non-turbulent markets
Skerlavaj et al. (2012)	Empirically tested the hypothesized model of innovativeness and learning	201 Korean Firm's employee	OLC has a positive direct effect on organizational innovation and moderate innovation culture
Wang et al. (2012)	Focuses on the exploratory factor analysis of workplace learning, job satisfaction and organizational commitment in the context of Taiwan	Full-time employee of 26 IT firms of Taiwan	Cultural based differences were found in factor structures of Western Instruments.

Ehsan and Danish (2012)	Focuses on the relationship of motivation, job attitude and organizational learning culture in Pakistan	119 full-time employee of public service organizations	Organizational learning was found to have a positive relationships with satisfaction, organizational commitment and job involvement. Age was found to be an important demo variable
Lichtenthaler (2012)	Identifies the two components technological and market knowledge in the organizational learning process and focuses on their relationship	175 industrial firms	Exploratory, transformative and exploitative learning have an effect on innovation and performance
Rose, Kumar and Pak (2012)	Explores the effect of organizational learning on organizational commitment, job satisfaction and organizational performance	Public service manager of 28 ministries of Malaysia	Organizational commitment was found positively related to commitment, satisfaction and performance. Moreover, commitment and satisfaction positively mediate the OL and performance
Steven and Brian (2012)	Developed a management development model focuses on the relationship of the executive's motivation level, organizational learning and job satisfaction		Goodness-of-fit model. Organizational commitment was found to be positively affecting the motivation organizational learning and job satisfaction

CHAPTER 3
THEORETICAL FRAMEWORK

The focus of this section is to elucidate the study variables of the theoretical framework developed on the basis of the proposed research hypotheses. It will also construe the relationship between variables and the operational definitions of research constructs.

3.1. Operationalization of Research Variables

The research constructs of this study comprised of the organizational learning process (independent variable), work attitude (moderating variable), organizational innovation (mediating variable) and organizational effectiveness (dependent variable). The organizational learning process is measured with five dimensions (i) knowledge acquisition, (ii) knowledge transfer, (iii) knowledge retention, (iv) cognitive change, and (v) behavioral change. Work attitude is measured with two dimensions (i) motivation to perform, and (ii) job involvement. Organizational innovation is listed with three dimensions (i) administrative innovation, (ii) technical innovation, and (iii) market innovation. Organizational effectiveness is enumerated with six dimensions (i) market effectiveness, (ii) strategic leadership, (iii) cohesiveness, (iv) organizational climate, (v) product and service quality and (vi) satisfaction. The details of research constructs are mentioned below;

3.1.1 Organizational learning process

Learning does not occur by chance randomly but it is a consequent of a series of components that could be seen as a process. The organizational learning process is a strategic element that provides the organization to acquire knowledge of new products or new markets in order to survive in competition. The organizational learning process is operationalized as a second-order construct. Its first-order indicators are knowledge acquisition, knowledge transfer, knowledge retention, cognitive change and behavioral change.

Knowledge Acquisition: Knowledge acquisition refers to the basic learning process for an organization to acquire knowledge through its own direct experience either internally and externally (Argote, 2011). Knowledge acquisition includes the four sub-process of (a) learning from employees; (b) learning from other organizations; (c) learning through business contracts of merger, acquisitions, partnership etc. and finally, (d) intentional search for knowledge about environment and organization (Huber, 1991; Argote, 2011).

ii. ***Knowledge Transfer:*** Knowledge transfer introduces the two basic learning process of (a) shifting the acquired knowledge to others and (b) absorption of shifted knowledge by the recipient (Argote, 2011). The decision made in response to the new activity is always based upon the knowledge provided for decision-making and how that knowledge is given meaning to make the decision. Knowledge transfer occurs with the sharing of knowledge from another unit of the organization (Argote, 2011).

iii. ***Knowledge Retention:*** Knowledge retention imputes the basic learning process of preserving the new knowledge and attributes of what is learned. (Argote, 2011). It has also been termed as organizational memory by Huber (1991).

iv. ***Cognitive Change:*** Cognitive changes refer to the basic learning process of utilizing the preserved attributes to understand the challenges and present scenario (Skerlavaj, 2007).

v. ***Behavioral Change:*** Behavioral changes precede incorporation of newly learned knowledge in the behavior to achieve desired goals (Skerlavaj, 2007).

3.1.2. Organizational Innovation

Organizational innovation is defined by the three interconnected dimensions of technological innovation, administrative innovation and market innovation. For measuring this construct, this research study has adopted a scale from Popadiuk and Choo's (2006) study.

i. ***Technological Innovation:*** Technological innovation explains the innovation in terms of product, process and service of organization (Popadiuk and Choo, 2006). Product innovation is the introduction of a new product or good that is much improved than existing ones in terms of technical specifications, materials or components and functional characteristics. Success in product innovation can be achieved by establishing strong interaction within an organization and outside external forces of customers, clients and suppliers.

ii. ***Market Innovation:*** Market innovation refers to innovate in terms of place, promotion and price (Popadiuk and Choo, 2006). It involves the execution of new improved marketing methods of product placements, product packaging, pricing and product promotions that reflect the four Ps of the marketing mix. Market innovation intends to address the identified customer needs, target new markets for the products and decide the pricing in relation to competitors with cost-benefit considerations.

iii. ***Administrative Innovation:*** Finally, administrative innovation consigns to innovate in terms of strategy, structure, systems and culture (Popadiuk and Choo, 2006). Administrative innovation intends to reduce the transaction cost by enhancing employee's satisfaction by improving policies, reducing the cost of supplies, renewing the organizational procedures and routines, promoting teamwork, coordination and collaboration, introducing training and developmental programs for employees and suppliers for the adoption of best practices.

3.1.3. Work Attitude

In this research study, work attitude is operationalized by measuring the two major aspects of employee that are (a) motivation to perform and (b) job involvement. For measuring the concept of motivation, the scale is adopted from the work of Katou and Budhwar (2006). For measuring the concept of job involvement, the 10-itemed scale is adopted from the work of Kanungo (1992).

i. ***Motivation to Perform:*** Motivation to perform adverts to the extent of employee's intrinsic desire to perform job and responsibilities in a better way (Katou and Budhwar, 2006).

ii. ***Job Involvement:*** Job involvement refers to the employee's psychological attachment towards his assigned job and responsibilities (Kanungo, 1992).

3.1.4. Organizational effectiveness

Organizational effectiveness attributes the degree to which the organization possesses strong strategic leadership, market effectiveness, positive organizational climate; high degree of cohesiveness, high quality of product and services and highly satisfied workforce. In this research study, Organizational effectiveness is operationalized as second-order construct and measured with the six key dimensions of (a) market effectiveness, (b) strategic leadership; (c) cohesiveness, (d) organizational climate, (e) product and service quality and (c) satisfaction.

i. ***Market Effectiveness:*** Market effectiveness explains the extent to which an organization acquires the market share, growth in sales and profitability in comparison to its competitors (Delaney and Huselid 1996).

ii. ***Strategic Leadership:*** Strategic leadership introduces the ability of one's supervisor in encouraging, envisioning, empowering employee towards their assigned tasks (Taylor and Bower, 1972).

iii. ***Cohesiveness:*** Cohesiveness refers to the tendency of people in a group or team of being united, contributing to shared goal together (Lese et al. 2000)

iv. ***Organizational Climate:*** Organizational climate precedes the perception of the work environment that has a real interest in the welfare of employees, facilitative and asserted as an important for effectiveness (Taylor and Bowers, 1972).

v. ***Product and Service Quality:*** Product and service quality refers to the extent to which the product and service provided meets customer requirement and facilitates customers with ease of use and support with care (Garvin, 1984)

vi. ***Satisfaction:*** Satisfaction advances the degree of overall satisfaction of employee with the organization, with the persons in his work group and the job progress of employee (Taylor and Bowers, 1972).

Table 3.1 also summarizes the detailed description of the research variable's operationalization of research variables of this study.

3.2. Hypothesized Research Model of Study

A conceptual framework is proposed to hypothesize the interconnection among the variables in the light of existing literature. The first variable of this research study is guided by the work of Argote et al. (2011), Skerlavaj et al. (2005) and Huber (1991) illustrating organizational learning process in five major dimensions of knowledge acquisition, knowledge transfer, knowledge retention, behavioral change and cognitive changes.

Table 3.1. *Summarizing the Operationalization of Research Constructs*

Variable Type	Constructs	Operationalization	
		Second Order Constructs	Third-Order Constructs
Independent Variable	Organization Learning Process	1.1 Knowledge Acquisition	1.1.1 Learning from Employees 1.1.2 Learning from other organizations. 1.1.3 Learning through business contracts of the merger, acquisitions, partnership e.t.c 1.1.4 Intentional search for knowledge about environment and organization
		1.2 Knowledge Transfer	1.2.1 Shifting acquired knowledge to others 1.2.2 Absorption of shifted knowledge by the recipient
		1.3 Knowledge Retention	
		1.4 Cognitive Change	
		1.5 Behavioral Change	
Mediating Variable	Organizational Innovation	2.1 Technological Innovation	2.1.1 Product and Service Innovation 2.1.2 Process Innovation
		2.2 Administrative Innovation	2.2.1 Structure Innovation 2.2.2 Culture Innovation
		2.3 Market Innovation (Price, Distribution, Promotion and Competitive)	
Moderating Variable	Work Attitude	3.1 Job Involvement	
		3.2 Motivation to Perform	
Dependent Variable	Organizational effectiveness	4.1 Market Effectiveness	
		4.2 Strategic Leadership	
		4.3 Cohesiveness	
		4.4 Organizational Climate	
		4.5 Product and Service Quality	
		4.6 Satisfaction	

The second variable (moderating) of this research study operationalizes work attitude in terms of motivation to perform and job involvement. The third variable (mediating) of this research study (i.e. organizational innovation) is guided from the work of Popaduk and Choo's (2006) explaining organizational innovation in terms of technological innovation, administrative innovation and market innovation. Finally, the dependent variable is organizational effectiveness, defined in terms of market effectiveness, strategic leadership, cohesiveness, organizational climate, product and service quality and satisfaction.

Establishing the indirect effect of independent (organizational learning process) and dependent (organizational effectiveness through mediator organizational innovation does not imply that the mediator organizational innovation is the only variable that links the independent to the dependent variable (Rucker et al., 2011). This indirect effect could be due to an epiphenomenon association between the mediator in simple mediation and the true mediator casually between independent and dependent (Hayes, 2014). The variable of work attitude correlated with the organizational innovation could be the actual mediator transmitting the effect of the organizational learning process on organizational effectiveness.

The conceptual framework depicts that the independent variable (organizational learning process) has both direct and indirect effect (through organizational innovation) on dependent variable (organizational effectiveness). But that direct or indirect effect of learning process and organizational effectiveness is also moderated with the work attitude. That reflects that the relationship of learning process and organizational effectiveness is conditional, depending upon the magnitude and value of work attitude. As the research model of this research study is simple mediation model with the addition of the moderator variable work attitude, that moderates the effect of learning practices (independent) on organizational innovation (mediator) and the direct effect of learning practices (independent) on organizational effectiveness (dependent).

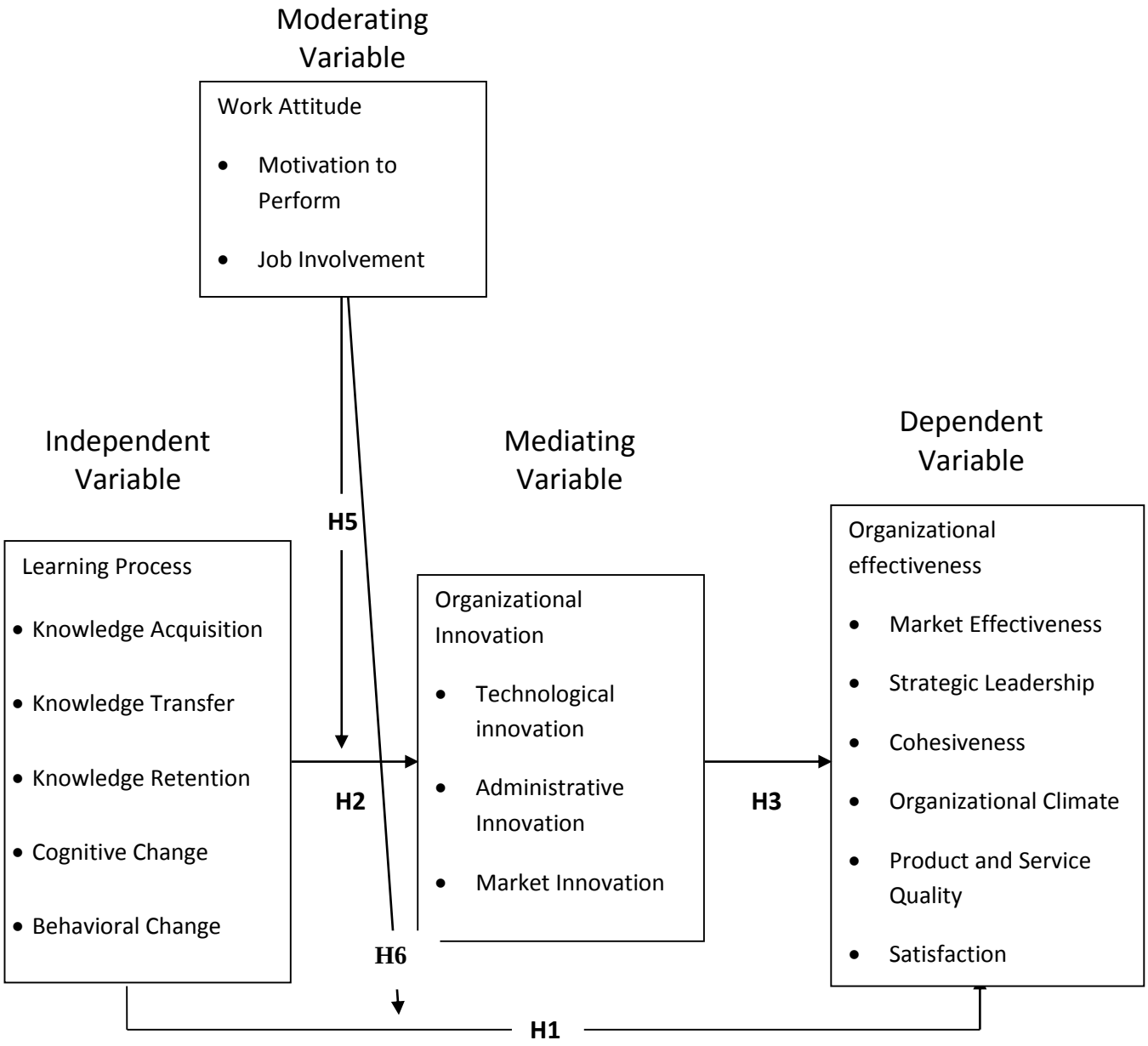

Figure 3.1. Hypothesized Conceptual Framework of Research Study

3.3. Chapter Summary

This chapter has described the proposed theoretical framework in the light of existing literature review. The proposed theoretical framework of this research study contains the four variables. The relationship between organizational learning process (independent variable) and organizational effectiveness (dependent variable) has been hypothesized. The mediation role of

organizational innovation in between the relationship of dependent and the independent variable is also hypothesized. In addition, the moderating role of work attitude in between the relationship of the organizational learning process (independent) and organizational innovation (mediating) is also proposed. In the light of above discussion, seven research hypotheses are developed. The operational definitions of the research constructs are also made. Finally, the methodology for the data collection and validation of research hypotheses has been discussed in the coming chapter.

CHAPTER 4
RESEARCH METHODOLOGY

The chapter presents the nature of the research. An empirical approach with quantitative research design has been adopted. The survey has been carried out by the questionnaire as the research instrument for conducting this research study

4. Main Research Design

The research design of this research work is bifurcated into two phases of instrument development phase (pilot study) and final research survey. This chapter discusses these two phases (of pilot testing and main research study) in depth with the description of the research instrument used population and research sample. Finally, the data analysis techniques address the research questions.

4.1. Instrument Development Phase (Pilot Study)

The objectives of conducting this phase are as follows;

- To step towards the development of the main study's research design.
- To investigate the reliabilities of the research instrument in the present context.
- To check the readability and understandability of the posed questions for further correction and re-structuring of sentences.
- To get constructive critique and feedback from respondents relating research instrument.

4.1.1. Population and Sample

The population of the pilot study comprised of Telecom Sector of Pakistan. The sampling frame consists of five key cellular companies namely Warid, Telenor, Ufone, Zong

and Mobilink. The respondents of the pilot study are the functional, middle managers and knowledge workers. In the light of the objectives of conducting the pilot study, the offices and regional offices of five major cellular companies Ufone, Warid, Telenor, Zong and Mobilink in Islamabad city were targeted by the researcher for conducting the pilot test.

4.1.2. Content of Research Instrument

This research study has used the validated instrument of previous researches for measuring the research constructs.

4.1.2.1 Organizational Learning Process

This research work has operationalized the independent variable (organizational learning process) as five inter-connected process namely (i) knowledge acquisition (ii) knowledge transfer (iii) knowledge retention (iv) cognitive change and (v) behavioral change. For measuring the concept of the organizational learning process, this study has derived 36 items from the validated measures of previous research studies (discussed in detail in consequent passages) (Skerlavaj, Song and Lee, 2010; Yang and Chen, 2007; Tabar and Nemati, 2013; Dimovski and Skerlavaj; 2005).

The first process of organizational learning "knowledge acquisition" was second-order construct and it has been further categorized into four sub-process that are (a) learning from employees, (b) learning from other organizations, (c) learning through business contracts of merger, acquisitions, partnerships and finally; (d) the intentional search for knowledge about environment and organization. Twelve item scales were derived from the previous study of Skerlavaj, Song and Lee (2010) to assess the research construct "knowledge acquisition". The internal reliability reported by Skerlavaj et al., (2010) was 0.70. These original items of Skerlervaj et al. (2010) study were developed on a Likert scale from (1) strongly disagree to (5)

strongly agree. This research work has adopted these validated items as they were developed (with no change).

Table 4.1. *Description of Items adopted for Knowledge Acquisition*

Construct	Original Items of Previous Study	Items Adopted
KA1	1. Employees in our organization are an extremely important source of knowledge. 2. In our organization, we explicitly reward employees that are a source of quality knowledge. 3. We frequently send our employees to various seminars, workshops, conferences with intentions to acquire information.	For the measurement of knowledge acquisition, these twelve items are adopted as it is (with no change). Source of items was Skerlavaj et al., (2010)
KA2	4. Our competitors are an extremely important source for learning new methods and services 5. External sources (reports, consultants, newsletters etc.) are extremely important for the operations of our organization. 6. Expertise in the industry, products, and services is an extremely important criterion for hiring a new employee	
KA3	7. Joint tasks and mergers contribute a great deal of knowledge about industry and economic environment, new methods and services and products. 8. New business methods and services are always worth trying to acquire more knowledge. 9. Reports prepared by external experts are an extremely important source of information.	
KA4	10. Our organization uses clipping service – a regular collection of papers and articles to our interest 11. Top managers in any important decision seek information or advice from the board of directors or owners (in general). 12. Our organization has employees whose job is related to searching for external information.	

The second process of organizational learning "knowledge transfer" was further operationalized into two sub-process of (i) shifting the acquired knowledge to others and (ii) absorption of shifted knowledge by recipients. Five items scale was derived from the validated items of previous studies of Yang and Chen (2007) to measure the third order construct "shifting the acquired to others". These original items of Yang and Chen (2007) study were developed

on a Likert scale from (1) strongly disagree to (5) strongly agree. Similarly, the sub-construct "absorption of shifted knowledge by recipients" was measured by three items adapted from the work of Tabar and Nemati (2013). The internal reliability reported by Tabar and Nemati (2013) was 0.804. These original items of Tabar and Nemati (2013) study were developed on a Likert scale from (1) strongly disagree to (5) strongly agree. This research work has adapted these validated items and minor changes have been incorporated explained in table 4.2.

Table 4.2. *Description of Items adapted for Knowledge Transfer*

Construct	Original Items of Previous Study	Items Adapted in this Study
KT1	13. We share each other's success and failure stories. 14. We share business manuals, methods and methodologies with each other. 15. We share factual knowledge (know-how) from work experience with each other's 16. We share expertise obtained from education or training with each other. 17. We share business knowledge about customers, products, suppliers and competitors with each other	Items adapted with minor modifications depict as, 13. In our organization, success and failure stories are shared with each other 14. In our organization, business manuals, methods and methodologies are shared with each other. 15. In our organization, factual knowledge (know-how) work related experience is shared with each other. 16. In our organization, expertise obtained from education or training is shared with each other 17. In our organizations, business knowledge about customers, products, suppliers and competitors are shared with each other
KT2	18. We very often use the knowledge that our company possesses or acquire. 19. We use information technology to access a wide range of external information and knowledge (on competitor and market changes etc.) shifted to us. 20. Through the sharing of information and knowledge, we often come up with new ideas that can be used improve business.	Items adapted with minor modifications depict as, 18. In our organization, we very often use the knowledge that our company possesses or acquire. 19. In our organization, we use information technology to access a wide range of information and knowledge (on competitor and market changes etc.) shifted to us. 20. In our organization, we often come up with new ideas that can be used improve business through the sharing of information and knowledge.

The third process of organizational learning "knowledge retention" was measured with six items adopted from the previous study of Tabar and Nemati (2013). The internal reliability reported by Tabar and Nemati (2013) was 0.786. The residual two process of organizational learning "cognitive change" and "behavioral change" were measured with five items adapted from the measures of the study of Dimovski and Skerlavaj (2005). These original items of these studies of Tabar (2013) and Dimovski (2005) were developed on a Likert scale from (1) strongly disagree to (5) strongly agree. This research work has adapted these validated items and minor changes have been incorporated explained in table 4.3.

Table 4.3. *Items adapted for Knowledge Retention, Cognitive Change and Behavioral Change*

Construct	Original Items of Previous Study	Items Adapted in this Study
KR	21. We have systems to capture and store ideas and knowledge	Items adapted with minor modification depict as, 21. In our organization, we have systems to capture and store ideas and knowledge
	22. We have systems to codify and categorize knowledge and ideas in a format that is easier to save for future use.	22. In our organization, we have systems to codify and categorize knowledge and ideas in a format that is easier to save for future use.
	23. IT facilitates the process of capturing, categorizing, storing and retrieving knowledge and ideas in our company.	23. In our organization, IT facilitates the process of capturing, categorizing, storing and retrieving knowledge and ideas in our company.
	24. We record good practices by de-briefing the projects that we should extend and mistakes that we should avoid.	24. In our organization, we record good practices by de-briefing the projects that we should extend for the avoidance of mistakes in the future.
	25. We make efforts to remember the mistakes we made and avoid making similar mistakes in the future.	25. In our organization, we make efforts to remember the mistakes we made and avoid making similar mistakes in the future.
	26. Information and knowledge stored in our systems are relevant, sufficient and upgraded.	26. In our organization, information and knowledge stored in our systems are relevant, sufficient and upgraded.
CC	27. Adaptability to environmental pressures	Items adapted with minor modification depict as, 27. Our organization is adaptable to environmental pressures

	28. Employee's levels of understanding of major problems are substantially improving.	28. In our organization, employee's levels of understanding of major problems are substantially improving
	29. Employee's level of understanding of company's strategic orientation	29. In our organization, employee's level of understanding of company's strategic orientation has substantially improving.
	30. Satisfaction of employees	30. In our organization, employees are getting more satisfied.
	31. Overall atmosphere	31. In our organization, overall atmosphere has substantial improved.
BC	32. Personal communication between top manager and employees	Items adapted with minor modification depict as, 32. In our organization, the personal communication between top manager and employees has substantially improving.
	33. Team's meeting efficiency	33. In our organization, the team's meeting efficiency has substantially improving
	34. Introduction of new marketing approaches	34. In our organization, introduction of new marketing approaches are improving.
	35. Speed of operations.	35. In our organization, speeds of operations have substantial improved.
	36. Efficiency of information systems	36. In our organization, efficiency of information systems are substantially improving.

