CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Effect of Employee Creativity on Project Performance with Mediating Role of Knowledge Sharing and Moderating Role of Openness to Experience

by

Cynthia Sigamony

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the
Faculty of Management & Social Sciences
Department of Management Sciences

2019

Copyright © 2019 by Cynthia Sigamony

Dedicated to my Family and friends for their never ending support and unconditional love throughout my journey of MS

CERTIFICATE OF APPROVAL

Effect of Employee Creativity on Project Performance with the Mediating Role of Knowledge Sharing and Moderating Role of Openness to Experience

by

Cynthia Sigamony

(MPM163024)

THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr. Arif Khattak	Bahria University Islamabad
(b)	Internal Examiner	Dr. Mueen Aizaz Zafar	CUST, Islamabad
(c)	Supervisor	Dr. S. M. M. Raza Naqvi	CUST, Islamabad

Dr. S. M. M. Raza Naqvi
Thesis Supervisor
May, 2019

Dr. Sajid Bashir
Head
Dept. of Management Sciences
May, 2019

Dr. Arshad Hassan
Dean
Faculty of Management & Social Sciences
May, 2019

Author's Declaration

I, **Cynthia Sigamony** hereby state that my MS thesis titled "**Effect of Employee Creativity on Project Performance with the Mediating Role of Knowledge Sharing and Moderating Role of Openness to Experience**" is my own work and has not been submitted previously by me for taking any degree from Capital University of Science and Technology, Islamabad or anywhere else in the country/abroad.

At any time if my statement is found to be incorrect even after my graduation, the University has the right to withdraw my MS Degree.

(Cynthia Sigamony)

Registration No: MPM163024

Plagiarism Undertaking

I solemnly declare that research work presented in this thesis titled "**Effect of Employee Creativity on Project Performance with the Mediating Role of Knowledge Sharing and Moderating Role of Openness to Experience**" is solely my research work with no significant contribution from any other person. Small contribution/help wherever taken has been dully acknowledged and that complete thesis has been written by me.

I understand the zero tolerance policy of the HEC and Capital University of Science and Technology towards plagiarism. Therefore, I as an author of the above titled thesis declare that no portion of my thesis has been plagiarized and any material used as reference is properly referred/cited.

I undertake that if I am found guilty of any formal plagiarism in the above titled thesis even after award of MS Degree, the University reserves the right to withdraw/revoke my MS degree and that HEC and the University have the right to publish my name on the HEC/University website on which names of students are placed who submitted plagiarized work.

(Cynthia Sigamony)

Registration No: MPM163024

Acknowledgements

First of all, I am grateful to the God Almighty for the good health and wellbeing that were necessary to complete this thesis.

With boundless love and appreciation, I would like to extend my heartfelt gratitude and gratefulness to the people who helped me in bringing this research work to reality. I would wish to extend my profound gratitude to the following:

My thesis supervisor **Dr. S. M. M. Raza Naqvi** whose guidance helped me in all the time of research and writing of this thesis. The door to S. M. M. Raza Naqvi's office was always open whenever I ran into a trouble spot or had a question about my research or writing. He consistently allowed this paper to be my own work, and steered me in the right direction whenever I needed it.

To my wonderful friend **Sidra Amin** for her support, encouragement and technical advice throughout my research work. Without you it was not possible!

To my best friend **Priscilla Ambrose** for her invaluable support, time and care throughout my thesis.

To my siblings, cousins, friends, uncles and aunts for always supporting me and helping me in every possible way.

Finally, to my parents for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis.

Its only because of you all that I was able to complete my thesis successfully.

(Cynthia Sigamony)

Registration No: MPM163024

Abstract

The major focus of this study is the effect of employee creativity on project performance in project based organizations of Pakistan. It has been discussed that the relationship between employee creativity and project performance depends on knowledge sharing whereas, openness to experience is used as a moderator between employee creativity and knowledge sharing. For this purpose, data was collected from 273 employees working in project based organizations of Pakistan. The results obtained after data analysis considerably shows that there is an optimistic relationship between employee creativity and project performance whereas knowledge sharing mediates this relationship but openness to experience does not moderate the relationship. The study significantly expands to the prevailing literature by highlighting the procedure through which employee creativity has a major effect on enhancement of project performance.

Keywords: Employee Creativity, Knowledge Sharing, Openness to experience, Project Performance.

Contents

Bibliography 61

References 62

Appendix-A 70

List of Figures

List of Tables

Abbreviations

EC	Employee Creativity
KS	Knowledge Sharing
OE	Openness to Experience
PP	Project Performance
IV	Independent Variable
DV	Dependent Variable
H	Hypothesis

Chapter 1

Introduction

1.1 Background of the Study

The elements that influence the occupational effects have continuously been an important discussion in the field of organizational research (Chi & Pan, 2012). Many organizations have started considering creativity as a key component in the advancement and success of their projects and their performance. Thus employee creativity keeps a great importance in a workplace (Woodman, Sawyer, & Griffin, 1993). According to Mittal and Dhar (2015) employee creativity is one of few components through which organizations can accomplish success and can compete with other organizations in their competition. The workplaces increasingly reward those who are seen as true "innovators". It is very important for all employees to understand the concept of creativity and modernism. Different studies have well-defined creativity as the capability or talent to convey novel and fresh ideas whereas innovation is the presentation of those ideas. Creative problem solving gives that competitive superiority that any business is struggling to achieve. It has been more than forty years that researchers are working on creativity (Jain & Jain