4.1.2.2 Organizational Innovation

This study has operationally defined the organizational innovation as of three dimensions namely (a) technological innovation (b) administrative innovation, and finally the (c) market innovation. For measuring the concept of organizational innovation, this study has adopted the items developed by Popiduk and Choo (2006) and further validated by different researchers Salim and Sulaiman (2011), Skerlavaj et al. (2010). The internal reliability reported by Salim and Sulaiman (2011) was 0.96 while Skerlavaj et al. (2010) reported the internal reliability as 0.92. These original items were developed on a Likert scale from (1) strongly disagree to (5) strongly agree. This research work has adopted these validated items as they were developed (with no change) as explained in table 4.4.

Table 4.4. *Description of Items adopted for Organizational Innovation*

Construct	Original Items of Previous Study	Items Adopted
TI1	37. In the new product and service introduction, our company is first-to-market 38. Our new product and service are often perceived as novel to customers 39. We constantly emphasize the development of the product to meet market demand 40. We continuously improve old products and services and raise the quality of new products	For the measurement of organizational innovation, these twenty items are adopted as it is (with no change). Source of items was Popiduk & Choo (2006) and further validated by Salim and Sulaiman (2011) Skerlavaj et al., (2010)
TI2	41. Our company manages to deliver customized product according to customer's demands. 42. We deal with customer's complaints and satisfaction urgently with more care 43. Development of new channels for products and services is on-going process in our company.	
AI1	44. We constantly emphasize and introduce structure innovation as the establishment of new departments or project teams as per changing business needs. 45. We constantly emphasize and introduce structure innovation as introducing new employee rewards and training schemes as per changing business needs 46. We constantly emphasize and introduce structure innovation as the establishment of computer-based administrative innovation etc.	
AI2	47. Innovative ideas were welcome by the company and considered for development 48. Management actively seeks innovative ideas 49. People are not penalized for new ideas that do for work 50. Program and Project managers promote and support innovative ideas and experimentation	
MI	52. Our company is better than competitors in entering the new market. 53. Our company is better than competitors in new pricing methods of product and services 54. Our company is better than competitor's new distribution methods for product and services. 55. New product and services in our company often taken us up against competitors 56. In comparison to competitor, our company has introduced more innovative product and service during last five (05) years	

4.1.2.3 Organizational Effectiveness

The variable organizational effectiveness was operationalized as a second-order construct. As organizational effectiveness covers the wider aspects of the efficiency of the organization, therefore it was operationalized into six dimensions. Its first order constructs are

(a) market effectiveness (b) strategic leadership (c) cohesiveness (d) organizational climate (e) product and service quality and (f) satisfaction.

Table 4.5. *Description of Items adopted for Organizational Effectiveness*

Construct	Original Items of Previous Study	Items Adopted
OE1	57. Our Firm is more effective as compared to competitors in relation to profitability 58. Our Firm is more effective as compared to competitors in relation to market share 59. Our Firm is more effective as compared to competitors in relation to growth in sales	For the measurement of organizational effectiveness, these twenty-one items are adopted as it is (with no change) from the previous research work of Delaney and Huselid (1996), Taylor and Bower's study (1972), Lese and Semands (2000), Chen and Klimoski (2003)
OE2	60. My supervisor show me how to improve performance 61. My supervisor encourages people to give best effort 62. People in my group encourage me to work as team 63. People in my group encourage people to give their best effort	
OE3	64. I feel a sense of belonging in my group 65. We trust each other in my group 66. We cooperate and work together in a group	
OE4	67. My organization has a real interest in the welfare and happiness of those who work here 68. Things about working like people, policies or conditions encourage me to work hard 69. Decisions are made at levels where most adequate and accurate information is available 70. Equipment and resources we have to do our work are adequate, efficient, and well-managed 71. I am told what I need to know to do your job in the best possible way	
OE5	72. Our firm accurately anticipates the customer's need 73. Our firm provides high-quality service and product to customers. 74. Our firm interacts professionally with customers.	
OE6	75. Up to now, I feel satisfied with the progress I have made in this organization 76. All in all, I am satisfied with this organization 77. All in all, I am satisfied with the persons in my workgroup	

The first dimension of organizational effectiveness "market effectiveness" was measured with three items adopted from the study of Delaney and Huselid (1996). The second dimension of organizational effectiveness "strategic leadership" was measured with four items adopted from the instrument of Taylor and Bower's study (1972). The third dimension of organizational effectiveness "cohesiveness" was measured with three items adopted from organizational cohesiveness scale of Lese and Semands (2000). The fourth dimension "organizational climate" was measured with five items adopted from Taylor and Bower's study (1972). The fifth dimension "product and service quality" was measured with the three items adopted from the work of Chen and Klimoski (2003). The sixth dimension "satisfaction" was measured with the three items adopted from the study of Taylor and Bowers's study (1972). It is pertinent to mention that all these previous research work has used the five-point Likert scale ranging from (1) strongly disagree to strongly agree.

Thus, this research work has adopted the original validated items of Delaney and Huselid (1996), Taylor and Bower's study (1972), Lese and Semands (2000), Chen and Klimoski (2003) with no modifications or change, for the measurement of organizational effectiveness construct as mentioned in Table 4.5.

4.1.2.4 Work Behavior

The variable of this study work behavior as also a second-order construct. Its first order construct is (a) motivation to perform and (b) job involvement. For measuring the concept of motivation, the 3-items were adapted from the work of Katou and Budhwar (2006) and 3-items were adopted from the work of Kanungo (1992). The original items were measured on five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). This research work has adapted these original items with minor modifications mentioned in table 4.6.

Table 4.6.

Description of Items adopted for Work Attitude

Construct	Original Items of Previous Study	Items Adopted
WA1	78. I always behave in a way that helps our company's performance. 79. I am always contributing in positive ways to the company's performance. 80. As compared to our competitors my organization has a highly motivated group of employee	These six items are adopted as it is (with no change). Source of items was Katou and Budhwar (2006), Kanungo (1992
WA2	81. Most of my personal life goals are job-oriented. 82. I am very much involved personally in my job. 83. I like to be absorbed in my job most of the time.	

Table 4.7 summarizes the content of the final research questionnaire of this research study. It comprises of five sections; first part contains the items measuring the organizational learning process ranging from item 1 to 36; second part constitutes the items measuring the conception of organizational innovation ranging from item 37 to 56; third part constitutes the items measuring the concept of organizational effectiveness ranging from item 57 to 77; fourth part constitutes the items measuring the concept of work behavior ranging from item 78 to 83 and finally, the fifth part constitutes the items measuring demographic of respondents ranging from item 84-88.

Table 4.7. *Content of Research Instrument of Study*

Section	Variable	Content and Sub-Scale	S No. of Items	Total items
A	Organizational Learning Process	Knowledge Acquisition	1 – 12	12
		Knowledge Transfer	13 – 20	8
		Knowledge Retention	21 – 26	6
		Cognitive Change	27 – 31	5
		Behavioral Change	32 – 36	5
B	Organizational Innovation	Technological Innovation	37 – 43	7
		Administrative Innovation	44 – 51	8
		Market Innovation	52 – 56	5
C		Market Effectiveness	57 – 59	3

	Organizational effectiveness	Strategic Leadership	60 – 63	4
		Cohesiveness	64 – 66	3
		Organizational Climate	67 – 71	5
		Product or Service Quality	72 – 74	3
		Satisfaction	75 – 77	3
D	Work Behavior	Motivation to Perform	78 – 80	3
		Job Involvement	81 – 83	3
E	Demographics	Gender	84	1
		Age	85	1
		Education	86	1
		Primary Responsibility	87	1
		No. of years served	88	1

4.1.3. Finalization of Research Instrument

The research instrument of this research work was discussed with three Ph.D. faculty members with an objective to get expert opinion from an academic perspective. Later on, same was vetted by two reputable practitioners of director level positions of the telecom sector with an objective to ensure the relevancy and appropriateness in research instrument in terms of understandability. The offices of five major cellular companies i.e. Ufone, Warid, Telenor, Zong and Mobilink in Islamabad city were targeted for conducting the pilot test. The respondents (i.e. functional manager, middle managers and knowledge workers) were targeted for the pilot study.

With the objective of conducting a pilot study, a total of 200 research questionnaires was floated among personnel during these interactive sessions conducted at offices of five cellular companies in Islamabad. Out of 200 research questionnaires, only 107 questionnaires were returned through mails or email that reflected the response rate of 53.50%. Out of 107 research questionnaires, only three questionnaires were found to be in-complete and defected.

4.1.4. Analysis of Pilot Study

The objective of conducting the pilot study was to check the applicability and suitability of the research instrument. As the consolidated questionnaire of the study was developed from the research instruments of previously conducted studies in different countries therefore, it was essential to check reliability at this initial stage. Table 4.8 shows the demographic analysis of the pilot study. The descriptive analysis of the pilot study was also conducted by checking the mean and standard deviation in Table 4.9. The reliability was also monitored by calculating the Cronbach's Alpha value in Table 4.9.

4.1.4.1. Demographic Analysis of Pilot Study

Table 4.8 summarizes the frequencies of the gender groups of a pilot study of 104 responses which shows that 29.81 percent of respondents were female and the remaining 70.19 percent of the population were males. It also summarizes the frequencies of the age groups of pilot study of 104 responses which depicts that 55.70 percent of responses were aged between 25 years and 35 years; 30.77 percent were aged between 36 years to 45 years; 2.88 percent were aged less than 25 years; and the residual 10.58 percent were aged above 45 years. The frequencies of the education of total 104 responses of the pilot study depicted that 93.27 percent of responses were Masters, zero percent of respondents were MPhil or Doctorates and the rest of 6.73 percent respondent were Graduate. No respondent with the zero percentage belongs to MPhil\PhD level of education. Table 4.8 also summarizes the frequencies of the level of experiences of total 104 responses which depicts that 34.62 percent of responses hold the experience of 1 – 2 years; 12.50 percent possess the experience of less than a year; and the remaining of 52.88 percent possess the experience of 3 – 5 years.

Table 4.8. *Demographic Information of Pilot Study*

S #	Demographic Variable	Categories	Frequency	Percent
1	Gender	Female	31	29.81
		Male	73	70.19

		Total	104	100
2	Age	Less than 25	3	2.88
		25 yr – 35 yrs	58	55.77
		36 yrs – 45yr	32	30.77
		Above than 45 yrs	11	10.58
		Total	104	100
3	Education	Graduation	7	6.73
		Masters	97	93.27
		MS and MPhil	0	0
		Total	104	100
4	Experience	Less than 1 yr	13	12.50
		1yr – 2yr	36	34.62
		3yr – 5 yr	55	52.88
		Total	104	100

4.1.4.2. Descriptive and Reliability Analysis of Pilot Study

The descriptive analysis of the pilot study was conducted by checking the mean, and standard deviations of the variables and sub-constructs demonstrated in below-mentioned table 4.9. It also reflects the results of the reliability analysis of research instrument of pilot study. Basically, reliability is the process of analyzing the internal consistency of research measures that the level to which they are free from all biases. Reliability reflects that all items of research instruments are consistent with each other and the research instrument truly measures the proposed concept for which they are designed for (Sekaran, 2003).

In order to check the reliability of the research instrument, the Cronbach alpha value is the most commonly used statistical tool for ensuring the inter-item consistency. Hair et al., (2010) explained that Cronbach's alpha value above and equals the range of 0.70 is acceptable and over 0.80 is commendable. Table 4.9 shows that all the research measures (second and third order constructs) possess the acceptable satisfactory level of reliability coefficient.

The Cronbach alpha value of research measures of organizational learning process calculated ranges from 0.687 - 0.882 with the highest Cronbach alpha value of Behavioral

changes (.882). The measures of organizational innovation possess the reliability coefficient ranges from 0.637 – 0.718 with the highest score of technological innovation (0.718). organizational effectiveness measured possess the reliability coefficient ranges from 0.657 – 0.921 with the highest score of cohesiveness (0.921). The measures of work behavior, motivation to perform and job involvement possess the reliability coefficient of 0.805 and 0.889 accordingly. The results of the reliability analysis reflect that the research instrument used for the measurement of the proposed concept in the research study was reliable and adequate.

Table 4.9. *Descriptive Statistics and Reliability of Pilot Study*

Variable	Second and Third-order Constructs		No. of items	Cronbach alpha	Mean	S.D
OL	1. Knowledge Acquisition	1.1 Learning From Employees	3	.906	2.552	.434
		1.2 Learning From Other Organizations	3	.877		
		1.3 Learning Through Business Contracts	3	.929		
		1.4 Intentional Search for Knowledge	3	.883		
			12	.687		
	2. Knowledge Transfer	2.1 Shifting acquired knowledge to others	5	.707	2.676	.679
		2.2 Absorption of Shifted knowledge	3	.954		
			8	.796		
	3. Knowledge Retention		6	.837	2.658	.802
	4. Cognitive Change		5	.750	2.727	.877
	5. Behavioral Change		5	.882	2.620	.822
OI	1. Technological Innovation	1.1 Product Innovation	4	.718	2.405	.564
		1.2 Process Innovation	3	.906		
			7	.718		
	2. Administrative Innovation	2.1 Structural Innovation	4	.790	2.815	.610
		2.2 Cultural Innovation	4	.700		
			8	.637		
	3. Market Innovation		5	.708	2.535	.870
OE	1. Market Effectiveness		3	.872	2.705	.794
	2. Strategic Leadership		4	.805	2.682	.856
	3. Cohesiveness		3	.921	2.368	.886
	4. Organizational Climate		5	.657	2.714	.775
	5. Product and Service Quality		3	.906	2.105	.703
	6. Satisfaction		3	.811	2.208	.607
WA	1. Motivation to Perform		3	.805	2.842	.862
	2. Job Involvement		3	.889	1.910	.744

4.2. Final Research Survey

After the successful conduction of the pilot study, this research study steps towards the second phase that is the development of the main study. This section will aim the meticulous description of research design used, population, research sample size, sampling strategy, data collection procedure and finally the data analysis techniques applied to address the research questions of the main research study.

4.2.1. Main Research Design

Saunder (2009) has defined the research design as comprises of five layers of research onion comprises of (i) philosophical stance of research study, (ii) research approach used, (iii) research strategy used, (iv) research method choice, (v) time horizon of study.

The philosophical stance of this research study is positivism in which the hypotheses of key study variable (of organizational learning process, organizational innovation, work attitude and organizational effectiveness) are going to be tested and explained against the accepted knowledge of the Telecom sector in which cellular companies are operating in. Saunder (2009) explained the positivist approach as the one who establishes the body of knowledge through quantitative techniques that are replicated by other researchers to establish the validation of results.

This research study has used the deductive research approach. The deductive research approach is the one in which the researchers start with a research question or hypothesis and through the data collection, the analysis of data confirms or rejects the research question (Saunder, 2009). The sources of research questions are existing theory and the result re-confirms and validate the theory in deductive research approach (Saunder, 2009).

The research strategy used in this research study is the questionnaire survey as the questionnaire surveys are also regarded as efficient data collection tool where the research is focused with accuracy on what information is required from respondents, free from biases

(Sekaran, 2003). Due to the geographical spread of cellular companies nationwide, questionnaires were provided to HR departments of cellular companies for further e-mail to respondents nationwide.

This research study has used the mono method as method choice (single data collection techniques) as this research study stands in positivism philosophical stance, therefore only quantitative research methods are going to be used in main research survey (Saunder, 2009).

This research study attempts to collect the data at a particular single point of time. The units of analysis are the functional, middle managers and knowledge worker of cellular companies of Pakistan. These three levels of employees include the divisional managers, senior managers, project managers, regional or zonal managers, assistant managers and senior executives etc of cellular companies. These three levels of employees are selected because the variables of this research work are best reflected among them. This is also supported by the literature that managers play a crucial role in engaging employees towards innovation and learning. They serve as the origin for effective implementation and adoption of learning as well as innovation within the organization (Peters, 1982; Argote, 2011, Birkan, Lee and Weiner, 2012). Furthermore, the knowledge workers are the people who coordinate the activities and plans of middle and functional managers to operational employees. Thus, the knowledge workers also play a crucial part in regulating learning process, innovation activities and motivation of employees. Therefore, this research study has opted for the middle managers, functional managers and knowledge workers as a unit of analysis to study the important constructs of organizational learning, organizational innovation and work attitude.

The main theme of this research work is to study the work behavior of employees in respect of organizational innovation and learning process to accomplish the firm's effectiveness, therefore, the cellular companies of Pakistan were chosen because of intense competitions and shifting trends of business in the telecom sector. This research study was non-contrived in

nature as the research survey was conducted in a natural existing environment with no or least interference of researcher and controlled environment.

4.2.2. Population and Sampling Strategy

The population of the pilot study comprises of Telecom Sector of Pakistan. The population frame consists of five key cellular companies namely Warid, Telenor, Ufone, Zong and Mobilink. The cellular companies of Pakistan were chosen because it is one of the highest contributing sectors in shaping economic conditions of Pakistan. Furthermore, PTA (2015) has also reported that the introduction of IT-enabled financial services and more new product or services have led the market conditions to become more competitive. Thus, it arises with the needs of the existing players to maximize their organizational effectiveness in order to sustain a position in a competitive market.

The respondents of the main research survey are the functional, middle managers and knowledge worker as the key variables of work attitude, innovation and learning process are best reflected due to highly knowledge-intensive nature of telecom sector. The population frame of this research survey constitutes a total of 7280 approx. middle and functional manager and knowledge worker of the five cellular companies operating nationwide as provided by HR departments of the cellular companies of Pakistan. Krejice and Morgan (1970) pointed out that the sample size for an acceptable level of confidence and accuracy can be calculated if the target population is finite in size as.

$$S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

Whereas, 'N' represents the population size (7280); "P" represents the population proportion (0.5) usually assumed to 50 percent which is maximum possible sample size; "d" represents the degree of accuracy (0.05) usually assumed to be 5 percent margin of errors; "X" represents the constant of (1.96) at 95% confidence level.

$$S = \frac{X^2 NP(1-P)}{d^2(N-1) + X^2 P(1-P)}$$

$$S = \frac{(1.96)^2 7280(0.5)(1-0.5)}{(0.05)^2(7280-1) + (1.96)^2 0.5(1-0.5)}$$

$$S = \frac{(3.8416) 7280(0.5)(0.5)}{(0.0025)(7279) + (3.8416) 0.5(0.5)}$$

$$S = \frac{6991.712}{18.1975 + 0.9604} = \frac{6991.712}{19.1579} = \mathbf{364.95}$$

Calculating the values, the results revealed that the minimum sample size of 365 would be sufficient enough as a sample of this study in order to get an acceptable level of confidence of 95 percent and accuracy using the formula of the finite population (Krejcie and Morgan, 1980). Some of the researchers also indicated that a minimum sample size of 200 is needed to achieve reasonable generalizable results (Kelloway, 1988; Roscoe, 1975).

The sampling strategy adopted for this research study is Simple random sampling. Simple random sampling is a type of probability sampling technique in which all the elements and respondents of the population have an equal fair chance to get selected in the sample (Sekaran, 2003). Thus, simple random sampling strategy reduces the biases in sample selection and further enhances the generalizability of the research results (Sekaran, 2003).

The objectives of adopting the sampling strategy are to derive the sample that is the true representation of the middle and functional management and knowledge worker of the telecom sector of Pakistan. Keeping in view the minimum requirement of 365 sample size from 5 cellular companies operating nationwide, the total of 1000 questionnaires were floated to respondents selected randomly. These 1000 respondents were selected in light of the random sampling procedure explained by Saunder (2009) by the following method;

- To select a sample of 1000 respondents, the list of the total population of approx. 7280 middle, functional manager and knowledge worker was obtained from the five cellular

companies. It is pertinent to inform here that the data obtained includes only the employee number and no particulars details have been shared with the researcher by the companies.

- Each employee number was assigned a consecutive number from 0000 to 7279. This means the first employee code case was given the digit number '0000' and the second employee code case was given the number '0001' and so on till the last employee code case was given the digit number '7279'.

- In order to select the cases randomly, MS Excel program of the computer was used. Using the 'RAND' function in MS Excel program, different digit numbers were randomly extracted (i.e. the first respondent extracted by MS Excel was '4863', the second was '5479', third was '0830' etc.). In continuance to this regular and systematic manner, 1000 different cases have been selected that form the random sample of this research work.

4.2.4. Data Collection and Response Rate

The survey was conducted nationwide among five (5) cellular companies. In this regard, the HR department and regional offices of cellular companies were approached. The respondents were randomly selected by the help of the HR Department under the simple random strategy. Total of 1000 questionnaires was distributed among these five cellular companies and in response, only 519 filled questionnaires were received. Total 21 questionnaires were found defective, leaving behind the total completed questionnaire of 498 only. This shows the overall response rate of 51.90 % that may be caused by the lack of interest.

Burkell (2003) argued that this non-response or lower response rate can doubt the generalizability of results from the selected sample and therefore needs to be checked for sampling biases. Burkell (2003) further explained that the researchers need to compare the

demographics of respondents with the demographics of the non - respondents of study in order to explore whether the sampling biases exists or not? This approach requires the proper statistical technique along with the availability of demographic data of non-respondents of the survey (Burkell, 2003). If any differences exist in any of these two samples (e.g. respondents and non-respondents), then the sample cannot be stated to be the true representation of population and the sampling biases exists (Burkell, 2003). In order to oversee the differences, independent sample t-test is used for the comparison of two group demographic variables (Burkell, 2003; Vaughan, 2000). For more than two group demographic variables, the ANOVA statistical technique is used (Burkell, 2003; Vaughan, 2000).

Table 4.10 shows the results of independent sample t-test of gender demographic characteristic of respondents and non-respondents of the survey process. The results revealed that there exists no difference between the gender of respondent and non-respondent with the t-value of .696 (that is less than 2), a p-value of .487 (that is greater than .05) and mean difference value of .0031. Thus, we will accept the null hypothesis from these results that there exists no difference among the gender characteristics of respondents and non-respondents of the survey process.

Table 4.10.

Mean Differences of Gender of Respondents vs. Non-Respondents

Variable		Levene Test for Equality		t-test for Equality of Means		
		F	Sig.	T	p-value (2-tailed)	Mean difference
Gender	Equal variances assumed	1.948	.163	.696	.487	.0031
	Equal variances not assumed			1.000	.318	.0031

Table 4.11 shows the results of one way ANOVA test of age and education demographic characteristic of respondents and non-respondents of the survey process. The results revealed that there exists statistically no difference between and within the groups of age variable with the p-value of .087 (that is greater than .05). Similarly, the results also showed that there exists

statistically no difference between and within the groups of education variable with the p-value of .714 that is greater than .05.

Table 4.11.

Mean Differences in Age and Education of Respondents vs. Non-Respondents

Variable		Sum of squares	df	Mean Square	F	Sig.
Age	Between Groups	.202	3	.067	2.203	.087
	Within Groups	14.547	477	.030		
	Total	14.748	480			
Education	Between Groups	.008	2	.004	3.37	.714
	Within Groups	5.958	478	.012		
	Total	5.967	480			

These results reflect that there exists no difference among the demographic characteristics of gender, age, education of the respondents and the non-respondents of the survey process. Thus, it can be stated that the low response rate of this study does not impacts the generalizability of the results derived from the data of the respondent's sample.

4.2.5. Statistical Methodology

The gathered data is analyzed using the Statistical Package of Social Sciences (SPSS) version 20.0. The statistical methodology establishes with the computation of descriptive statistics of study variables (including group means, standard deviations and frequencies). The demographic analysis of the respondents is also conducted in order to illustrate the age, qualification, experience, gender of the respondents.

With the objective to check the reliability of the constructs, Cronbach's alpha coefficient is computed to ensure the inter-item consistency of the research constructs. Then, the construct validity analysis is enumerated by conducting the factor analysis. Factor analysis is a statistical technique used to reduce the item numbers by explaining the variability among observed constructs. After analyzing the construct validity of the research instrument, the discriminate

validity analysis is conducted. Pearson Correlation is the statistical technique commonly used to check the discriminate validity among the research constructs.

For hypothesis testing, Regression Analysis with Process microbe of Andrew Hayes (2014) is used to testify the mediation analysis, moderation analysis and mediated moderation analysis of the study variables. The hypothesize research model is also validated by using Structural Equation Modeling.

4.3. Chapter Summary

This chapter has discussed in detail the research methodology adopted for answering the posed research question in light of laid down the research objectives of the research study. In this research work, an empirical approach with quantitative research design has been used. Questionnaire survey has been used as the research instrument. The research methodology of this research study is bifurcated into two phases of the pilot study and the main study.

The first phase of the research methodology revolves around the pilot study conducted to pave the way towards the main study of this research work. There are four objectives of conducting the pilot study that is; (i) to step towards the development of main study's research design, (ii) to investigate the reliabilities of the research instrument in the present context; (iii) to check the readability and understandability of the posed questions for further correction and re-structuring of sentences and finally (iv) to get the constructive critique and feedback from the respondents relating research instrument. The population and sampling frame of the pilot study comprised of telecom sector of Pakistan. The respondents of the pilot study are the functional, middle managers and knowledge worker. In light of the objectives of conducting the pilot study, the offices and regional offices of five major cellular companies in Islamabad city are targeted. The research instrument from previous researches is adapted and adopted for measuring the variables. Offices and regional offices of five major cellular companies Ufone, Warid, Telenor, Zong and Mobilink in Islamabad city are targeted for conducting the pilot test. Five interactive sessions were conducted, each in five cellular organizations. Total of 200

research questionnaires was floated among employees during these interactive sessions. Out of 200 research questionnaires, only 107 questionnaires were returned with only 3 questionnaires were found in-complete and defected. The descriptive analysis and demographic analysis of the pilot study is also conducted by checking the mean, and standard deviations of the variables. The results of the reliability analysis reflect that the research instrument used for the measurement of the proposed concept in the research study were reliable and adequate. During the pilot testing activity, the respondents of the pilot study identified some of the spelling mistakes and grammatical errors. In the light of feedback from respondents, the research instrument is amended and corrected for the final main study.

The second phase revolves around the main study. The philosophical stance of this research study is positivism with the deductive research approach. The research strategy used in this research study is the questionnaire survey as the questionnaire surveys are also regarded as efficient data collection tool where the research is focused with accuracy on what information is required from respondents, free from biases. Furthermore, the data is collected at a particular single point of time thus, follows a cross-sectional design. The units of analysis are the functional, middle managers and knowledge worker of cellular companies of Pakistan. The main theme of this research work is to study the work behavior of employees in respect of organizational innovation and learning process to accomplish the firm's effectiveness, therefore, the cellular companies of Pakistan are chosen because of intense competitions and shifting trends of business in the telecom sector. The study is non-contrived in nature as the survey was conducted in a natural environment with least interference of researcher and controlled environment. The population frame of this research survey constitutes a total of 7280 approx. middle and functional managers and knowledge worker of the five cellular companies operating nationwide as provided by HR departments of the cellular companies of Pakistan. Calculating the values, the results revealed that the minimum sample size of 365 would be sufficient enough as a sample. The sampling strategy adopted for this research study is a simple random sampling. The total of 1000 questionnaires was floated to respondents selected

randomly and in response, only 519 filled questionnaires were received. Total 21 questionnaires were found defected, leaving behind the total completed questionnaire of 498 only. This shows the overall response rate of 51.90 % and the Ufone has overall the highest response rate of 60.5%. The gathered data is analyzed by using the statistical package of social sciences (SPSS) version 20.0. The statistical methodology establishes with the computation of descriptive statistics, demographic analysis of the respondents, reliability analysis through Cronbach's alpha coefficient, factor analysis, the discriminate validity through Pearson correlation, confirmatory factor analysis and finally for hypothesis testing, regression analysis with process microbe of Andrew Hayes (2014) is used. The overall research model is also validated through structural equation modeling.

CHAPTER 5
DATA ANALYSIS AND RESULTS

In this chapter results of statistical techniques implied and analysis of hypothesized relationships of study variables are elaborated. This chapter starts with the demographic analysis of the participants of the research survey. Then the descriptive statistics include the mean and standard deviations of study variables are discussed. Validation of research measures and reliability analysis are essential parameters prior to the testifying the structural relationships.

This research work has adopted the Koufteros (1999) approach for the validation of scales. Koufteros (1999) explained that the validation of research scale includes four steps process. In the first step of scale validation, the exploratory factor analysis is conducted with an objective to get some initial insights of dimensionality aspects of research constructs from the collected data (Koufteros, 1999). This first step of scale validation is an iterative process of purifying the scales, the items with poor loadings are eliminated from further analysis. However, it is crucial to state that exploratory factor analysis is not an explicit test for the uni-dimensionality (Koufteros, 1999; Gerbing and Anderson, 1988). Therefore, the validation of scales further requires statistical analysis (Koufteros, 1999). In the second step of scale validation, the reliability of the research constructs and sub-constructs are checked after extracting the items with poor loading, cross-loadings and high correlations (Koufteros, 1999). In the third step of scale validation, the confirmatory factor analysis is implied with an objective to evaluate the fit indices of the measures with the standardized factor loadings (Koufteros, 1999). In the last step of scale validation, the discriminate validity is checked by conducting the correlation analysis and average variance extracted values of sub-constructs and constructs (Koufteros, 1999). The successful validation of the research scales further paves the way to analyze and testify the structural relationship of constructs. This research work has adopted the Koufteros (1999) approach for the validation of research scales. The exploratory factor analysis,

composite reliability analysis, confirmatory factor analysis, correlation analysis and average variance extracted are calculated and conducted in these same lines.

For testing the structural relationship and model fitness indices, the structural equation modeling is believed to be the most widely used statistical technique for the analysis of the hypothesized relationships between the latent and observed constructs. It is believed that the structural equation modeling carries the integrated version of many other statistical methods including correlation, multiple regression, MANOVA and factor analysis (Eid, 2000; Nachtigall, Kroehne, Funke and Steyer, 2003). However, the researchers have criticized this second generation multivariate technique in a manner that SEM neglects the examination of mediation effect in models that can lead to erroneous conclusions (Hair et al., 2012a; 2012b; 2013; Hair, Sarstedt, Hopkin and Kuppelwieser, 2014). Hair et al., (2014) have attempted to explain the mediation phenomenon at initial levels but it has been believed that this lacking regarding the moderated mediation or mediated moderation needs to be considered in future statistical researches (Hair, Sarstedt, Hopkin and Kuppelwieser, 2014). It is pertinent to explain here that this research work hypothesizes the mediated moderation research model. Therefore, the structural equation modeling cannot rely wholly on for the conclusion of structural relationships in light of these literature groundworks. This research work has assessed the fitness of measurement models through structural equation modeling. However, Andrew Hayes (2014) based moderated mediation technique (using process macro) is adopted for testing the hypothesized moderated mediation relationship.

5.1. Demographic Analysis

The demographic analysis of all the respondents of this research study is summarized in Figure 5.1. It depicted the descriptive frequencies of respondents in four major classes of demographics that are gender, age, education and experience. As reported, it summarizes the frequencies of the gender groups of a research study of 498 responses which shows that 31.53 percent were female and 68.47 percent of research sample were males.

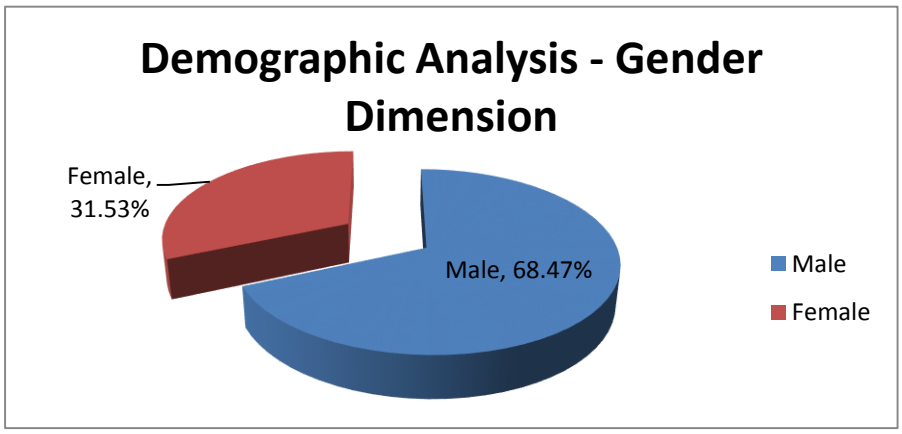

Figure 5.1. Demographic Analysis of Respondents – Gender Dimension

Figure 5.2 depicts that 2.21 percent of research sample were aged less than 25 years; 44.78 percent lies between 25 years and 35 years; 42.97 percent were aged between 36 years to 45 years, and the residual 10.04 percent were aged above than 45 years.

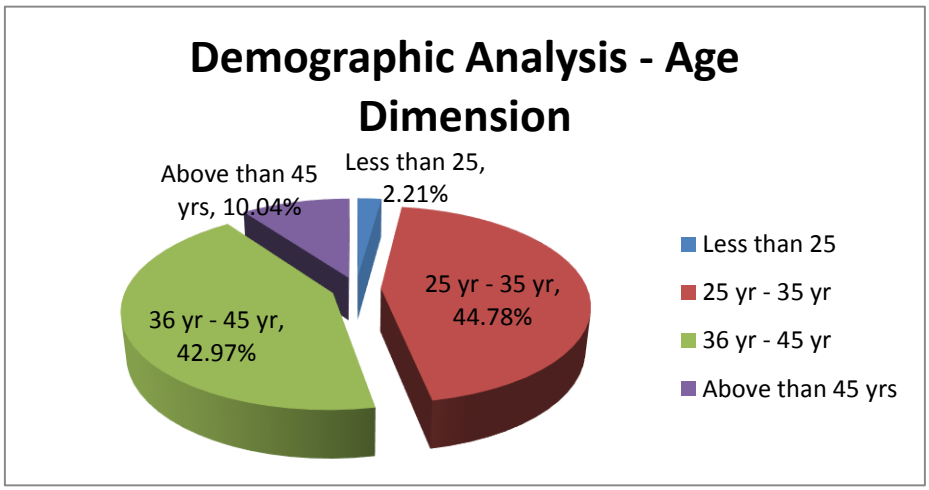

Figure 5.2. Demographic Analysis of Respondents – Age Dimension

Figure 5.3 depicts that 76.51 percent of the population was Masters, 21.69 percent of respondents were MPhil or Doctorates and the rest of 1.81 percent respondent was Graduate. No response with the zero percentage belongs to the Intermediate level of education.

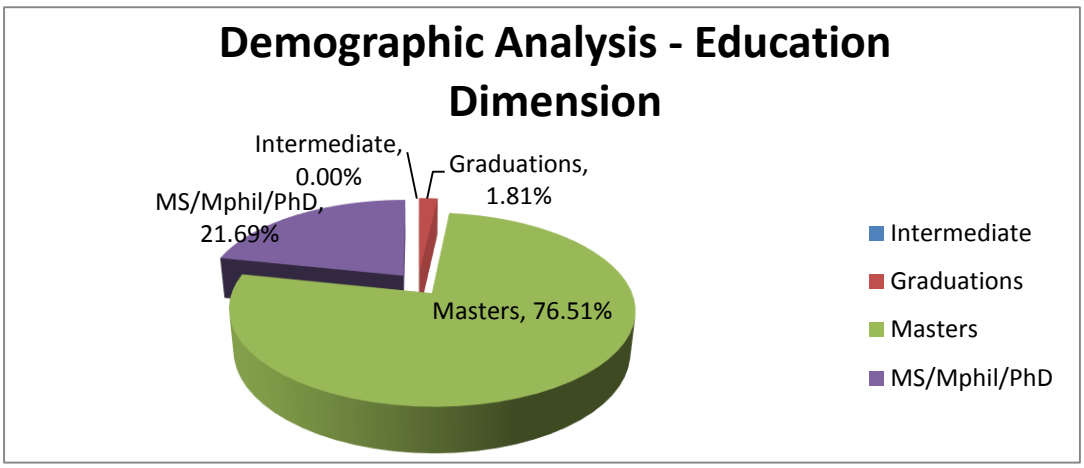

Figure 5.3. Demographic Analysis of Respondents – Education Dimension

Figure 5.4 also summarizes the frequencies of the level of experiences of total 498 responses which depicts that 5.42 percent of sample holds the experience of 1 –2 years; 52.41 percent was experienced of 3 –5 years; 2.61 percent was experienced less than one year; and the remaining of 39.56 percent possess the experience above than 5 years.

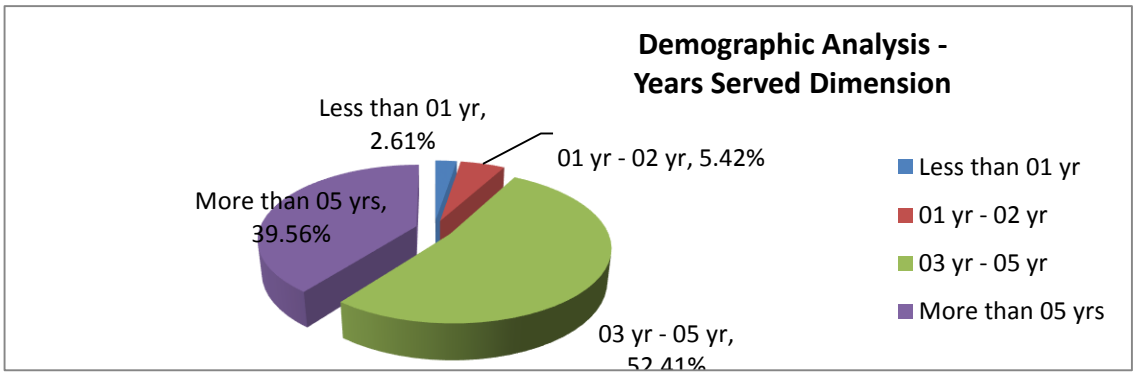

Figure 5.4. Demographic Analysis of Respondents –Years Served Dimension

Table 5.1. *Demographic Analysis of Respondents*

S #	Demographic Variable	Categories	Frequency	Percent
1	Gender	Female	157	31.53
		Male	341	68.47
		Total	498	100

2	Age	Less than 25	11	2.21
		25 yr. – 35 yrs.	223	44.78
		36 yrs. – 45yrs.	214	42.97
		Above than 45 yrs.	50	10.04
		Total	498	100
3	Education	Intermediate	0	0
		Graduation	9	1.81
		Masters	381	76.51
		MS or MPhil or PhD	108	21.69
		Total	498	100
4	Experience	Less than 1 yr.	13	2.61
		1yr –2 yrs.	27	5.42
		3 yrs. –5 yrs.	261	52.41
		More than 5 yrs.	197	39.56
		Total	498	100

5.2. Descriptive Analysis

Descriptive analysis results of all latent constructs are shown in table 5.2. It represents that organizational learning has the overall highest mean score of 4.40 in the telecom industry of Pakistan whereas the work attitude has the overall lowest mean score of 4.11.

In subscale of the organizational learning process, the construct "knowledge acquisition" has the overall highest mean score of 4.51 and the construct "knowledge retention" has the overall least mean score of 4.21 in subscale. The mean score of study variable organization learning process sub-scale is 4.40 with a minimum value of 1.00 and a maximum value of 5.00.

In subscale of organizational innovation, the construct "market innovation" has the overall highest mean score of 4.57 and the construct "administrative innovation" has the overall least mean score of 4.11 in subscale. The mean score of study variable organizational innovation sub-scale is 4.25 with the minimum value of 2.00 and a maximum value of 5.00.

Table 5.2. *Descriptive Statistics*

Variable	Sub-Measures	Mean	Minimum	Maximum
Learning Process	Knowledge Acquisition	4.51	1.50	5.00
	Knowledge Transfer	4.48	1.50	5.00
	Knowledge Retention	4.21	1.00	5.00
	Cognitive Change	4.37	1.00	5.00
	Behavioral Change	4.43	1.00	5.00
	Learning Process	4.40	1.00	5.00
Organizational Innovation	Technological Innovation	4.09	1.00	5.00
	Administrative Innovation	4.11	2.00	5.00
	Market Innovation	4.57	2.00	5.00
	Organization Innovation	4.25	2.00	5.00
Organizational effectiveness	Market Effectiveness	4.38	1.00	5.00
	Strategic Leadership	4.01	1.00	5.00
	Cohesiveness	4.29	1.00	5.00
	Organizational Climate	4.11	1.00	5.00
	Product and Service Quality	4.57	1.00	5.00
	Satisfaction	4.63	1.00	5.00
	Organizational effectiveness	4.33	1.00	5.00
Work Attitude	Motivation to Perform	4.00	1.00	5.00
	Job Involvement	4.22	1.00	5.00
	Work Attitude	4.11	1.00	5.00

In subscale of organizational effectiveness, the construct “satisfaction” has the overall highest mean score of 4.63 and the construct “cohesiveness” has the overall least mean score

of 4.29 in subscale. The mean score of study variable organizational effectiveness sub-scale is 3.54 with a minimum value of 1.00 and a maximum value of 5.00.

In subscale of work attitude, the construct "motivation to perform" and "job involvement" has the overall mean score of 4.00 and 4.22 respectively, in subscale. The mean score of study variable work behavior is 4.11 with a minimum value of 1.00 and a maximum value of 5.00.

5.3 Exploratory Factor Analysis

Sekaran (2003) illustrated the concept of validity as the extent to which the research instrument measures the concept for what it is purposed to measure. Generally, it is believed that the reliability alone is not sufficient enough to justify any research instrument. For a research instrument to be equally reliable, the criteria of reliability and validity both need to be justified (Sekaran, 2003). Validity reflects the ability of research instrument to measure the concept it is developed for. This research study has used the exploratory - confirmatory approach by following the paradigm applied by the previous reseathe rcher Koufteros (1999) for ththe e validation of research instrument and evaluation of measurement models (inclusive but not limited to the structural relationship among research constructs).

Exploratory factor analysis is a statistical technique used to identify the underlying relationship and latent constructs of large study variables. It is one of the powerful multivariate statistical techniques that confirms the latent constructs and dimensions of conceptualizing variables. It also helps in data reduction of research measures by changing the group of items to the identified factors that are interpretable and meaningful (Hair et al., 2010). This research study has used the factor analysis with Varimax rotation to transforms all the research measures into composite independent un-correlated research variables (Hair et al., 2010).

It is pertinent to mention that varimax is the most populthe ar orthogonal factor rotation method that simplifies the columns into the factor matrix (Hair et al., 2010). Besides the

Varimax method, there exist the other two orthogonal factor rotation methods namely Equimax and Quartimax. The objective of Quartimax orthogonal factor rotation method is to simplify the rows of factor matrix that focuses on rotating the initial factor in a manner that the variable loads high on some factors and as lowest on another factor (Hair et al., 2010). Thus, Quartimax method deals with the clusters of variables and that is not in line with the rotation objective (Hair et al., 2010). On the other hand, Equimax is a compromise between the two Quartimax and Varimax method. Equimax neither focuses on simplification of columns (like Varimax) nor it does with the simplification of rows (like Quartimax), rather it attempts to accomplish some of the each. It has been reported that the Varimax factor rotation method is the most widely accepted and generally considered superior to other orthogonal factor rotation methods in achieving the simple underlying factor structures (Hair et al., 2010).

In exploratory factor analysis, the factors are determined by the Eigenvalues that are greater than one. Factor 1 usually, possess the highest eigenvalue with the highest variance accounted and the remaining factors accounted lessor in a descending way (Hair et al., 2010).

Table 5.3, 5.4, 5.5 and 5.6 shows the exploratory factor analysis results of the organizational learning process, organizational innovation, organizational effectiveness and work attitude research measures accordingly.

Table 5.3 reveals the result of factor analysis for the variable learning process measured with 36-items subscale. The results showed the 72.77 percent of cumulative variance explained by the nine factors of the organizational learning process in which the “Behavioral Changes” accounts for the highest variance of 11.58 % with the highest rotated sum of the square of 4.169. However, the sub-construct “Learning through business contract” of knowledge acquisition possess the lowest variance of 5.910% with the lowest rotated sum of the square of 2.128. Furthermore, it was also found that the items measuring the concept of organizational learning process were appropriately loaded factor-wise.

Table 5.3. *Factor Loadings for the Subscale of Learning Process*

Items	Factors								
	1 *BC	2 *KR	3 *KT2	4 *KA1	5 *KT1	6 *CC	7 *KA2	8 *KA4	9 *KA3
1. Employees in our organization are an extremely important source of knowledge.	.115	.124	.051	.936	.146	.095	.051	.043	.025
2. In our organization we explicitly reward employees that are a source of quality knowledge.	.082	.107	.043	.933	.124	.049	.040	.024	.030
3. We frequently send our employees to various seminars, workshops, conferences with intentions to acquire information.	.129	.073	.061	.942	.149	.085	.039	.011	.029
4. Our competitors are an extremely important source for learning new methods and services	.022	.112	.062	.062	.087	.004	.886	.036	.027
5. External sources (reports, consultants, newsletters etc.) are extremely important for the operations of our organization.	.018	.044	.007	.165	.076	.064	.856	.038	.010
6. Expertise on the industry, products, and services is an extremely important criterion for hiring a new employee	.019	.111	.006	.053	.146	.065	.848	.068	.172
7. Joint tasks & mergers contribute a great deal of knowledge about industry and economic environment, new methods and services and products.	.201	.483	.043	.007	.068	.179	.123	.064	.742
8. New business methods and services are always worth trying to acquire more knowledge.	.197	.299	.101	.003	.062	.127	.069	.050	.757
9. Reports prepared by external experts are an extremely important source of information.	.130	.348	.034	.012	.040	.084	.161	.015	.687
10. Our organization uses clipping service – regular collection of papers and articles to our interest.	.251	.289	.126	.092	.276	.053	.151	.733	.099
11. Top managers in any important decision seek information or advice from the board of directors or owners (in general) or from sources outside the company (hiring experts, contacting top managers of other companies etc.)	.162	.240	.126	.036	.214	.067	.105	.860	.048
12. Our organization has employees whose job is related to searching for external information.	.162	.131	.125	.035	.013	.007	.015	.860	.149
13. In our organization, success and failure stories are shared with each other	-.021	-.008	.062	-.052	-.057	.054	.072	-.038	-.126
14. In our organization, business manuals, methods methodology are shared wit each other.	.048	.076	.014	.152	.918	.088	.054	.108	.037
15. In our organization, factual knowledge (know-how) work related experience is shared with each other.	.003	.111	.156	.127	.813	.003	.120	.144	.085

16. In our organization, expertise from education or training is shared with each other's	.057	.060	.030	.154	.913	.086	.070	.110	.066
17. In our organizations, business knowledge about customers, products, suppliers and competitors are shared with each other, if asked.	-.084	.316	.151	.034	.036	-.150	.034	-.057	-.450
18. In our organization, we very often use knowledge that our company possesses or acquire.	.103	.030	.921	.058	.002	.214	.016	.059	.022
19. In our organization, we use information technology to access a wide range of information and knowledge shifted to us.	.072	.056	.903	.076	.005	.171	.048	.049	.039
20. In our organization, we often come up with new ideas that can be used improve business through the sharing of information and knowledge.	.135	.081	.840	.014	.049	.280	.043	.033	.007
21. In our organization, we have systems to capture and store ideas and knowledge	.141	.126	.066	.176	.275	.058	.101	.341	.036
22. In our organization, we have systems to codify and categorize knowledge and ideas in a format that is easier to save for future use.	.327	.680	.092	.012	.090	.026	.019	.170	.086
23. In our organization, IT facilitates the process of capturing, categorizing, storing and retrieving knowledge and ideas in our company.	.204	.870	.041	.130	.004	.022	.007	.147	.158
24. In our organization, we record good practices by de-briefing the projects that we should extend for the avoidance of mistakes in the future.	-.098	-.007	-.083	-.028	-.128	-.084	-.090	.098	-.075
25. In our organization, we make efforts to remember mistakes we made and avoid making similar mistakes in future.	.189	.896	.033	.116	.028	.006	.080	.145	.148
26. In our organization, information and knowledge stored in our systems is relevant, sufficient and upgraded.	.149	.854	.104	.085	.051	.097	.073	.101	.157
27. Our organization is adaptable to environmental pressures	.078	.018	.307	.097	.081	.775	.036	.090	.125
28. In our organization, speed of operations has substantial improved.	-.016	.029	-.195	.017	-.051	.287	.046	-.195	.183
29. In our organization, introduction of new marketing approaches are improving.	.130	.117	.127	.073	.088	.893	.006	.075	.094
30. In our organization, employees are getting more satisfied.	-.050	.091	.100	-.067	.022	.033	-.188	-.102	.005
31. In our organization, overall atmosphere has substantial improved.	.126	.003	.270	.092	.084	.884	.046	.063	.108
32. In our organization, the personal communication between top manager and employees has substantially improving.	.913	.106	.048	.101	.002	.035	.041	.099	.

33. In our organization, the team's meeting efficiency has substantially improving.	.936	.183	.093	.083	.001	.066	.006	.110	.107
34. In our organization, Employee's level of understanding of company's strategic orientation has substantially improving.	.928	.205	.095	.082	.031	.060	.063	.113	.090
35. In our organization, Employee's levels of understanding of major problems are substantially improving.	-.063	.003	.051	.061	.043	.022	.018	-.183	.124
36. In our organization, efficiency of information systems are substantially improving.	.929	.199	.093	.075	.023	.056	.076	.115	.096
Total Rotation Sum of Squares	4.169	3.885	2.905	2.889	2.747	2.585	2.449	2.443	2.128
% of Variance (Rotated)	11.58	10.79	8.069	8.025	7.630	7.181	6.803	6.787	5.910
Cumulative % of Variance	11.58	22.37	30.44	38.44	46.09	53.27	60.07	66.86	72.77

Note. *KA1 = Learning from Employees; KA2 = Learning From other organizations; KA3 = Learning through business contracts; KA4 = Intentional search for knowledge; KT1 = Shifting the acquired knowledge to others; KT2 = Absorption of Shifted knowledge by recipient; KR = Knowledge retention; CC = Cognitive changes; BC = Behavioral changes.

The 36-item research instrument of organizational learning process were reduced to nine factors loaded with 29-item, (i) Learning from employees (KA1) with 03-items; (ii) Learning from other employees (KA2) with 03-items; (iii) Learning through business contracts (KA3) with 03-items; (iv) intentional search for knowledge (KA4) with 03-items; (v) Shifting the acquired knowledge to others (KT1) with 03-items; (vi) Absorption of Shifted knowledge by recipient (KT2) with 03-items; (vii) Knowledge retention (KR) with 04-items; (viii) Cognitive change (CC) with 03-items; and (ix) Behavioral change (BC) with 04-items.

Figure 5.5 represents the scree plot of factor analysis of the organizational learning process. The scree plot is graphed with the number of factors extracted (at horizontal axis) against the Eigenvalue (at vertical axis). The graph depicts that the components 1-9 possess the Eigenvalue greater than 1, and thus the curve of the graph starts the flattening from component 9 onwards with lesser Eigenvalues. Thus, it was found that nine component justify to retained.

The correlation matrix generated in exploratory factor analysis results revealed that the correlation value of some inter-items is found to be higher than 0.7 as depicted in table 5.4. The results showed that;

(i) Item no 3 have a strong positive relationship with item no 2 with a p-value of (.000) (i.e. less than 0.05) with a correlation value of **.897.**

(ii) Similarly, item no 16 have a positive strong relationship with item no 14 with a p-value of .000 that is smaller than .05 and correlation value of **.941.**

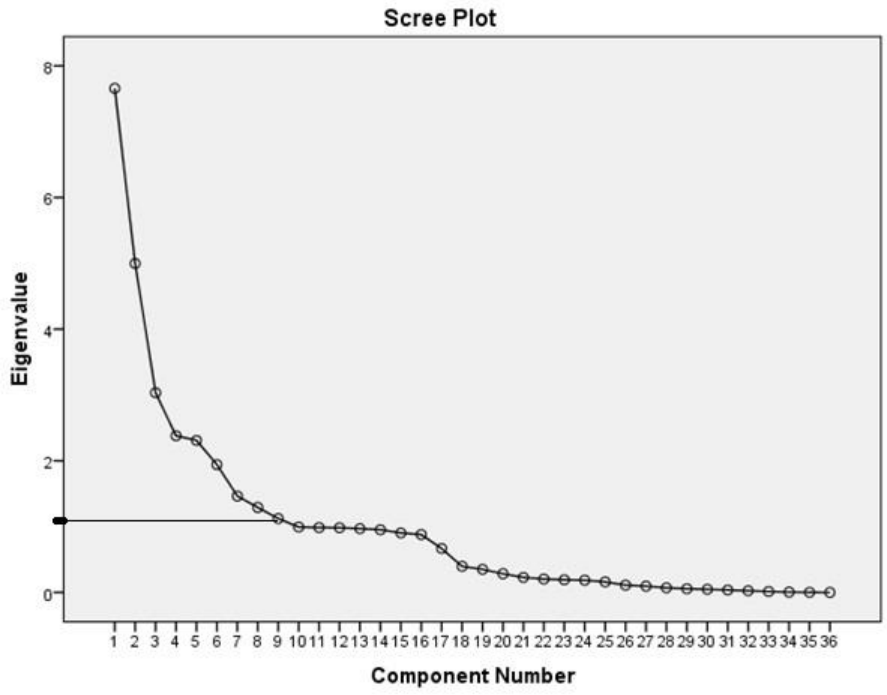

Figure 5.5. *Scree Plot for the Subscale of Learning Process*

(iii) Lastly, item no 36 possess the strong positive with 34 with the p-value of (.000) and the correlation value of **.807**.

Thus, it showed that there exists the multicollinearity among the items 3-2, 16-14 and 36-34 with the correlation value of .897, .945 and .807 as these correlation values are beyond

the value of 0.7 among each other. Hair et al. (2014) explained that the correlation value beyond 0.7 among the constructs are considered as high correlation and treated as multicollinearity. The authors further explained that one of the remedies to the diagnosed multicollinearity is to omit the items with a high correlation value.

Keeping in view the results it can be stated that multicollinearity is evident among the inter-item of organizational learning subscale. Therefore in addition to the seven items (13, 17, 21, 24, 28, 30 and 35) with negligible loadings, three items (3, 14 and 36) with highest correlation values are also eliminated. So, the ten items out of a total thirty-six items have been removed from the subscale of the organizational learning process for further analysis.

Table 5.4. *Correlation Analysis among Items of Learning Process Subscale*

Items		2	3	14	16	34	36
2	Correlation Sig(2tailed) N	1					
3	Correlation Sig(2tailed) N	.897 .000 498	1				
14	Correlation Sig(2tailed) N	.249 .000 498	.273 .000 498	1			
16	Correlation Sig(2tailed) N	.248 .000 498	.275 .000 498	.945 .000 498	1		
34	Correlation Sig(2tailed) N	.470 .000 498	.494 .000 498	.209 .000 498	.225 .000 498	1	
36	Correlation Sig(2tailed) N	.469 .000 498	.486 .000 498	.418 .000 498	.202 .000 498	.807 .000 498	1

Table 5.5 reveals the result of factor analysis for the variable organizational innovation measured with 20-items subscale. The results showed the 64.963 percent of cumulative variance explained by the five factors of organizational innovation in which the "Process Innovation" accounts for the highest variance of 14.487 % with the highest rotated sum of the square of 2.897 among all the five factors. However, the construct "Structural innovation" of

administrative innovation possesses the lowest variance of 12.277% with the lowest rotated sum of the square of 2.455. It was found that the items measuring the concept of organizational innovation were loaded factor-wise appropriately as mentioned in Table 5.5.

Table 5.5. *Factor Loadings for the Subscales of Organizational Innovation*

Items	Factors				
	1 *TI 2	2 *TI 1	3 *AI 2	4 *MI	5 *AI 1
37. In new product and service introduction, our company is first-to-market	-.104	-.021	.159	-.173	.076
38. Our new product and service are often perceive as novel to customers	.094	.794	.195	.128	.047
39. We constantly emphasize development of product to meet market demand	.160	.941	.110	.127	.012
40. We continuously improve old products and services and raise the quality of new products	.169	.939	.111	.129	.015
41. Our company manages to deliver customize product according to customer's demands.	.948	.123	.176	.009	.004
42. We deal with customer's complaints and satisfaction urgently with more care	.934	.071	.116	.062	.035
43. Development of new channels for products and services is the on-going process in our company.	.953	.103	.162	.011	.038
44. We constantly emphasize and introduce structure innovation as the establishment of new departments or project teams as per changing business needs.	.008	.114	.019	.023	.917
45. We constantly emphasize and introduce structure innovation as introducing new employee rewards and training schemes as per changing business needs	.041	.034	.037	.019	.869
46. We constantly emphasize and introduce structure innovation as establishment of computer-based administrative innovation etc.	.014	.006	.008	.011	.909
47. Innovative ideas was welcome by company and considered for development	-.032	.118	-.088	.087	.001
48. Management actively seeks innovative ideas	.187	.195	.859	.093	.009
49. People are not penalized for new ideas that do for work	.217	.199	.825	.149	.040
50. Program and Project managers promote and support innovative ideas and experimentation	.186	.198	.853	.129	.029
51. Innovation is not perceived as risky and resisted	.088	.049	-.102	-.015	.027
52. Our company is better than competitors in entering the new market.	.022	-.063	.147	-.050	.128

53. Our company is better than competitors in new pricing methods of product and services	.006	.023	.047	.799	.002
54. Our company is better than competitor's new distribution methods for product and services.	.087	.135	.327	.878	.026
55. New product and services in our company often taken us up against competitors	.182	.034	.127	.870	.002
56. In comparison to competitor, our company has introduced more innovative product and service during last five (05) years	-.043	-.055	.108	-.367	-.037
Total Rotation Sum of Squares	2.897	2.609	2.574	2.457	2.455
% of Variance (Rotated)	14.487	13.044	12.869	12.287	12.277
Cumulative % of Variance	14.487	27.530	40.399	52.686	64.963

Note. *TI 1 = Product Innovation; TI 2 = Process Innovation; AI 1 = Structure Innovation; AI 2 = Cultural Innovation; MI = Market Innovation-\

The 20-item research instrument of organizational innovation was reduced to five factors, loaded 15-item subscale, (i) Product innovation (TI1) with 03-items; (ii) Process innovation (TI2) with 03-items; (iii) Structure innovation (AI1) with 03-items; (iv) Cultural innovation (AI2) with 03-items; and (v) Market Innovation (MI) with 03-items. Overall, it was found that the 15 items out of total 20 were appropriately loaded factor-wise, with the remaining five items with negligible loadings.

The correlation matrix generated in exploratory factor analysis results revealed that the correlation value of some inter items is found to be higher than 0.7. The results of inter-item correlation are depicted in table 5.6. The results showed that;

(i) Item no 40 has strong positive relationship with item no 39 with p-value (.000) < 0.05 and correlation value of **.992**.

(ii) Item no 42 possess the strong positive relation with item no 41 with the p-value of (.000) with a correlation value of .**874**.

(iii) Item no 46 have a strong positive relationship with item no 44 with a p-value of (.000) and the correlation value of **.784**.

The results revealed that there exists the multicollinearity among the items 40-39, 42-41 and 46-44 with the correlation value of .992, .874 and .784 respectively as these correlation values are beyond the value of 0.7 among each other. As high correlation is evident among the inter-item of organizational innovation subscale therefore in addition to the five items (37, 47, 51, 52, and 56) with negligible loadings, three items (40, 42 and 46) are also eliminated. So, the eight items out of total twenty items have been removed from the subscale of organizational innovation for further analysis.

Table 5.6. *Correlation Analysis among Items of organizational innovation subscale*

Items		39	40	41	42	44	46
39	Correlation Sig(2tailed) N	1					
40	Correlation Sig(2tailed) N	.992 .000 498	1				
41	Correlation Sig(2tailed) N	.277 .000 498	.287 .000 498	1			
42	Correlation Sig(2tailed) N	.236 .000 498	.245 .000 498	.874 .000 498	1		
44	Correlation Sig(2tailed) N	.404 .000 498	.409 .000 498	.412 .000 498	.448 .000 498	1	
46	Correlation Sig(2tailed) N	.214 .000 498	.216 .000 498	.220 .000 498	.239 .000 498	.784 .000 498	1

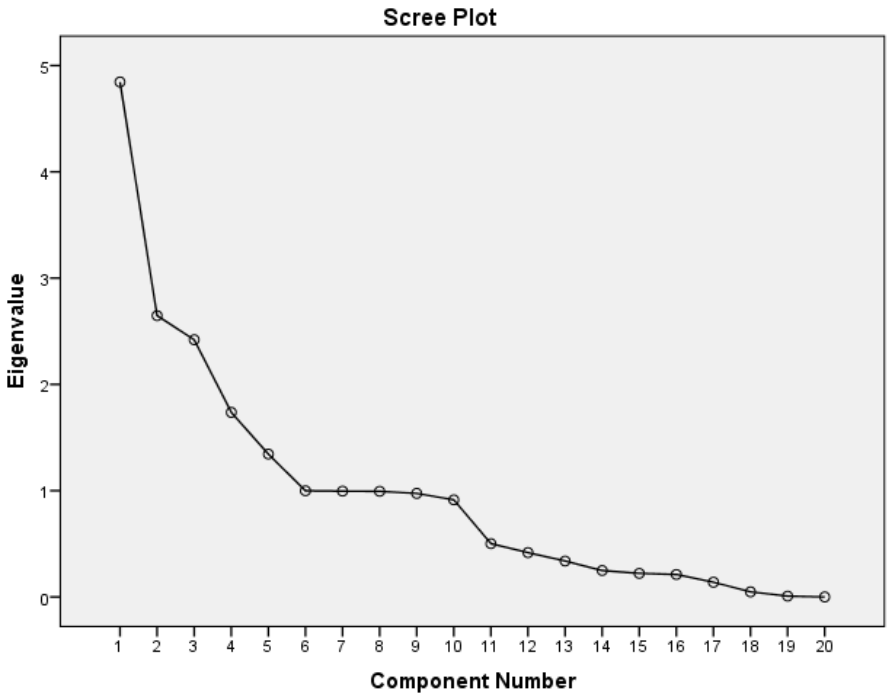

Figure 5.6. *Scree Plot for the Subscale of Organizational Innovation*

Figure 5.6 represent the scree plot of factor analysis of organizational innovation. The scree plot is graphed with the number of factors extracted (at horizontal axis) against the Eigenvalue (at vertical axis). The graph depicts that the components 1-5 possess the Eigenvalue greater than 1, and thus the curve of graph starts flattening from component 5 onwards with the lesser Eigenvalues. Thus, it was found that the five components extracted by factor analysis justify to be retained.

Table 5.7 reveals the result of factor analysis for the variable organizational effectiveness measured with 21-items subscale. The results showed the 74.45 percent of cumulative variance explained by the six factors of organizational effectiveness in which the "Product and Service Quality" accounts for the highest variance of 13.72 % with the highest rotated sum of squares of 2.883 among all the six factors. However, the construct "Cohesiveness" possesses the lowest variance of 11.40% with the lowest rotated sum of squares of 2.395. Furthermore, it was also found that the 21-item research instrument of organizational

effectiveness was reduced to six factors, loaded 18-item subscale, (i) market effectiveness (EF1) with 3-items; (ii) strategic leadership (EF2) with 3-items; (iii) cohesiveness (EF3) with 3-items; (iv) organizational climate (EF4) with 3-items; (v) product and service quality (EF5) with 3-items and (vi) satisfaction (EF6) with 3-items. Overall, it was found that the 18 items out of total 21 were appropriately loaded factor-wise, with the remaining three items with negligible loadings.

Table 5.7. *Factor Loadings for the Subscales of Organizational Effectiveness*

Items	Factors					
	1 *FE5	2 *FE1	3 *FE6	4 *FE2	5 *FE4	6 *FE3
57. Our Firm is more effective as compared to competitors in relation to profitability	.073	.798	.032	.121	.190	.078
58. Our Firm is more effective as compared to competitors in relation to market share	.117	.842	.091	.096	.113	.115
59. Our Firm is more effective as compared to competitors in relation to growth in sales	.126	.840	.106	.094	.115	.104
60. My supervisor show me how to improve performance	.073	.136	.086	.851	.097	.069
61. My supervisor encourages people to give best effort	.045	.085	.106	.869	.173	.125
62. People in my group encourage me to work as team	.002	.099	.044	.807	.131	.057
63. People in my group encourage people to give their best effort	.136	-.099	-.279	.181	-.142	.019
64. I feel a sense of belonging in my group	.165	.174	.126	.137	.223	.867
65. We trust each other in my group	.167	.177	.131	.075	.328	.790
66. We cooperate and work together in a group	.174	.131	.082	.117	.259	.858
67. My organization has a real interest in the welfare and happiness of those who work here	.150	.162	.005	.188	.818	.273
68. Things about working like people, policies or conditions encourage me to work hard	-.129	-.008	.012	-.089	.110	-.069
69. Decisions are made at levels where most adequate and accurate information is available	-.084	.091	.044	.009	.099	.160
70. Equipment and resources we have to do our work are adequate, efficient, and well-managed	.172	.181	.081	.107	.837	.210
71. I am told what I need to know to do your job in best possible way	.145	.162	.111	.213	.822	.200

72. Our firm accurately anticipates the customer's need	.826	.134	.146	.028	.185	.104
73. Our firm provides high quality service and product to customers.	.821	.099	.105	.038	.136	.071
74. Our firm interacts professionally with customers.	.832	.117	.138	.022	.164	.109
75. Up to now I feel satisfied with progress I have made in this organization	.144	.027	.870	.133	.090	.057
76. All in all, I am satisfied with this organization	.179	.076	.888	.071	.062	.074
77. All in all, I am satisfied with the persons in my work group	.117	.059	.815	.123	.047	.059
Total Rotation Sums of Squared	2.883	2.675	2.614	2.545	2.524	2.395
% of Variance (Rotated)	13.72	12.73	12.44	12.118	12.02	11.40
Cumulative % of Variance	13.72	26.46	38.91	51.03	63.05	74.45

Note. * FE1= Market Effectiveness; FE2 = Strategic Leadership; FE3 = Cohesiveness; FE4 = Organizational Climate; FE5 = Product and Service Quality; FE6 = Satisfaction

Figure 5.7 represent the scree plot of factor analysis of organizational effectiveness. The graph depicts that the components 1-6 possess the Eigenvalue greater than 1, and thus it was found that the six components extracted by factor analysis justify to be retained.

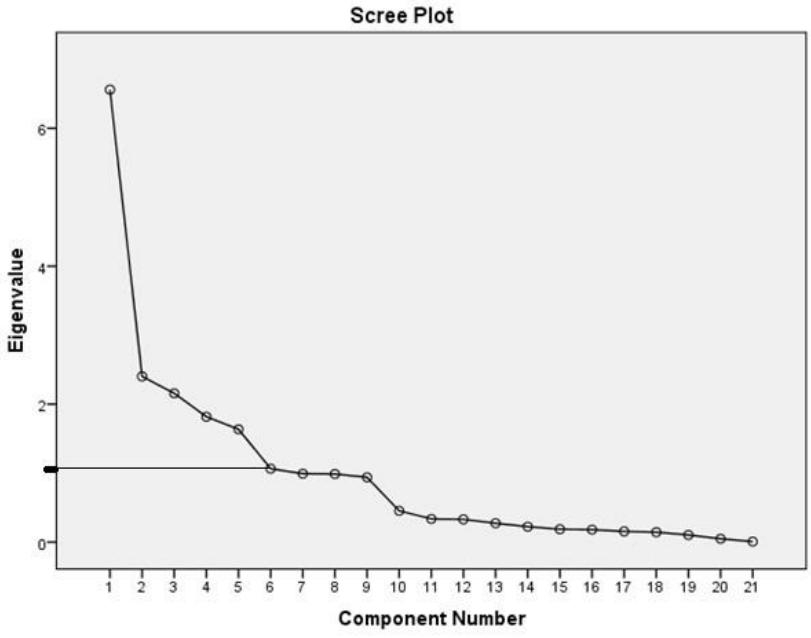

Figure 5.7. *Scree Plot for the Subscale of Organizational Effectiveness*

Table 5.8 explains the result of factor analysis for the variable work attitude measured with 6-items subscale. The results showed the 83.136 percent of cumulative variance explained by the two factors of work attitude in which the "Motivation to perform" accounts for the highest variance of 42.363 % with the highest rotated sum of squares of 2.542 and the construct "Job involvement" possesses the lowest variance of 40.772% with the lowest rotated sum of squares of 2.446. It was also found that the items measuring the concept of work attitude were loaded factor-wise appropriately as mentioned in Table 5.8.

Table 5.8. *Factor Loadings for the Subscales of Work Attitude*

Items	Factors	
	1 *WA2	2 *WA1
78. I always behave in a way that helps our company's performance.	.077	.893
79. I am always contributing in positive ways to the company's performance.	.069	.803
80. As compared to our competitors my organization has highly motivated group of employee	.150	.895
81. Most of my personal life goals are job-oriented.	.888	.139
82. I am very much involved personally in my job.	.817	.064
83. I like to be absorbed in my job most of the time.	.838	.095
Total Rotation Sums of Squared	2.542	2.446
% of Variance (Rotated)	42.363	40.772
Cumulative % of Variance	42.363	83.136

Note. * WA1= Motivation to Perform; WA2 = Job Involvement

Figure 5.8 represents the scree plot of factor analysis of work attitude. The scree plot is graphed with the number of factors extracted (at horizontal axis) against the Eigenvalue (at vertical axis). The graph depicts that the components 1 and 2 possess the Eigenvalue greater than 1, and thus the curve of the graph starts flattening from factor 2 onwards with the lesser Eigenvalues. Thus, it was found that the two factors extracted by factor analysis justify being retained.

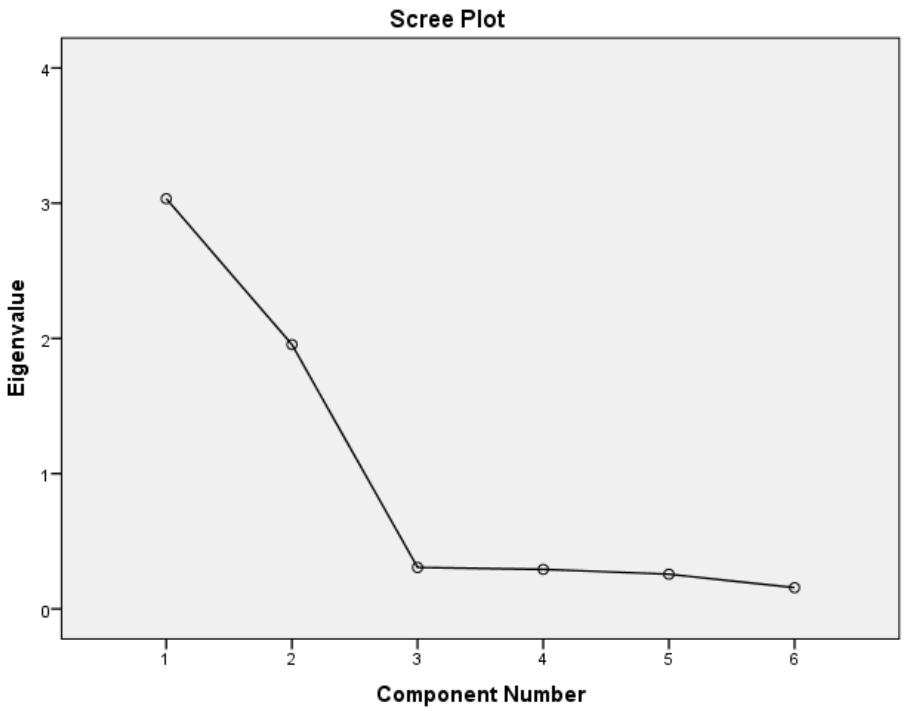

Figure 5.8. *Scree Plot Graph of Work Attitude*

Table 5.9 summarizes the results of the factor analysis for the study variables organizational learning process, organizational innovation, organizational effectiveness and work attitude. It portrays the overall objective of data reduction of this statistical technique that total fifteen (15) items were removed and the remaining items were grouped into identified actors measuring the concepts of research variables.

Table 5.9. *Summary of Factor Analysis*

Variable	Content and Sub-Measures	Total Items	Items Removed			Items retained in subscale
			With no loadings	High correlation	Total	
Learning process	Knowledge Acquisition	12	0	1	1	11
	Knowledge Transfer	8	2	1	3	5
	Knowledge Retention	6	2	0	2	4
	Cognitive Change	5	2	0	2	3
	Behavioral Change	5	1	1	2	3
		36	7	3	10	26
	Technological Innovation	7	1	2	3	4
	Administrative Innovation	8	2	1	3	5

Organizational innovation	Market Innovation	5	2	0	2	3
		20	5	3	8	12
Organizational effectiveness	Market Effectiveness	3	0	--	0	3
	Strategic Leadership	4	1	--	1	3
	Cohesiveness	3	0	--	0	3
	Organizational Climate	5	2	--	2	3
	Product and Service Quality	3	0	--	0	3
	Satisfaction	3	0	--	0	3
		21	3	--	3	18
Work attitude	Motivation to Perform	3	0	--	0	3
	Job Involvement	3	0	--	0	3
		6	0	--	0	6
Demographics		5	--	--	0	5
Total Items		88	15	6	21	67

5.4 Reliability Analysis

Sekaran (2003) illustrated the concept of reliability as the process of analyzing the internal consistency of research measures that the level to which they are free from all biases. Reliability reflects that all items of research instruments are consistent with each other (Sekaran, 2003). In order to check the reliability of the research instrument, the Cronbach alpha value is the most commonly used statistical tool for ensuring the inter-item consistency. Sekaran (2003) further explained that Cronbach's alpha value above and equals to the range of 0.60 is acceptable and values over 0.80 are good.

Table 5.10 reflects the reliability estimates of the remaining items of research instrument of this research study. It shows that all the research measures (second-order constructs) possess the acceptable satisfactory level of reliability coefficient. The Cronbach alpha value of research measures of organizational learning process was 0.810 measured with 26-items. The Cronbach

alpha value of sub-constructs of organizational learning process ranges from 0.809 - 0.966 with the highest value of sub-construct of "behavioral change" (.966).

Table 5.10. *Reliability Analysis*

Variable	Content and Sub-Measures		Items after Extraction	Cronbach alpha
Learning Process	1. Knowledge Acquisition	1.1 Learning From Employees	2	.944
		1.2 Learning From Other Organizations	3	.854
		1.3 Learning Through Business Contracts	3	.909
		1.4 Intentional Search for Knowledge	3	.957
			11	.810
	2. Knowledge Transfer	2.1 Shifting acquired knowledge to others	2	.809
		2.2 Absorption of Shifted knowledge	3	.936
			5	.739
	3. Knowledge Retention		4	.936
	4. Cognitive Change		3	.942
	5. Behavioral Change		3	.966
			26	.852
Organizational Innovation	1. Technological Innovation	1.1 Product Innovation	2	.812
		1.2 Process Innovation	2	.974
			4	.746
	2. Administrative Innovation	2.1 Structural Innovation	2	.819
		2.2 Cultural Innovation	3	.900
			5	.744
	3. Market Innovation		3	.885
			12	.776
Organizational effectiveness	1. Market Effectiveness		3	.914
	2. Strategic Leadership		3	.891
	3. Cohesiveness		3	.921
	4. Organizational Climate		3	.900
	5. Product and Service Quality		3	.964
	6. Satisfaction		3	.910
			18	.893
Work Behavior	1. Motivation to Perform		3	.886
	2. Job Involvement		3	.908
			6	.803

The Cronbach alpha value of organizational innovation with 15-items measures was 0.776. Among the sub-constructs of organizational innovation, the process innovation possess the highest reliability coefficient of 0.974 while the reliability coefficient of all other sub-constructs of organizational innovation ranges from 0.812 – 0.974. Organizational effectiveness measured with 18-items possesses the reliability coefficient of 0.893 while its sub-constructs holds the reliability range among 0.891 – 0.964 with the highest score of product and service quality (0.964). The variable work behavior measured with six items possesses the reliability coefficient of 0.803 while its sub-constructs motivation to perform and job involvement possess the reliability coefficient of 0.886 and 0.908 accordingly. The results of the reliability analysis reflect that the research instrument used for the measurement of the proposed concept in the research study was reliable and adequate.

5.5 Confirmatory Factor Analysis – Construct Validity

Construct validity reflects the extent to which the results obtained from the research instrument justifies and explains the theory around which the research instrument was developed to measure (Sekaran, 2003). The most common statistical tool for the analysis of construct validity of the research instrument is confirmatory factor analysis (Hair et al. 2010). This research study has also used the confirmatory factor analysis for testifying the construct validity of the questionnaire used for the measurement of key study variables.

Confirmatory factor analysis is a statistical technique used to confirm the latent constructs and dimensions of conceptualizing variables (Sekaran, 2003). Confirmatory factor analysis is used by a number of researchers to check that if the number of factors of construct required to be measured (indicator variable) conforms to what is expected to measure in the proposed hypothesized model. This statistical technique functions on the variance–co-variance matrix obtained from the sample in contrast with the proposed model (Sekaran, 2003). The results of the confirmatory factor analysis for the research variables of this research study are discussed in consequent paras.

The concept of organizational learning process is measured by using 26 items from previous total measures of 36 (as ten items namely 3, 13, 14, 17, 21, 24, 28, 30, 35, 36 respectively are extracted in factor analysis due to non-loading and high correlation) as shown in table 5.11.

Table 5.11. *Results of CFA for Organizational Learning Process*

Construct	Sub – Constructs	Item no	CFA Factor Loading	CFA Model Fit Indices
Learning process	Knowledge Acquisition	1	.97	CMIN / df = 1.72 p = .100 Absolute Fit measures: RMSEA = .061 PCLOSE = .619 SRMR = .041 Incremental Fit measures: NFI = .972 TLI = .969 CFI = .952 GFI = .95 AGFI = .94
		2	.92	
		3	Excluded	
		4	.83	
		5	.79	
		6	.83	
		7	.85	
		8	.87	
		9	.82	
		10	.77	
		11	.98	
		12	.98	
	Knowledge transfer	13	Excluded	
		14	Excluded	
		15	.97	
		16	.94	
		17	Excluded	
		18	.97	
		19	.92	
		20	.88	
	Knowledge retention	21	Excluded	
		22	.83	
		23	.94	
		24	Excluded	
		25	.97	
		26	.87	
	Cognitive change	27	.89	
		28	Excluded	
		29	.98	
		30	Excluded	
		31	.91	
	Behavioral change	32	.89	
		33	.95	
		34	.88	
		35	Excluded	
		36	Excluded	
	Total	36	--	--

The results of confirmatory factor analysis for this variable shows that the OLP construct possess a good fit with the CMIN/df ratio of 1.72 that is less than 3 as the value less

than 3 indicates the good fit model (Joreskog and Sorbom, 1993). The chi-square statistics (CMIN) of 499.12 with a degree of freedom of 289 and p-value of .10 i.e. greater than 0.05 shows that the model fits. The other model fitness measures of GFI, AGFI, NFI, TLI, CFI, PCLOSE, SRMR and RMSEA have also been calculated during the analysis. The results showed that the adjusted goodness of fit index (AGFI) is 0.94, the goodness of fit index (GFI) is 0.95, comparative fit index (CFI) is found to be .952 and the value of Tucker Lewis coefficient (TLI) is .969. The value of the normed fit index (NFI) is .972. Bentler (1992) suggested that the value of one (1) for these fit indexes represents the perfect model and its scores should be above than 0.9. Thus, the results for GFI, AGFI, NFI, CFI and TLI indicates the good fitness of model.

Root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) represents the badness of the model. Browne and Cudeck (1993) suggested that the value of RMSEA and SRMR should be equal or less than .08 for good fit models and the values higher than .08 represents the error in approximation of data. Thus, the results of confirmatory factor analysis for the study variable organizational learning process is found to be satisfactory.

By looking at factor loadings of results of confirmatory factor analysis for the variable organizational learning process reveals that the maximum standardized coefficients estimate of all the factors are positive. The researchers claim that the values of standardized coefficients estimate greater than 0.30 are considered as good. The results show that the R-Square value of all estimates falls between the range of .77 - .98 that are pretty good. This indicates the percentage of variation of each item that is explained by the nine factors of the organizational learning process.

The concept of organizational innovation is measured by using 12 items extracted from total items of 19 (as seven items namely 37, 40, 42, 46, 47, 51, 52 respectively are extracted in confirmatory factor analysis due to non-loading). The results of confirmatory factor analysis

for innovation construct also possess a good fit with the CMIN and df ratio of 1.57 which is less than 3. The results also show the chi-square statistics (CMIN) of 126.09 with the degree of freedom of 80 and p-value of .10 > .05. The adjusted goodness of fit index (AGFI) is .973, comparative fit index (CFI) is found to be .994 and the value of Tucker Lewis coefficient (TLI) is .992. The value of the normed fit index (NFI) is .985 and these fit indexes represent the perfect model. The last model fit statistics RMSEA is found to be .034.

Table 5.12. *Results of CFA for Organizational Innovation*

Construct	Sub – Constructs	Item no	CFA Factor Loading	Model Fit Indices
Innovation	Product Innovation	37	Excluded	CMIN / df = 1.57 P = .101 Absolute Fit measures: RMSEA = .034 PCLOSE = .627 SRMR = .049 Incremental Fit measures: NFI = .985 TLI = .992 CFI = .994 GFI = .969 AGFI = .973
		38	.75	
		39	.98	
		40	Excluded	
	Process Innovation	41	.93	
		42	Excluded	
		43	.98	
	Structure Innovation	44	.91	
		45	.90	
		46	Excluded	
	Cultural Innovation	47	Excluded	
		48	.95	
		49	.94	
		50	.89	
		51	Excluded	
	Market Innovation	52	Excluded	
		53	.83	
		54	.84	
		55	.89	
		56	Excluded	
	Total	20	--	--

These results reveal that the maximum standardized coefficients estimate of all the factors are positive. The results show that the R-Square value of all estimates falls between the range of .75 - .99 that is pretty good. This indicates the percentage of variation of each item (from 37 to 55) that is explained by the five factors of organizational innovation. It is found that the item no 39, 40, 41, 43, 46, 50 and 55 are best indicators that account for 99.9 percent variation that is explained by the respective factors technological innovation, administrative innovation and market innovation respectively. Thus, the results of confirmatory factor analysis for the study variable organizational innovation is found to be satisfactory.

The concept of organizational effectiveness is measured by using 18 items from previous total measures of 22. The four items namely 56, 63, 68, 69 respectively are extracted in confirmatory factor analysis due to non-loading during exploratory factor analysis as shown in table 5.13.

Table 5.13. *Results of CFA for Organizational Effectiveness*

Construct	Sub – Constructs	Item no	CFA Factor Loadings	Model Fit Indices
Organizational Effectiveness	Market Effectiveness	57	.74	CMIN / df = 2.2 P = .40 Absolute Fit measures: RMSEA = .064 PCLOSE = .594 SRMR = .053 Incremental Fit measures: NFI = .960 TLI = .961 CFI = .973 GFI = .959 AGFI = .952
		58	.91	
		59	.89	
	Strategic Leadership	60	.84	
		61	.94	
		62	.89	
		63	Excluded	
	Cohesiveness	64	.86	
		65	.94	
		66	.98	
	Organizational Climate	67	.96	
		68	Excluded	
		69	Excluded	
		70	.94	
		71	.89	
	Product or Service Quality	72	.87	
		73	.92	
		74	.84	
	Satisfaction	75	.89	
		76	.91	
		77	.83	
	Total	11	--	--

The results show that the OE constructs possess a good fit with the CMIN and df ratio of 2.2. The results also show the chi-square statistics (CMIN) of 265.94 with the degree of freedom of 120 and p-value of .40 > .05. The AGFI is found to be .952, CFI is found to be .973, the value of TLI is .961, the value of NFI is .960 and the value of RMSEA is found to be .064. These results reflect that the maximum standardized coefficients estimate of all the factors are positive. The R-Square value of all estimates falls between the range of .74 - .99 that is pretty good. Thus, the results of confirmatory factor analysis for the study variable organizational innovation are found to be satisfactory.

The concept of work attitude is measured by using six items as shown in table 5.14. The results of confirmatory factor analysis for this variable shows that the work attitude constructs possess a good fit with the CMIN and df ratio of 1.69. The results also show the chi-square statistics (CMIN) of 13.54 with the degree of freedom of 8 and p-value of .30 > .05. The results for AGFI (.984), NFI (.988), CFI (.992) and TLI (.978) and RMSEA (.062) indicates the good fitness of model. By looking at factor loadings results of confirmatory factor analysis for the variable work attitude reveals that the maximum standardized coefficients estimate of all the factors are positive. R-Square value of all estimates falls between the range of .84 - .99 that is pretty good. It is found that the item no 59, 62, 66, 71, 72, 74 and 77 are best indicators that account for 99.9 percent variation. Thus, the results of confirmatory factor analysis for the study variable work attitude is found to be satisfactory.

Table 5.14. *Results of CFA for Work Attitude*

Construct	Sub – Constructs	Item no	CFA Factor Loading	Model Fit Indices
Work Attitude	Motivation	78 79 80	.95 .98 .96	CMIN / df = 1.69 P = .30 Absolute Fit measures: RMSEA = .062, PCLOSE = .641, SRMR = .061 Incremental Fit measures: NFI = .988, TLI = .978, CFI = .992, GFI = .989, AGFI = .984
	Job Involvement	81 82 83	.84 .98 .96	
	Total	6		

5.6 Correlation Analysis - Discriminate Validity

Discriminate validity explains that all the research measures of variables, who are supposed to be un-correlated, are actually un-correlated (Sekaran, 2003). It reflects that all the dimensions and research constructs are distinguishable and discriminate with each other. It addresses the question that does the measure have a less correlation with the study variable that is supposed to be unrelated (Sekaran, 2003).

In order to check the discriminate validity of the research measures, Pearson Correlation statistical technique is commonly used. It is believed that the value of correlation between the range from 0.10 – 0.50 is considered as week relation; 0.50 – 0.90 reflects strong relation and the value of correlation above than 0.90 is considered as extremely strong relation (Tian and Wilding, 2008). The significance value $p < 0.05$ reflects that there exists the relationship between the two measures.

Table 5.11 explains the results of discriminate validity analysis of variable organizational learning process. The results showed that below mentioned research measures of the organizational learning process has no relationship with each other.

(i) Learning from other organizations (KA2) has no relationship with learning from employees (KA1) with a p-value (.158) > 0.05.

(ii) Shifting the acquired knowledge to others (KT1) has no relationship with learning through business contracts (KA3) with a p-value (.158) > 0.05.

(iii) Absorption of shifted knowledge by the recipient (KT2) has no relationship with learning from other organizations (KA2) and shifting the acquired knowledge to others (KT1) with a p-value (.564), (.158)> 0.05.

(iv) Knowledge retention (KR) has no relationship with shifting the acquired knowledge to others (KT1) with a p-value (.125) > 0.05.

(v) Cognitive change (CC) has no correlation with learning from other organizations (KA2) and knowledge retention (KR) with p-value (.529), (.436)> 0.05.

(vi) Behavioral change (BC) has no relationship with learning from other organizations (KA2) and shifting the acquired knowledge to others (KT1) with a p-value (.157), (.726) > 0.05.

Table 5.11. *Correlation Analysis among Measures of Learning Process Subscale*

Dimensions		KA1	KA2	KA3	KA4	KT1	KT2	KR	CC	BC	AVE Values
KA1	Correlation Sig(2tailed) N	1									.873
KA2	Correlation Sig(2tailed) N	.063 .158 498	1								.746
KA3	Correlation Sig(2tailed) N	.098 .029 498	.214 .000 498	1							.532
KA4	Correlation Sig(2tailed) N	.197** .000 498	.156** .000 498	.314** .000 498	1						.672
KT1	Correlation Sig(2tailed) N	.279** .000 498	-.124** .006 498	-.050 .261 498	.312** .000 498	1					.747
KT2	Correlation Sig(2tailed) N	.098* .028 498	.026 .564 498	-.090* .046 498	.137** .002 498	.063 .158 498	1				.790
KR	Correlation Sig(2tailed) N	.224** .000 498	.151** .001 498	.575** .000 498	.441** .000 498	.069 .125 498	-.111* .010 498	1			.688
CC	Correlation Sig(2tailed) N	.181** .000 498	-.028 .529 498	-.18** .000 498	.159** .000 498	.171** .000 498	.523** .000 498	-.035 .436 498	1		.727
BC	Correlation Sig(2tailed) N	.205** .000 498	.063 .157 498	.373** .000 498	.333** .000 498	-.016 .726 498	-.19** .000 498	.478** .000 498	-.137** .002 498	1	.857

Note. *KA1 = Learning from Employees; KA2 = Learning from other organizations; KA3 = Learning through business contracts; KA4 = Intentional search for knowledge; KT1 = Shifting the acquired knowledge to others; KT2 = Absorption of Shifted knowledge by the recipient; KR = Knowledge retention; CC = Cognitive changes; BC=Behavioral changes.

Table 5.11 also explains that the other research measures have week relationship among each other ranging from (.098) to (.441). In addition, the average variance extracted (AVE) has also been calculated that were found acceptable as all the values of constructs are above than

0.5. Thus, it was also found that all the correlations among the research dimensions and constructs of variable organizational learning process satisfy the criteria.

Table 5.12 explains the results of discriminate validity analysis of variable organizational innovation. The results showed that below mentioned research measures of organizational innovation has no relationship with each other.

Table 5.12. *Correlation Analysis among Measures of Organizational Innovation Subscale*

Dimensions		TI 1	TI 2	AI 1	AI 2	MI	AVE Values
TI 1	Correlation Sig(2tailed) N	1					.758
TI 2	Correlation Sig(2tailed) N	.274** .000 498	1				.903
AI 1	Correlation Sig(2tailed) N	-.037 .406 498	-.052 .245 498	1			.798
AI 2	Correlation Sig(2tailed) N	.391** .000 498	.369** .000 498	-.047 .300 498	1		.715
MI	Correlation Sig(2tailed) N	.249** .000 498	.013** .776 498	-.011 .804 498	.353** .000 498	1	.722

Note. *TI 1 = Product Innovation; TI 2 = Process Innovation; AI 1 = Structure Innovation; AI 2 = Cultural Innovation; MI = Market Innovation

(i) Structure innovation (AI1) has no relationship with product innovation (TI1) and process innovation (TI2) with a p-value (.406), (.245) greater than 0.05.

(ii) Culture innovation (AI2) has no relationship with structure innovation (AI1) with a p-value (.300) greater than 0.05.

(iii) Market innovation (MI) has no relationship with process innovation (TI2) and structure innovation (AI1) with p-value (.776), (.804) greater than 0.05.

Table 5.12 also explains that the other research measures have week relationship among each other ranging from (.249) to (.391). Thus, it was also found that all the correlations among the research dimensions and constructs of variable organizational innovation satisfy the criteria of discriminate validity analysis.

Table 5.13 explains the results of discriminate validity analysis for variable organizational effectiveness. The results showed that all the research measures have week positive relationship among each other ranging from (.249) to (.391). Furthermore, the average variance extracted were also found acceptable for all the constructs (as the values > 0.5). Thus, it also reflects that all the correlations among the research dimensions and constructs of variable organizational effectiveness satisfy the criteria of discriminate validity analysis.

Table 5.14 explains the results of discriminate validity analysis for variable work attitude. The results showed that the research measures motivation to perform and job involvement have week positive relationship among each other (.215). Thus, it reflects that the correlations among the research dimensions and constructs of variable work attitude satisfy the criteria of discriminate validity analysis.

Hence, the results of discriminate validity analysis reflected in Table 5.11 - 5.14 justifies that the research constructs of study variables are distinguishable and less correlated with each other.

Table 5.13. *Correlation Analysis among Measures of Organizational effectiveness Subscale*

Dimensions		FE 1	FE 2	FE 3	FE 4	FE5	FE6	AVE Values
FE1	Correlation Sig(2tailed)	1						.684

FE2	Correlation	.261**	1					.710
	Sig(2tailed)	.000						
	N	498						
FE3	Correlation	.346**	.280**	1				.704
	Sig(2tailed)	.000	.000					
	N	498	498					
FE4	Correlation	.391**	.359**	.471**	1			.682
	Sig(2tailed)	.000	.000	.000				
	N	498	498	498				
FE 5	Correlation	.274**	.138**	.350**	.369**	1		.683
	Sig(2tailed)	.000	.002	.000	.000			
	N	498	498	498	498			
FE 6	Correlation	.185**	.211**	.240**	.192**	.297**	1	.737
	Sig(2tailed)	.000	.000	.000	.000	.000		
	N	498	498	498	498	498		

Note. * FE1= Market Effectiveness; FE2 = Strategic Leadership; FE3 = Cohesiveness; FE4 = Organizational Climate; FE5 = Product and Service Quality; FE6 = Satisfaction

Table 5.14. *Correlation Analysis among Measures of Work Attitude Subscale*

Dimensions		**Motivation to Perform**	**Job Involvement**	**AVE Values**
Motivation to Perform	Correlation	1		.748
	Sig(2tailed)			
	N			
Job Involvement	Correlation	.215**	1	.719
	Sig(2tailed)	.000		
	N	498		

Table 5.15 explains the results of correlation analysis among study variables in order to check whether any relations exist among them. The results showed that the organizational learning process is strongly positive correlated with innovation (r=.631, p =.000); organizational effectiveness (r = .833, p = .000) and work attitude (r =.723, p =.000).

Furthermore, it was also found that the organizational innovation also possesses strong positive relationship with organizational effectiveness (r = .809, p = .000) and work attitude (r =.766, p =.000). Table 5.15 also shows that organizational effectiveness has a strong positive relationship with work attitude (r =.720, p =.000).

Table 5.15. *AVE values and Correlations among Study Variable*

Dimensions		Learning Process	Organizational Innovation	Organizational effectiveness	Work Attitude	AVE values
(1) Learning process	Correlation Sig(2tailed) N	1				.729
(2) Organizational Innovation	Correlation Sig(2tailed) N	.631** .000 498	1			.769
(3) Organizational effectiveness	Correlation Sig(2tailed) N	.833** .000 498	.809** .000 498	1		.699
(4) Work attitude	Correlation Sig(2tailed) N	.723** .000 498	.766** .000 498	.720** .000 498	1	.733

5.7. Test of Assumptions – Regression Analysis

Regression Analysis is a powerful statistical tool that is used for estimating the relationship between study variables. It helps in understanding the relationship between criterion and predictor variable. It estimates the proportion of variance that is variation in the dependent variable is explained by the independent variables (Hair et al., 2009). Regression analysis is a powerful statistical parametric test and requires some basic assumptions to be fulfilled (Hair et al., 2009). Therefore, it is essential to testify that the gathered data of this research study whether meet the basic assumptions of this powerful parametric test in order to ensure the accuracy in the results of hypothesis testing.

5.7.1. Assumption 1 – Linearity

The basic assumption of regression analysis is the linear relationship of study variables. Linearity basically refers that the two or more study variables are directly proportional to each other that can be depicted as a straight line in a graph if plotted against each other at horizontal and vertical axis (Hair et al., 2009). In order to testify the linearity of study variables, a scatter plot was graphed. Figure 5.13 depicts the three scatterplots graph of dependent variable organizational effectiveness (at horizontal axis) plotted against the other variables (independent or mediator or moderator). The mentioned three graphs depicts the linear relationship of the organizational learning process, organizational innovation and work attitude with the dependent variable organizational effectiveness. Thus, it satisfies the basic assumption of statistical tool Regression that all the variables of this research study possess the linear relationship among each other.

5.7.2. Assumption 2 – Multicollinearity

Multicollinearity is also a basic assumption of Regression Analysis. It basically refers that the independent variables of the model are highly linked or associated with each other. It occurs when two or more than two predictor variables are highly correlated with each other. (e.g. r = 0.9 or above) that consequently lead to the inaccuracy in Regression results (Hair et al., 2009). High persistence of multicollinearity among predictor variables causes the higher standard error estimation; change in signs and or magnitude of regression coefficients; and inaccuracy in identifying the relative importance of a predictor variable in explaining the variation in criterion variable (Hair et al., 2009). In order to assess the multicollinearity among the predictor variables, the tolerance of each variable is computed. Tolerance is the variability of one independent variable that is no explaining the other independent (predictor) variable of the model. The acceptable value of tolerance should be larger than 0.10 that indicates that there are no highly correlated variables (Hair et al., 2009).

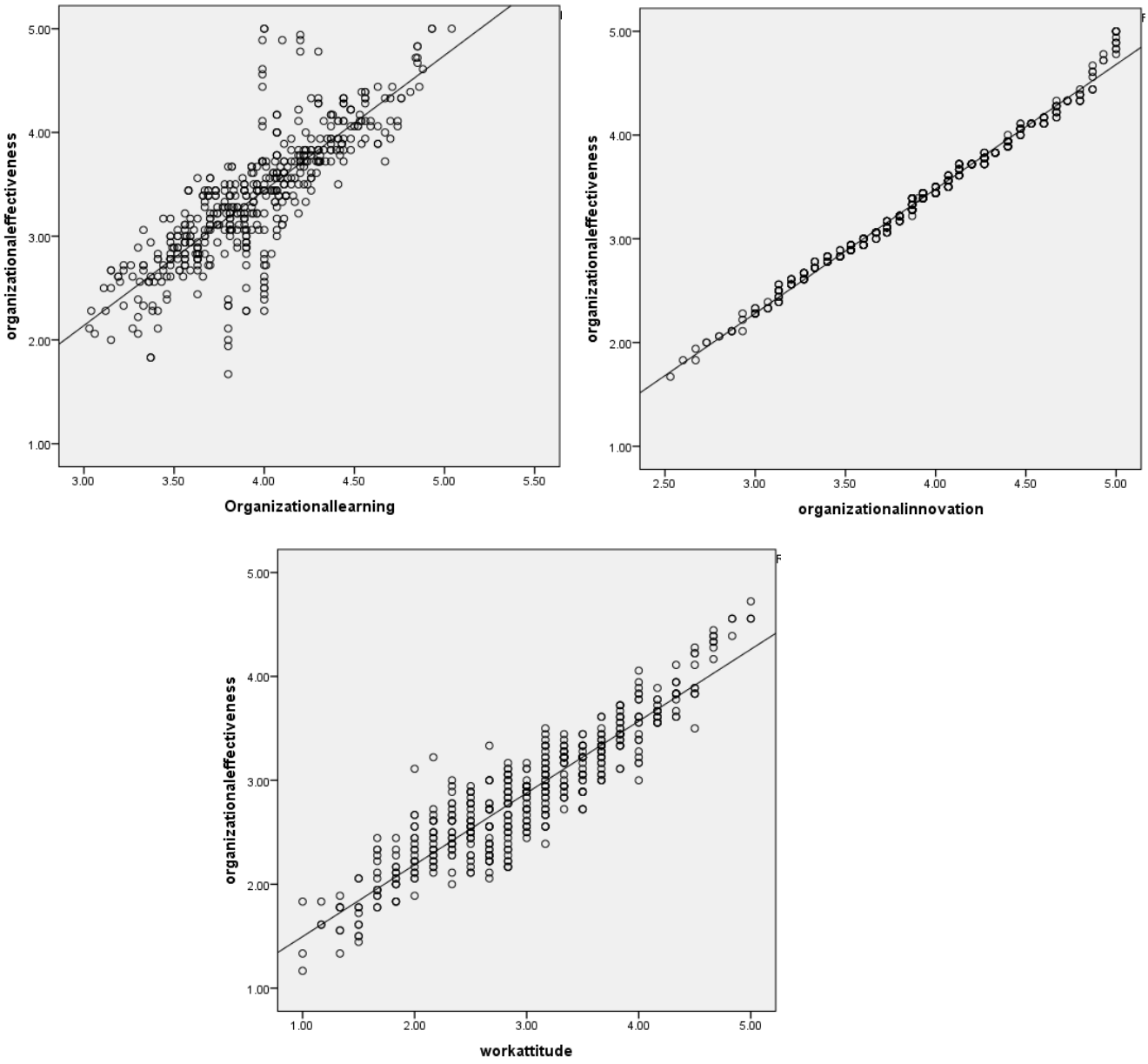

Figure 5.13. *Scatterplot Graph of Study Variables Depicting Linear Relationship*

Table 5.16 depicts the collinearity statistics of study variables. The results show that the three predictor variables possess the variance inflation factor (VIF) value of 3.076, 2.411 and 2.258 (that are greater than 5) with the tolerance value of (.325), (.414), (.442) that is larger than 0.10 when regressed against the dependent variable organizational effectiveness. Thus, it satisfies the fundamental assumption of multicollinearity of statistical technique regression analysis.

Table 5.16. *Collinearity Statistics of Study Variables*

Variable	VIF	Tolerance
Organizational learning process	3.076	.325
Organizational innovation	2.411	.414
Work attitude	2.258	.442

Dependent Variable: Organizational effectiveness

5.7.3. Assumption 3 – Homoscedasticity

One of the important fundamental assumptions of the Regression analysis is homoscedasticity of the gathered data. Homoscedasticity refers to the homogeneity of the variance of the dependent variable. In other words, homoscedasticity explains that the variance of the dependent variable remains the same across the different value ranges against the independent variable or the predictions. It measures the constant variance of errors of the predictor variable.

Homoscedasticity is checked by plotting the regression standardize residual of the dependent variable (at y-axis) against the regression standardize predicted value of the dependent variable (at x-axis). Figure 5.14 shows that the values of the residual plot have the same width as of the values of predicted value. This justifies that the data is homoscedastic in nature.

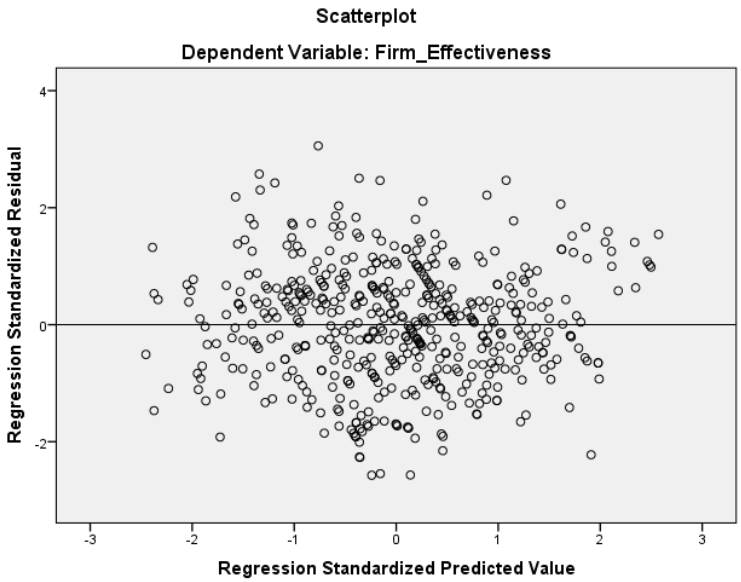

Figure 5.14. Scatterplot depicting Homoscedasticity of Data

5.7.4. Assumption 4 – Data Normality

Data Normality is generally considered as the most crucial and basic assumption of Regression Analysis. Normality of data can be tested through two statistical tests namely Kolmogorov-Smirnov and Shapiro-Wilk (Sekaran, 2003). These two statistical tests basically check the differences among the significance level of the data gathered from the expected normal population. Hair et al. (2010) explained that the statistical test S-W (Shapiro-Wilk) is basically used for the sample of less than 50 while on the other hand, the statistical test K-S (Kolmogorov-Smirnov) of normality is generally used for the samples more than 50. Therefore, the results of statistical test K-S is considered for checking the normality of data in this study. Table 5.18 depicts the results of the statistical test that signifies the data of four study variable are normally distributed with the p-values .002, .041, .033 and .040 (as greater than the acceptable p-value 0.05).

Besides that, the assumption of data normality can also be validated by the ratio of population distribution symmetry-peakness (Hair et al., 2000). Generally, it is represented by the value of skewness and kurtosis of the population. The researchers explain the skewness of

population as the distribution of population symmetry and kurtosis is referred to as the ratio of flatness and weakness of the population distribution curve. The acceptable value of skewness and kurtosis for the normally distributed population lies between +1 and -1 (Sekaran, 2003; Hair et al., 2000). Table 5.18 also depicts the result of skewness and kurtosis for the study variables of this research work. The results show that the population of the four research variables of this research study is normally distributed with the values of skewness ranges from the .000 to .177 and the values of kurtosis lie between the range from .000 to -.279 (that lies within the acceptable range of +1 to -1).

Table 5.18. *Results of Data Normality*

Variables	Skewness	Kurtosis	Kolmogorov-Smirnov		
			Statistics	Df	Sig.
Learning process	.151	.292	.033	498	.200
Organizational innovation	.040	.286	.039	498	.062
Organizational effectiveness	.177	.000	.033	498	.200
Work attitude	.000	.163	.040	498	.053

5.8. Hypothesis Testing

For hypothesis testing, Regression based on the conditional process approach is used. As the conceptual framework depicts that the independent variable (organizational learning process) has both direct and indirect effect (through organizational innovation) on the dependent variable (organizational effectiveness). But that direct and indirect effect of the learning process and organizational effectiveness is also moderated with the work attitude. That reflects that the relationship of the learning process and organizational effectiveness is conditional, depending upon the magnitude and value of work attitude.

As the research model of this research study is simple mediation model with the addition of the moderator variable work attitude, which moderates the effect of the organizational learning process (independent) on organizational innovation (mediator) and the direct effect of the learning process (independent) on organizational effectiveness (dependent). Therefore, Conditional process analysis is conducted to testify the research model as illustrated by Andrew F Hayes (2014). Therefore, the testing of all proposed hypothesis of this research work is embarked in four phases as;

- **Phase – I : Testing the Mediation Analysis on Relationship of X on Y**. At the first step, simple mediation analysis is conducted to testify the mediation effect of organizational innovation (M) on the criterion (X) and predictor variable (Y). At this level, the proposed hypothesis 1, 2, 3 and 4 of this research work are tested.

- **Phase - II : Testing the Moderation Effect of 'W' on the Relationship of 'X' on 'M'**. At the second step, the moderation effect of work attitude (W) is checked on the relationship of independent (X) and mediating variable (M). At this level, the proposed hypothesis 5 of this research work is checked.

- **Phase -III : Moderation Analysis with Putative Mediator Held Constant.** Then the moderation effect of work attitude (W) is tested on the direct effect of the organizational learning process (X) and organizational effectiveness (Y) with the mediator organizational innovation (M) supposed to be held constant. At this level, the proposed hypothesis 6 of this research work is tested.

- **Phase – IV : Combining Mediating and Moderation Effect in Single Model.** Finally, the mediation and moderation analysis is combined to testify the overall hypothesized research model through a moderated mediation approach. At this phase, the final conceptualized hypothesis 7 is tested.

5.8.1. Phase I - Testing the Mediation Analysis on Relationship of X on Y

The Process procedure of Andrew F Hayes (2014) is used for conduction of the mediation analysis of the study variable. At the first step, simple regression analysis was conducted with regressing the organizational effectiveness (dependent variable) on organizational learning process (independent variable). Then, Model 04 template is used to testify the mediation effect as illustrated by Andrew F Hayes (2014) in process procedure. In order to check the significance of the variables relationship learning process and the dependent variable organizational effectiveness, the regression analysis with process utility is conducted.

Table 5.19. Regression Analysis for Assessing the Total Effect of IV on DV

Variable	Coeff.	SE	T	P
Constant	-.651	.144		
Learning Process	1.196	.048	24.786	.000
	$R^2 = 0.553$, F (1, 496) = 614.3, p = 0.001			

Table 5.19 summarizes the result when regressing the organizational effectiveness on the learning process. It is found that the 55.3 % of the variance on organizational effectiveness is explained by the learning process with the p-value of .001 at a confidence interval of 95 percent. Thus, the result shows that there is a significant positive relationship between the independent and dependent variable which also testifies Hypothesis 1 as correct.

Table 5.20 summarizes the result of the process procedure in light of Hayes (2014) approach. The results show that 27.84 % of the variance in organizational innovation can be explained by the learning process with the p-value .001 at a confidence interval of 95 percent. The estimate of confidence t-value is 13.83 greater than 2 and thus, is acceptable with the standardized coefficient of $\alpha = .7072$. This also evidences that there is a significant positive

relationship found between the learning process and the mediating variable organizational innovation and thus, testifies the Hypothesis 2 to be valid.

Table 5.20. *Model Coefficients for the Study Variables*

Antecedent		M (Organizational Innovation)					Y (Organizational effectiveness)			
		Coeff.	SE	T	P		Coeff.	SE	T	P
Constant	i_1	.8290	.1522	5.44	.001	i_2	1.221	.1016	12.00	.001
X (Learning Process)	A	.7072	0.051	13.83	.001	c'	.7108	.0390	18.20	.086
M (Innovation)	--	--	--	--	--	β	.6862	.0291	23.56	.001
		R^2 = 0.2784, F (1, 496) = 191.3 p = 0.001					R^2 = 0.7894, F (2, 495) = 927.9 p = 0.001			

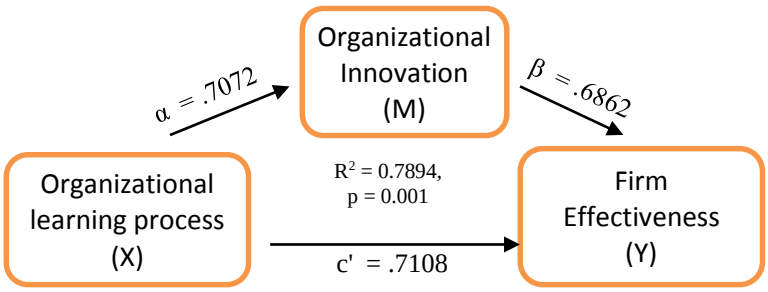

Fig 5.15. Diagrammatical Visualization of Phase -I Model Coefficients Results (Table 5.20)

The results also show that 78.94 % of the variance in organizational effectiveness can be explained by both the learning process and organizational innovation. It is found that the relationship of organizational innovation with the organizational effectiveness is significant with the p-value of .001 at, t-value of 23.56 greater than 2; and coefficient of β = 0.6862 at the confidence interval of 95 percent. Thus, it testifies that Hypothesis 3 also stands to be valid.

Multiplying the α and β yields (0.7072) (0.6862) = 0.4852 also mentioned in table 5.21. This indirect effect of 0.4852 means that the two members of cellular company who differ by one unit in their learning process are estimated to differ by 0.4852 units in their organizational effectiveness of their companies as a result of the tendency for those with relatively more with

learning process to achieve more innovation (because α is positive), which in turn translates into greater organizational effectiveness (because β is positive). The table shows that this indirect effect is statistically different from zero at a confidence interval of 95%.

The direct effect of learning process c' = 0.710 also mentions in Table 5.20 and 5.21 is the estimated difference in organizational effectiveness between two members of cellular companies experiencing the same level of organizational innovation but who differ by one unit in their experience of the learning process. The coefficient is positive, meaning that the members following more learning process yields equal innovation are estimated to achieve 0.710 units higher organizational effectiveness. However, this direct effect is not statistically different from zero with the t-value 18.2>2, p-value 0.086>0.05 at 95 % confidence interval.

Table 5.21. Total Effect Model from Output of Process Procedure

Total Effect of X on Y				Direct Effect of X on Y				Indirect Effect of X on Y	
Effect	SE	T	P	Effect	SE	T	P	Effect	Boot SE
1.195	.039	35.3	.001	.710	.039	18.2	.086	.4853	.042

The total effect of learning process ‘c’ on organizational effectiveness is calculated by summing the direct effect and indirect effect of X on Y, that is c = c' + ab = (0.710 + 0.4853) = 1.195. Two members of cellular companies who differ by one unit in the learning process are estimated to differ by 1.195 units in the achievement of their organizational effectiveness. The positive sign reflects that organizations with higher learning process account for higher organizational effectiveness. However, this is also not statistically different from zero with the t value of 35.3 > 2 and the p-value of .001 at the confidence interval of 95 percent. Thus, it testifies the Hypothesis 4 stands to be valid that organizational innovation mediates the relationship of the independent organizational learning process and dependent organizational effectiveness.

5.8.2. Phase II - Testing Moderation Effect of ‘W’ on Relationship of 'X' on 'M'

Establishing the indirect effect of independent (organization learning process) and dependent (organizational effectiveness through mediator organizational innovation does not imply that the mediator organizational innovation is the only variable that links the independent to dependent variable. This indirect effect could be due to an epiphenomenon association between the mediator in simple mediation and the true mediator casually between independent and dependent. The variable of work attitude correlated with the organizational innovation could be the actual mediator transmitting the effect of the organizational learning process on the organizational effectiveness. Table 5.22 depicts the results of the moderation effect of work attitude on the relationship of the independent variable organizational learning process and mediating variable organizational innovation.

Table 5.22. Model Summary for the Moderation Effect of Work Attitude

Antecedent	M (Organizational Innovation)					
	Coeff.	SE	T	P	LLCI	ULCI
Constant	3.122	.387	8.052	.000	2.36	3.88
W (Work Attitude)	.365	.123	2.95	.003	.122	.608
X (Organization Learning Process)	.7372	.144	5.09	.000	1.02	.453
Int_1	.0956	.0409	2.33	.019	.0152	.176
	R^2 = 0.6172, F (3, 494) = 265.4 p = 0.001					

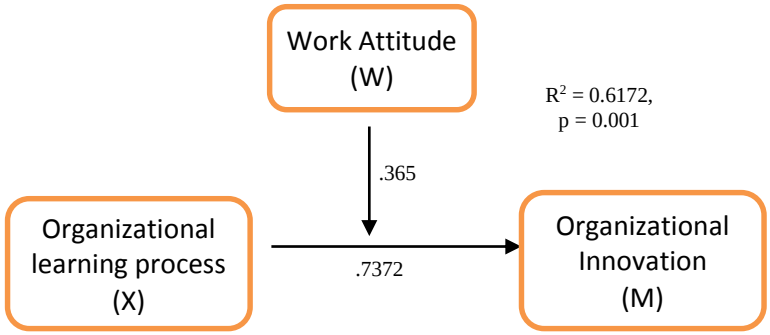

Figure 5.16. Diagrammatical Visualization Phase -II Model Coefficients Results (Table 5.22)

The results show that 61.72 % of the variance on organizational innovation can be explained by the organization learning process and the moderator work attitude with the p-value

.001 at a confidence interval of 95 percent. It is found that the relationship of mediator work attitude is also significant with the organizational innovation with the p-value .001; t-value of 2.95 greater than 2; and coefficient of $\beta = 0.365$ at the confidence interval of 95 percent. The results also show that the relationship of the independent variable organizational learning process is also found to be significant with the mediating variable organizational innovation with the p-value of with the p-value .001; t-value of 5.098 greater than 02; and coefficient of $\beta = 0.737$ at the confidence interval of 95 percent.

The test statistics also show that the interaction term "Int_1" (i.e multiplying both independent organization learning process and moderating work attitude) has also found to possess the significant association with the p-value of .01 less than 0.05; coefficient of $\beta = 0.956$; and t-value of 2.33 greater than 02 at confidence interval of 95 percent. Hence, it depicts that work attitude positively moderates the relationship of the organizational learning process and organizational innovation. Thus, it testifies that the hypothesis 5 also stands to be valid.

5.8.3 Phase III - Moderation Analysis with Putative Mediator Held Constant

To testify the hypothesis 6, moderation analysis is conducted with putative mediator organizational innovation considered held constant. At this stage, once again the moderation effect of work attitude is checked on the relationship of the independent organization learning process and dependent variable organizational effectiveness, treating the putative mediator organizational innovation held constant. Table 5.25 depicts the results of the moderation effect of work attitude on the main effect of the independent and dependent variable.

The results show that 85.15 % of the variance on organizational effectiveness can be explained by the organization learning process and the moderator work attitude with the p-value .001 at a confidence interval of 95 percent. It is found that the relationship of mediator work attitude is also significant with the organizational effectiveness with the p-value .001; t-value of 4.44 greater than 2; and coefficient of $\beta = 0.410$ at the confidence interval of 95 percent. The

results also show that the relationship of the independent variable organization learning process is also found to be significant with the dependent variable organizational effectiveness with the p-value of 0.001; t-value of 3.98 greater than 2; and coefficient of $\beta = 0.4303$ at the confidence interval of 95 percent.

Table 5.25. Model Summary for the Moderation Effect with Putative Mediator Held Constant

Antecedent	Y (Organizational effectiveness)					
	Coeff.	SE	T	P	LLCI	ULCI
Constant	1.9319	.2897	6.668	.000	1.362	2.50
W (Work Attitude)	.4109	.0924	4.446	.000	.229	.592
X (Organization Learning Process)	.4303	.1080	3.982	.001	.642	.218
Int_1	.1079	.0306	3.530	.005	.047	.167
			$R^2 = 0.8515$, F (3, 494) = 944.1 p = 0.001			

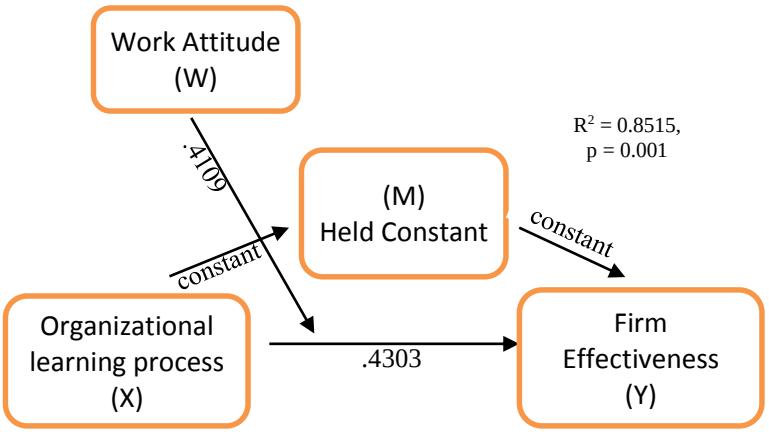

Figure 5.19. Diagrammatical Visualization of Phase-III Model Coefficients Results (Table 5.25)

The test statistics also show that the interaction term "Int_1" (i.e multiplying both independent organization learning process and moderating work attitude) has also found to possess the significant association with the p-value of .005 less than 0.05; coefficient of $\beta = 0.1079$; and t-value of 3.53 greater than 2 at confidence interval of 95 percent. Hence, it depicts that work attitude strengthens the relationship of the organizational learning process and organizational effectiveness. Thus, it testifies that hypothesis 6 also stands to be valid.

5.8.4. Phase IV - Combining Mediating and Moderation Effect in Single Model

This stage involves the integration of last three analyses in single coherent model as theoretical framework of this research study is a moderated mediation model in which the independent variable (X) has both direct and indirect effect on the dependent variable (Y), but that direct and or indirect effect of independent (X) on (Y) is moderated by the moderating variable (W); which reflects that the association of the independent and dependent variable is conditional depending upon the value of moderating variable (W).

Table 5.26. Model Coefficients for the Hypothesized Research Model

Antecedent	M (Organizational Innovation)				Y (Organizational effectiveness) Main Model			
	Coeff.	SE	T	P	Coeff.	SE	T	P
Constant	3.122	.3877	8.05	.000	1.003	.2829	3.54	.000
W (Work Attitude)	.3659	.1237	2.95	.003	.3020	.0856	9.63	.000
X (Learning Process)	.7372	.1446	5.09	.000	.2110	.1018	2.07	.038
M (Organizational Innovation)	--	--	--	--	.2975	.0309	3.52	.000
Interaction_01	.0956	.0409	2.33	.019	--	--	--	--
Interaction_02	--	--	--	--	.0794	.0282	2.81	.005
	R^2 = 0.6172, F (3, 494) = 265.4 p = 0.001				R^2 = 0.8750, F (4, 493) = 863.09 p = 0.001			

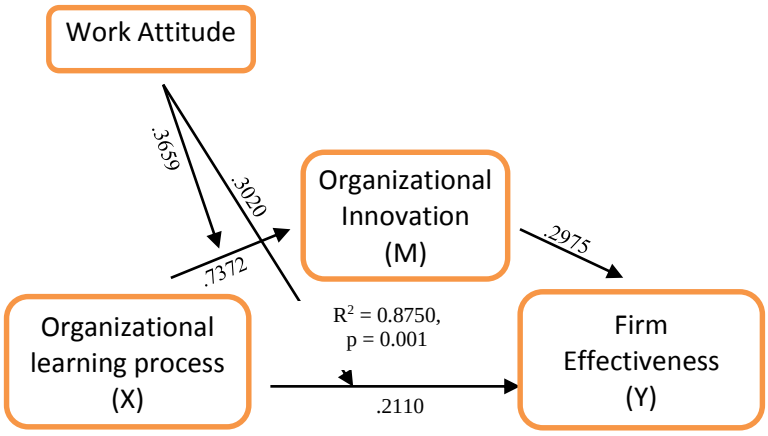

Figure 5.20 Diagrammatical Visualization of Phase-IV Model Coefficients Results (Table 5.26)

There are two locations the moderating variable (W) serves as moderator; (a) on the direct effect of independent (X) and dependent (Y), and (b) on the effect of independent (X) and mediating variable (M). The theoretical model of this research work can be performed on sequential multiple regression analysis, but the process macro of Andrew Hayes (2014) makes the work easy. Model 08 of Andrew Hayes operationalizes the theoretical framework of a research study using process macros in SPSS.

Table 5.26 depicts the results of the test statics of two models also illustrated in the figure. It was found that 61.72 % of the variance on organizational innovation (model – 1) is explained by the independent organization learning process and moderating variable work attitude with the p-value of 0.001. It was also found that the 87.50 % of the variance on organizational effectiveness is explained by the independent organization learning process, moderating work attitude and mediating variable organizational innovation with the p-value of 0.001 at 95% confidence interval.

5.9. Overall Model Fitness Testing Through Structural Equation Modeling

Structural equation modeling is conducted using the AMOS software version 20.0. structural equation modeling is based on two approaches; (i) it takes in account the casual process of the research study and indicates the path analysis among the research variables along with the regression coefficient weights which indicates the strength and direction of relationship between the variables and (ii) it takes into account the universal credibility and acceptability of the proposed research model (Hair et al., 2008). The success of structural equation modeling lies with its ability to evaluate the measurement of latent variables along with the ability to test the hypothesized relationship. However, the partial least square based structural equation modeling (PLS-SEM) has received considerable consideration in recent researches. PLS-SEM is basically the variance based partial least square statistical technique while on the other hand, SEM is covariance based approach. This research has adopted the covariance based simple structural equation modeling approach for the overall model fitness due to two reasons. (i) PLS-

SEM statistical technique is appropriate in studies where the data collected is not normal and based on small sample size. However, this research study remarkably fulfills the assumption of simple SEM with the normal distribution of data. The sample size of this research work is also sufficient enough. (ii) PLS-SEM statistical technique is basically used for the formative indicators while the constructs of this research work are caused by the indicators and reflective in nature. Therefore, this research work has preferred the covariance-based SEM on the variance based PLS-SEM statistical technique.

In order to ensure the credible results of structural equation modeling and path analysis, the basic four assumptions of SEM must be met before conducting the analysis. The details of these four basic assumptions of structural equation modeling are as follows;

(i) **Sample Size:** The adequate sample size of minimum 200 is the basic requirement of path analysis and this requirement is sufficiently met by this study with the sample size of 498.

(ii) **Data Type:** By default, the structural equation modeling uses the interval data. In case the study possesses the ordinal data, then another appropriate method such as Bayesian estimation in AMOS or poly-choric in LISERL is used. This basic assumption is also sufficiently met by this research work as the data of study variables uses the interval data.

(iii) **Normality of Data:** For structural equation modeling, the assumption of normality (K-S and S-W tests) with the values of skewness and kurtosis should lie between the +1 and -1. This assumption of normality is also sufficiently met by this research work as detailed stated in para 5.6.5.

(iv) **Missing values and Outliers:** For the generation of credible results in path analysis, the data should not possess the missing values and outliers. Otherwise, the other method of imputation is recommended before conduction the path analysis. This fourth assumption of structural equation modeling is also sufficiently met by this research work as the dataset does not contain any missing values and outliers.

Thus, the results of structural equation modeling for the validation of the measurement model and the goodness of fit test of the hypothesized research model of this research study are mentioned in figure 5.21 below.

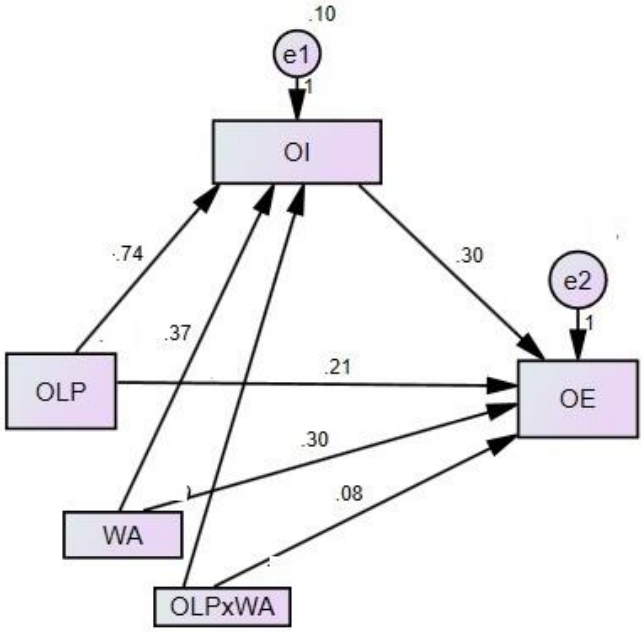

Figure 5.21. Results of Structural Equation Modelling

Table 5.27 shows the result of path analysis (structural equation modeling) of hypothesized research model of this study. It indicates that the maximum standardized coefficients estimate of all the variables are positive. It also reveals that the predictor variable organizational learning process (OLP) possess the regression coefficient of .74 explained by the mediating variable organizational innovation; organizational learning process (OLP) possess the regression coefficient of .21 explained by organizational effectiveness (OE); organizational innovation (OI) possess the regression coefficient of .30 explained by organizational effectiveness; work attitude (WA) possess the regression coefficient of .37 and .30 explained by the organizational innovation (OI) and organizational effectiveness (OE) respectively. These results are also found to be consistent with hypothesis testing results as also shown in Table 5.27.

Table 5.27. Hypothesis Testing Results on Regression Weights by Structural Equation Modelling

Model Path	B	p-value	Results	Consistent and Inconsistent with Regression Results
OE ← OLP	.21	.000	H_1 Accepted	Consistent
OI ← OLP	.74	.000	H_2 Accepted	Consistent
OE ← OI	.30	.000	H_3 Accepted	Consistent
OI ← WA	.37	.000	H_5 Accepted	Consistent
OE ← WA	.30	.000	H_6 Accepted	Consistent

The error term (e1 and e2) indicates the errors associated with the endogenous variables of the hypothesized research model. The model fitness indices and other measures used to validate the fitness of the overall model are presented in Table 5.28.

Table 5.28. Model Fitness Summary by Structural Equation Modelling

Fitness Measures	Value Found	Desired value	Model Fitness
CMIN/df	2.95	< 3	Fit
CFI	.981	> .95	Fit
TLI	.919	> .90	Fit
NFI	.973	> .95	Fit
RMSEA	.047	< .08	Fit
GFI	.962	> .95	Fit
AGFI	.959	> .90	Fit
PCLOSE	.637	> .5	Fit
SRMR	.059	< .08	Fit
Whereas CMIN = 17.70 , df = 6, p value = .063			

The model fitness summary for the hypothesized research model of this study reveals that the model possesses a good fit with the CMIN and df ratio of (17.70 and 6 = 2.95) that is

less than 3. Joreskog and Sorbom (1993) explained that the value of chi-square degree of freedom ratio (CMIN/df) less than 3 indicates the good fit model and it should lie between zero and 03. The results also show the chi-square statistics (CMIN) of 17.70 with the degree of freedom of 6 and p-value of .63 > .05. This shows that the chi-square statistics are insignificant for this hypothesized research model and thus, represents the good fitness of model. The comparative fit index (CFI) is found to be .981 and the value of Tucker Lewis coefficient (TLI) is .919. The value of the normed fit index (NFI) is .973. Bentler (1992) suggested that the value of one (1) for these fit indexes represents the perfect model and its scores should lie between zero and 1.

The model fit statistics is of root mean square error of approximation (RMSEA) and whose value is found to be .067. Browne and Cudeck (1993) suggested that the value of RMSEA should be equal or less than .08 for good fit models and the values higher than .08 represents the error in approximation of data. Thus, the results for all model fix indices indicates good fitness. Thus, these results show that the hypothesized research model of this study is found to be a good fit model.

Table 5.29 also summarizes the results of data analysis in terms of hypothesis testing that evidences the relationship of study variables.

Table 5.29. Summarizing Results of Research Hypotheses

	Hypotheses	p-value R-Square	Accepted and Rejected
H1	An organizational learning process is positive related to organizational effectiveness.	.001 (R^2 = .553)	Accepted
H2	An organizational learning process is positive related to organizational innovation.	.001 (R^2 = .2784)	Accepted
H3	Organizational innovation is positive related to organizational effectiveness.	.001 (R^2 = .7894)	Accepted

H4	Organizational innovation mediates the association of organizational learning process and organizational effectiveness.	.001 (R^2 = .789)	Accepted
H5	Work Attitude moderates the association of organizational learning process and organizational innovation.	.001 (R^2 = .6172)	Accepted
H6	Work Attitude moderates the association of organizational learning process and organizational effectiveness with putative mediator organizational innovation held constant.	.001 (R^2 = .851)	Accepted
H7	An organizational learning process has a significant indirect effect (though significant mediation effect of organizational innovation) on organizational effectiveness, positively moderated by work attitude.	WA moderating direct effect of X on Y (.001; R^2 = .617) WA moderating indirect effect of X on Y through M (.001; R^2 = .875)	Accepted

5.9. Chapter Summary

This chapter has in-depth discussed the statistical tools and techniques used to analyze the collected data and the results of the statistical analyses are presented and discussed. Demographic analysis of the respondents is computed with the objective to overview the psychometric properties of the sample. The results revealed that the sample consists of 31.53 percent of females, 68.47 percent of males from age group; 44.78 percent lies in 25 years – 35 years while 42.97 percent lies in 36 years – 45 years' age brackets; 76.51 percent are of Master degree holder while 21.69 percent are of MS and Ph.D. equivalent, remaining 1.81 percent of Graduation; 52.41 percent have experience of 3 years - 5 years while 39.56 percent of sample possess the working experience of more than 5 years. The descriptive analysis is also conducted of the research instrument. The results of descriptive statistics revealed that the work attitude has the overall lowest mean score of 4.11 and the organizational learning process have the overall highest mean score of 4.40 among the five cellular companies in Pakistan.

The internal consistency of the research measure is also checked through reliability analysis. In reliability analysis, the Cronbach alpha's value of research variables is computed and found to lie in an acceptable range. Hence it showed that the research instrument of this study is reliable and adequate enough to measure the proposed concept of this study. Furthermore, the construct validity and discriminate validity are also checked in order to ensure the reliable results of this study. Construct validity is tested using the exploratory factor analysis with the Varimax rotation so that all research constructs could be transformed into composite variables which are not correlated with each other. The factors were determined by Eigenvalues greater than one and explained 72.77 % cumulative variance for nine factors of organizational learning process (independent variable); 64.96 % cumulative variance of five hypothesized components of organizational innovation (mediating variable); 83.14 % cumulative variance of two proposed determinants of work attitude (moderating variable) and 74.45 % cumulative variance of six proposed components of organizational effectiveness (dependent variable). Total of 21 items has been removed from the results of exploratory factor analysis that portrays the overall objective of data reduction of this statistical technique has been achieved. The reliability estimates of the remaining items were also checked and it was found that all the research measures possess the satisfactory reliability estimates of Cronbach alpha value ranging from 0.744 – 0.974. Discriminate validity analysis is checked through Pearson Correlation and the results revealed that all the nine components of the organizational learning process have no relationship with each other. Similarly, the five components of organizational innovation, two components of work attitude and five components of organizational effectiveness are also found to possess no relationship with each other thus, portraying that the factors of study variables are distinguishable with each other and satisfies the basic criteria of discriminate validity analysis.

Confirmatory factor analysis of research constructs is checked with the objective to confirm the latent constructs and dimensions of conceptualizing variables. The results of confirmatory factor analysis revealed that organizational learning process constructs possess the good fit with the chi-square and degree of freedom ratio of 1.73 (that is less than 3) with the

non - significant p-value of .10 (that is higher than .05). Similarly, it was also found that the organizational innovation construct possess the good fit with the chi-square and degree of freedom ratio of 1.5 < 3 with the non - significant p-value of .101 > .05; the work attitude construct possess the good fit with the chi-square and degree of freedom ratio of 1.69 < 3 with the non - significant p-value of .30 > .05 and finally, the organizational effectiveness constructs possess the good fit with the chi-square and degree of freedom ratio of 2.2 < 3 with the non - significant p-value of .40 > .05. All results of confirmatory factor analysis for all study variables are found satisfactory.

Finally, the hypothesis testing is conducted using regression-based conditional process approach by Andrew Hayes (2014). Before using the regression analysis, the five basic assumptions of linearity, multicollinearity, independence of residuals and errors, homoscedasticity and data normality are also checked and found to be satisfactory. The testing of all proposed hypothesis of this research work is embarked in four phases. In phase – I, simple mediation analysis is conducted to testify the mediation effect of organizational innovation (M) on the criterion variable organizational learning process (X) and predictor variable organizational effectiveness (Y). At this level, the proposed hypothesis 1, 2, 3 and 4 of this research work are tested. Hypotheses 1, 2, 3 and 4 are found to be accepted with the r-square values of .553, .278, .789 and .789 with the significant p-values of .001 < .05, .001 < .05, .001 < .05 and .001 < .05 respectively. In phase – II, the moderation effect of work attitude (W) is checked on the relationship of the independent variable organizational learning process (X) and mediating variable organizational innovation (M). At this level, the proposed hypothesis 5 of this research work is checked. Hypotheses 5 is also found to be accepted at this phase with the r-square value of .617 with the significant p-values of .001 < .05. In phase – III, the moderation effect of work attitude (W) is tested on the direct effect of the organizational learning process (X) and organizational effectiveness (Y) with the mediator organizational innovation (M) supposed to be held constant. At this level, the proposed hypothesis 6 of this research work is tested. It was found that hypothesis 6 also stands to be valid with an r-square value of .851 with

the significant p-value of .001 < .05. At the final phase – IV, the mediation and moderation analysis is combined to testify the overall hypothesized research model through a moderated mediation approach. At this phase, the final conceptualized hypothesis 7 is tested (that states that "an organizational learning process has the significant indirect effect though significant mediation effect of organizational innovation on organizational effectiveness, positively moderated by work attitude"). It was found that the hypothesis 7 also stands to be valid (i) with r-square value of .617 with the significant p-value of .001 < .05 for the work attitude moderating direct effect of independent variable organizational learning process on dependent variable organizational effectiveness and (ii) with r-square value of .875 with the significant p-value of .001 < .05 for the work attitude moderating indirect effect of independent variable organizational learning process on dependent variable organizational effectiveness through mediating variable organizational innovation.

Overall model fitness of proposed research model is also tested through structural equation modeling using AMOS software. Before conducting structural equation modeling, the four basic assumptions of SEM sample size, data type, the normality of data and missing values and outliers are also ensured to be met satisfactorily. The results reveal that the predictor variable organizational learning process possesses the regression coefficient of .74 explained by the mediating variable organizational innovation, organizational learning process possess the regression coefficient of .21 explained by organizational effectiveness, organizational innovation possesses the regression coefficient of .30 explained by organizational effectiveness; work attitude possess the regression coefficient of .37 and .30 explained by the organizational innovation and organizational effectiveness respectively. These results of structural equation modeling are also found to be consistent with hypothesis testing results. Furthermore, it is also found that the hypothesized research model of this study possesses the good fit with CMIN and df ratio of (17.70 and 6 = 2.95) that is less than 03 with the non-significant p-value of .63 > .05. This shows that the chi-square statistics are insignificant for this hypothesized research model and thus, represents the good fitness of model.

CHAPTER 6
DISCUSSION

The chapter is explicitly ventilating the results of data analysis for the research purpose which is derived from the research questions in the light of existing literature.

The findings of this research work have confirmed all the proposed hypotheses related to the hypothesized conceptual framework. The first hypothesis proposed was;

Hypothesis 1: Organizational learning process has a positive impact on organizational effectiveness.

The results stated in Chapter 5 revealed that organizational learning process has a significant strong positive effect on organizational effectiveness with R-Square of .553 and p-value of .001 < 0.05. It means that the 55.3 percent of the variance in organizational effectiveness can be explained by organizational learning process in telecom sector of Pakistan. The results of statistical tests of this research work are found consistent with the literature (Yang, 2007; Walter, Lechner and Kellermanns, 2016; Edwards, 2016; North, Bergstermann, and Hardwig, 2016). This is also supported with the existing literature that organizational learning process has a positive relationship with the organizational effectiveness (North, Bergstermann, and Hardwig, 2016). It also indicates that the cognitive and behavioral changes are occurred due to the acquisition and transfer of knowledge among the employees in cellular companies positively improves their understanding of the surrounding and market dynamics. Thus, it further helps the organization in striving for organizational effectiveness (Yang, 2007). Organizations need to learn continuously if they want to understand and respond to environmental changes in business and technology (Walter, Lechner and Kellermanns, 2016). Consequently, they can bring newness in their products and service (Edwards, 2016). Hypothesis 2 of this research work was proposed as;

Hypothesis 2: Organizational learning process has a positive impact on organizational innovation.

Results of this study stated in Chapter 5 indicate that organizational learning process has a significant strong positive effect on organizational innovation with R-Square of .278 and p-value of .001 < 0.05. It means that the 27.8 percent of the variance in organizational innovation can be explained by organizational learning process in telecom sector of Pakistan. These results are also consistent with the existing literature that shows the organizational learning process is associated with the organizational innovation (Gopalakrishnan and Damanpour, 1971). Learning is one of the important aspects for enhancing innovation and companies can magnify innovation by promoting their managers towards learning faster than their competitors (Hurley, 2015). Innovation occurs when the organization attempts to learn the things, activities and process which it is not offered earlier (Zhao, Li, and Liu, 2016). Thus, it reflects that the acquisition of new knowledge and then the transfer of the acquired knowledge among the employees enhance their abilities to improve and devise policies, procedures and process in the new and improved way (Sheng and Chien, 2016). It reinforces the innovation at the organizational level among the cellular companies of Pakistan. Consequently, the hypothesis 3 of this research work was proposed as;

Hypothesis 3: Organizational innovation has a positive impact on organizational effectiveness.

Having glanced at the results of this research work stated in Chapter 5, it has been proved that the organizational innovation has a strong positive significant effect on organizational effectiveness with R-Square of .789 and p-value of .001 < 0.05. It means that 78.9 percent of the variance in organizational effectiveness can be explained by organizational innovation among cellular companies. These statistical results are also found consistent with research studies (West and Bogers, 2014; Birken, Lee, Weiner, Chin, Chiu, and Schaefer, 2015). Organizational innovation enables the organization to commence new products and

services that can help foster organizational effectiveness in intense competitive market dynamics (Wheelwright and Clark, 1992). The literature pertains the possible association between the organizational innovation and organizational effectiveness (Wheelwright and Clark, 1992; Ashraf and Khan, 2013; Birken, Lee, Weiner, Chin, Chiu, and Schaefer, 2015; Kim, Song and Triche, 2015). It is believed that companies, poor in generating and adopting new ideas, fail to establish the quality link between the external factors and the internal cross-unit networks which is a hindrance in the achievement of organizational effectiveness (Hansen and Brinkinshaw, 2007). Thus, it reflects the introduction of new product or service that is much improved than the existing one results in achieving the maximum effectiveness (Bueno and Ordonez, 2004).

This research study has also explored the mediating effect of organizational innovation on the relationship of the organizational learning process and organizational effectiveness. Therefore, hypothesis 4 was proposed as;

Hypothesis 4: Organizational innovation mediates the relationship between organizational learning organization process and organizational effectiveness.

The results of statistical tests of this research work are found persistent with the literature (Hao, Kasper & Muehlbacher, 2012; Hussein, Omar, Noordin & Ishak, 2016). The results stated in Chapter 5 revealed that organizational innovation positively mediates the association of organizational learning process and organizational effectiveness with R-Square of .789 and p-value of .001 < 0.05. It means that the 78.9 percent of the variance in organizational effectiveness can be explained by both variables organizational learning process and organizational innovation among cellular companies of Pakistan. Organizational learning forms the basis for organizational innovation through acquiring new knowledge for introducing new products and services (Hao et al., 2012). It further enables the organization to sustain its effectiveness among the external environment (Hussein et al., 2016). Thus, it indicates that the

acquisition, transfer and adoption of new knowledge in behavior and cognition of employees helps them in bringing new ways of process and new products that consequently assists the organization in bringing more customer satisfaction, good market reputation building, higher market shares and improved product and service qualities (Hussein, Mohamad, Noordin and Ishak, 2014).

This research study has also attempted to explore the moderating role of work attitude on the relationship of the organizational learning process and organizational innovation among the cellular companies of Pakistan. In this connection, hypothesis 5 was proposed as;

Hypothesis 5: Work attitude moderates the relationship between organizational learning process and organizational innovation.

The results of this research work stated in chapter 5 reveal that work attitude has significant strong positive moderation effect on the relationship between the organizational learning process and organizational innovation with R-Square of .617 and p-value of .001 < 0.05. It means that 61.7 percent of the variance in organizational innovation can be explained by both organizational learning process and work attitude among the cellular companies of Pakistan. The literature shows that the work attitude moderates the association between the organizational learning process and organizational innovation (Hui, Radzi, Jasimah, Jenatabadi, Abu-Kasim and Radu, 2013). It reflects that the cellular companies fostering learning among employees and organizational level could guarantee the generation and adoption of innovation if and only if the attitude of employees towards the work is positive (Hui et al., 2013).

This research study further testifies the theoretical framework of this research study and further explores the association of the key study variables in terms of conditional process analysis. Thus, the proposed hypothesis 6 was stated as,

Hypothesis 6: Work attitude moderates the direct relationship of the organizational learning process and organizational effectiveness.

For hypothesis 6, the results also showed that work attitude positively moderates the direct association between the criterion variable organizational learning process and predictor variable organizational effectiveness with the R-Square of .851 and p-value of .001 < 0.05. It means that the 85.1 percent of the variance in organizational effectiveness can be explained by both variables organizational learning process and work attitude among cellular companies of Pakistan. Motivation to perform and learning are the key factors that support the organization in producing high-quality product and service and thus sustaining a competitive position in markets (Smith, 1994). Employees with higher motivation are needed if the organization wants to sustain its position and effectiveness among the competitive market (Smith, 1994). Thus, fostering a learning environment with the acquisition of new knowledge and encouraging the transfer of knowledge for the adoption in cognition and behaviors of employees (Smith, 1994) can guarantee the sustainability of performance and firm's effectiveness.

One of the objectives of this research work is to testify the indirect effect of the organizational learning process on organizational effectiveness (through mediation effect of organizational innovation) positively moderated by work attitude. Thus, in this connection hypothesis 7 was proposed as;

Hypothesis 7: Organizational learning process has a significant indirect effect (through mediation effect of organizational innovation) on organizational effectiveness that is positively moderated by work attitude.

The results of hypothesis testing stated in chapter 5 exhibits that the work attitude has the positive moderating effect on the association of criterion variable organizational learning process and mediating variable organizational innovation as well as the strong positive moderation effect on the association among the criterion variable organizational learning process and predictor variable organizational effectiveness. It was found that the work attitude has a direct effect on the relationship of predictor and criterion variable with the R-Square of

.617 and p-value of .001 < .005. Thus, it means that the 61.7 percent of variance on the organizational effectiveness is accounted by both work attitude and organizational learning process among cellular companies of Pakistan. It was also found that the work attitude has an indirect effect on the relationship of predictor and criterion variable (through the mediating variable) with the R-Square of .875 and p-value of .001 < .005. This result reflects that 87.5 percent of variance on the organizational effectiveness is accounted by both work attitude and organizational learning process through the mediating effect of organizational innovation.

CHAPTER 7
CONCLUSION AND RECOMMENDATIONS

The pivotal focus of the chapter is the primary conclusion and the recommendations in light of the whole confabulation. Managerial implication includes the guidelines in view of the results obtained and the future research directions opening new avenues of exploration for new researchers.

7.1. Conclusion

In this section, the concluding remarks are made in consideration of the existing literature and the research questions guided by the research objectives of this research work.

The present study is an effort to examine the relationship of variables affecting the organizational effectiveness of cellular companies in Pakistan. The findings of this research work are explained in light of the objectives set for the current examination.

One of the objectives of this research study was to enhance the operationalization of the organizational learning process by incorporation of cognitive and behavioral changes in the dimensions of the construct. After addition of two dimensions in the construct, it was empirically tested in the local context and it was found that both dimensions are suitable for operationalization of organizational learning process. Moreover, it was aimed that after incorporation of dimensions in the construct, it will be explored how organizational learning process impact on organizational innovation. The findings of this study reflect that organizational learning process has a positive impact on organizational innovation. If an organization desires to enhance innovation it has to enhance the learning process. Therefore it can be concluded that this study fully accomplished its first objective.

The second objective of the study was to examine the impact of the organizational learning process on organizational effectiveness. Findings of this study reveal that

organizational learning process has a positive impact of organizational effectiveness. If an organization wants to enhance effectiveness it will have to improve its learning process. Therefore, the second objective of the study has also been accomplished.

The third objective of this study was to testify the indirect effect of the organizational learning process on organizational effectiveness (through mediation effect of organizational innovation) positively moderated by work attitude. To peruse the objective moderated mediation was carried out by applying Hayes conditional analysis approach. Conclusively the study shows significant positive results and the third objective of the study was also successfully achieved.

In the guidance of laid down research objectives, this research work has attempted to address the five main research questions, "What are the underlying factors that operationalize the construct of the organizational learning process and organizational innovation?", "To what extent the organizational learning process affect the organizational effectiveness and organizational innovation?", "To what extent the organizational innovation mediates the relationship between organizational learning process and organizational effectiveness?, "To what extent the work attitude moderates the relationship between organizational learning process and organizational innovation?" and "To what extent the organizational learning process possess the significant indirect effect on organizational effectiveness (though significant mediation effect of organizational innovation) that is further positively moderated by work attitude?" In quest of answering the laid down research questions of this research work, seven proposed hypotheses were developed in line with the extensive review of previous literature.

The findings of this research work have confirmed all the proposed hypotheses related to the hypothesized conceptual framework. Thus, this research work also concludes that the acquisition, transfer and adoption of new knowledge bring cognitive and behavioral changes in employees and foster them in bringing new ways of doing jobs, product ideas, strategies and

structures formulation, policies and procedures development that consequently helps the organization in bringing effectiveness. It also indicates that the cellular companies fostering learning among employees and organizational level could guarantee the generation and adoption of innovation if and only if the attitude of employees towards the work is positive.

However, the motivation to perform is also the crucial factor that bolsters the organization in producing high-quality product and service and thus sustaining a competitive position in markets. Employees with higher motivation are needed if the organization wants to sustain its position and effectiveness among the competitive market. This has also been found that the employees of cellular companies who engage in acquisition and transfer of new knowledge among each other can only perform in new ways with innovation if and only if they possess the motivation to perform in effective manner.

Thus, it is also concluded that the fostering a learning environment with the acquisition of new knowledge and encouraging the transfer of knowledge for the adoption in cognition and behaviors changes of employees can enhance the firm's effectiveness if and only if employee's psychological attachment or affiliation and attitude towards his assigned job and tasks is positive.

Thus, in light of above remarks, it is hereby concluded that this study has successfully answered all the research questions which ultimately achieve the objectives of study and finally due to the achievement of objectives of study problem statement of the study has been addressed.

7.2. Recommendations

This research work carries two types of recommendations, one for the practitioners of cellular companies considered as 'managerial implications' and other for academicians conferred as 'future research directions'.

7.2.1. Managerial Implications

This research work has come up with certain recommendations for the practitioners of cellular companies;

1) This research work suggests that the learning inside the organization supports the innovation, inspires the new knowledge and ideas, and increases the potentials of the workforce to understand the things and apply them efficiently. But how? Although the seminars, workshops, conferences, consultants, external market reports, newsletters, competitors, knowledge workers all are an excellent source of learning, yet knowledge within the organization is of no use if it is preserved in one's mind only. It is crucial for the practitioners of cellular companies to ensure that the factual knowledge about specific work, expertise of education from certain training, success and failure stories of specific events, methodologies and policies must be shared among all as this would also realize the employees with being connected and united thus bind them towards the organizational goals. For this purpose, the practitioners of cellular companies should create an environment in an organization which shall involve employees for the creation of new knowledge and works for the improvement of learning among employees as increased in learning will bring innovative culture in their organizations.

2) In addition to create learning culture in organization it must be realized that employees are the one who creates, transfer, utilize and store knowledge therefore it is the prime responsibility of managers to work for the betterment of their employees in a way that their work attitude i.e. motivation to perform job and job involvement shall be ensured as it is found that work attitude of employees moderates while ensuring innovation and effectiveness within the organization through organizational learning process.

3) As already described in preceding chapters that cellular companies are operating in a highly competitive environment and it has become very hard for each company to gain a competitive advantage on others therefore, survival lies with innovation. Innovation in

terms of their administrative structures, innovation in their working culture, innovation in their services and in the process to produce the products and innovation in their markets. But the question lays how to enhance innovation and how innovation will be useful. This study has given empirical evidence for practitioners about innovation impacting effectiveness. Moreover, innovation can be augmented in organizations by improving the learning process of employees. Therefore, managers must endeavor for innovation to achieve effectiveness in their organizations.

7.2.2. Limitations and Delimitations of Study

This research study has delimitation that it has explored the moderation effect of work attitude in the mediation effect of organizational innovation between organizational learning process, however it has not explored that what are other employee's attitudes such as employee's commitment, employee's engagement and perceived organizational support etc. might be there, that may affect the association learning process and organizational effectiveness.

Furthermore, this research work has used cross-sectional data with the measurement of constructs at one single point. However, the establishment of causality requires the longitudinal nature of data that is not carried by this research work. Thus, it serves as a limitation of this study. Lastly, the scope and population were limited to cellular companies of Pakistan only. However, different other sectors or industries can be included in future researches.

7.2.3. Future Research Guidelines

This research study opens the new avenues for the future research to explore learning's relationships among service quality, service innovation success and overall business model in their local context especially in underdeveloped regions of the globe. The future researches also need to tentatively explore the role of employee's commitment, employee's engagement and perceived organizational support on the association of organizational learning process and

organizational effectiveness. It may be analytically tested how these factors may be related differently to each other as well as on the organizational learning process that leaves a pending literature gap for future researches. Furthermore, there could other factors that may be explored such as what is the effect of age group on the association of learning process and organizational innovation? What are the other parameters of organizational effectiveness that could be considered? An attempt to answer these questions further opens the new ventures for future research. Moreover, the validity of the adopted or adapted research instrument can be tested in other industrial sectors and another cultural context such as health, education, information and communication technology, financial sector, food and beverages industry, hospitality industry, petroleum industry, manufacturing industry, tourism industry and banking sector etc.

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APPENDIX

RESEARCH SURVEY QUESTIONNAIRE

Respected Sir and Madam,

Your help is required to complete this questionnaire for my dissertation on Organizational Learning Process, Organizational Innovation, Work Behavior and Firm Effectiveness. The information provided by you will be confidential and will be used solely for research purpose. **Thank you for your time!**

How much do you agree with each statement?

1 _____2_____3_____4_____5

Strongly Disagree Disagree Neutral Agree Strongly Agree

A) ORGANIZATIONAL LEARNING

(i) Knowledge Acquisition

Learning From Employees

1	Employees in our organization are an extremely important source of knowledge.	**1**	**2**	**3**	**4**	**5**
2	In our organization we explicitly reward employees that are a source of quality knowledge.	**1**	**2**	**3**	**4**	**5**
3	We frequently send our employees to various seminars, workshops, conferences with intentions to acquire information.	**1**	**2**	**3**	**4**	**5**

Learning From Other Organizations

4	Our competitors are an extremely important source for learning new methods and services	**1**	**2**	**3**	**4**	**5**
5	External sources (reports, consultants, newsletters etc.) are extremely important for the operations of our organization.	**1**	**2**	**3**	**4**	**5**
6	Expertise on the industry, products, and services is an extremely important criterion for hiring a new employee	**1**	**2**	**3**	**4**	**5**

Learning Through Business Contracts

7	Joint tasks and mergers contribute a great deal of knowledge about industry and economic environment, new methods and services and products.	**1**	**2**	**3**	**4**	**5**
8	New business methods and services are always worth trying to acquire more knowledge.	**1**	**2**	**3**	**4**	**5**
9	Reports prepared by external experts are an extremely important source of information.	**1**	**2**	**3**	**4**	**5**

Intentional Search For knowledge about Environment & Organization

10	Our organization uses clipping service – regular collection of papers and articles to our interest	**1**	**2**	**3**	**4**	**5**
11	Top managers in any important decision seek information or advice from the board of directors or owners (in general) or from sources outside the company (hiring experts, contacting top managers of other companies etc.)	**1**	**2**	**3**	**4**	**5**
12	Our organization has employees whose job is related to searching for external information.	**1**	**2**	**3**	**4**	**5**

(ii) Knowledge Transfer

Shifting The Acquired Knowledge to Others

13	In our organization, success and failure stories are shared with each other	**1**	**2**	**3**	**4**	**5**

14	In our organization, business manuals, methods and methodologies are shared with each other.	1	2	3	4	5
15	In our organization, factual knowledge (know-how) work related experience is shared with each other's	1	2	3	4	5
16	In our organization, expertise from education or training is shared with each other's	1	2	3	4	5
17	In our organizations, business knowledge about customers, products, suppliers and competitors are shared with each other, if asked.	1	2	3	4	5

Absorption of Shifted Knowledge by Recipient

18	In our organization, we very often use knowledge that our company possesses or acquire.	1	2	3	4	5
19	In our organization, we use information technology to access a wide range of external information and knowledge (on competitor and market changes etc.) shifted to us.	1	2	3	4	5
20	In our organization, we often come up with new ideas that can be used improve business through the sharing of information and knowledge.	1	2	3	4	5

(iii) Knowledge Retention

21	In our organization, we have systems to capture and store ideas and knowledge.	1	2	3	4	5
22	In our organization, we have systems to codify and categorize knowledge and ideas in a format that is easier to save for future use.	1	2	3	4	5
23	In our organization, IT facilitates the process of capturing, categorizing, storing and retrieving knowledge and ideas in our company.	1	2	3	4	5
24	In our organization, we record good practices by de-briefing the projects that we should extend for further avoidance of mistakes in future.	1	2	3	4	5
25	In our organization, we make efforts to remember mistakes we made and avoid making similar mistakes in future.	1	2	3	4	5
26	In our organization, information and knowledge stored in our systems is relevant, sufficient and upgraded.	1	2	3	4	5

(iv) Cognitive Changes

27	Our organization is adaptable to environmental pressures	1	2	3	4	5
28	In our organization, speed of operations has substantial improved.	1	2	3	4	5
29	In our organization, introduction of new marketing approaches are improving.	1	2	3	4	5
30	In our organization, employees are getting more satisfied.	1	2	3	4	5
31	In our organization, overall atmosphere has substantial improved.	1	2	3	4	5

(v) Behavioral Changes

32	In our organization, the personal communication between top manager and employees has substantially improving.	1	2	3	4	5
33	In our organization, the team's meeting efficiency has substantially improving.	1	2	3	4	5
34	In our organization, Employee's level of understanding of company's strategic orientation has substantially improving.	1	2	3	4	5
35	In our organization, Employee's levels of understanding of major problems are substantially improving.	1	2	3	4	5
36	In our organization, efficiency of information systems are substantially improving.	1	2	3	4	5

B) <u>ORGANIZATIONAL INNOVATION</u>

(i) TECHNOLOGICAL INNOVATION

Product Innovation

37	In new product and service introduction, our company is first-to-market	1	2	3	4	5

38	Our new product and service are often perceive as novel to customers	1	2	3	4	5
39	We constantly emphasize development of product to meet market demand	1	2	3	4	5
40	We continuously improve old products and services and raise quality of new products	1	2	3	4	5

Process Innovation

41	Our company manages to deliver customize product according to customer's demands.	1	2	3	4	5
42	We deal with customer's complaints and satisfaction urgently with more care	1	2	3	4	5
43	Development of new channels for products and services is on-going process in our company.	1	2	3	4	5

(ii) ADMINISTRATIVE INNOVATION

Structure Innovation

44	We constantly emphasize and introduce structure innovation as establishment of new departments or project teams as per changing business needs.	1	2	3	4	5
45	We constantly emphasize and introduce structure innovation as introducing new employee rewards and training schemes as per changing business needs	1	2	3	4	5
46	We constantly emphasize and introduce structure innovation as establishment of computer-based administrative innovation etc.	1	2	3	4	5

Cultural Innovation

47	Innovative ideas was welcome by company and considered for development	1	2	3	4	5
48	Management actively seeks innovative ideas	1	2	3	4	5
49	People are not penalized for new ideas that do for work	1	2	3	4	5
50	Program and Project managers promote and support innovative ideas and experimentation	1	2	3	4	5
51	Innovation is not perceived as risky and resisted	1	2	3	4	5

(iii) MARKET INNOVATION

52	Our company is better than competitors in entering the new market.	1	2	3	4	5
53	Our company is better than competitors in new pricing methods of product and services.	1	2	3	4	5
54	Our company is better than competitor's new distribution methods for product and services.	1	2	3	4	5
55	New product and services in our company often taken us up against competitors	1	2	3	4	5
56	In comparison to competitor, our company has introduced more innovative product and service during last five (05) years	1	2	3	4	5

C) <u>FIRM EFFECTIVNESS</u>

Market Effectiveness

57	Our Firm is more effective as compared to competitors in relation to profitability	1	2	3	4	5
58	Our Firm is more effective as compared to competitors in relation to market share	1	2	3	4	5
59	Our Firm is more effective as compared to competitors in relation to growth in sales	1	2	3	4	5

Strategic Leadership

60	My supervisor show me how to improve my performance	1	2	3	4	5
61	My supervisor encourages people to give the best effort	1	2	3	4	5
62	My supervisor encourage me to work as a team	1	2	3	4	5
63	People in my group encourage people to give their best effort	1	2	3	4	5

Cohesiveness

64	I feel a sense of belonging in my group	1	2	3	4	5
65	We trust each other in my group	1	2	3	4	5
66	We cooperate and work together in a group	1	2	3	4	5
Organizational Climate						
67	My organization has a real interest in the welfare and happiness of those who work here	1	2	3	4	5
68	Things about working like people, policies or conditions encourage me to work hard	1	2	3	4	5
69	Decisions are made at levels where most adequate & accurate information is available	1	2	3	4	5
70	Equipment & resources we have to do our work are adequate, efficient, & well-managed	1	2	3	4	5
71	I am told what i need to know to do your job in best possible way	1	2	3	4	5
Product and Service Quality						
72	Our firm accurately anticipates the customer's need	1	2	3	4	5
73	Our firm provides high quality service and product to customers.	1	2	3	4	5
74	Our firm interacts professionally with customers.	1	2	3	4	5
Satisfaction						
75	Up to now I feel satisfied with progress I have made in this organization	1	2	3	4	5
76	All in all, I am satisfied with this organization	1	2	3	4	5
77	All in all, I am satisfied with the persons in my work group	1	2	3	4	5

D) EMPLOYEE ATTITUDE

Motivation to Learn						
78	I always behave in a way that helps our company's performance.	1	2	3	4	5
79	I am always contributing in positive ways to the company's performance.	1	2	3	4	5
80	As compared to our competitors my organization has highly motivated group of employee	1	2	3	4	5
Job Involvement						
81	Most of my personal life goals are job-oriented.	1	2	3	4	5
82	I am very much involved personally in my job.	1	2	3	4	5
83	I like to be absorbed in my job most of the time.	1	2	3	4	5

D) DEMOGRAPHICS

84. Gender: Male and Female Organization: _____

85. Age: (1) Less than 25 yrs (2) 25 yrs - 35 yrs (3) 35 yrs - 45 yrs (4) Above than 45 yrs

86. Education: (1) High School (2) Intermediate (3) Graduate (4)Masters (5)MPhil and PhD

87. Primary Responsibility: (1) Technical and R&D (2) Marketing and Sales (3) Human Resource
(4) Financial and Accounting (5) Administrative (6) Operations
(7) General Management (8) Executives and Leadership (7) Other _____

88. No. of years served: (1) Less Than 01 yr (2) 01–02 yrs (3) 03–5 yrs (4)More Than 05 yrs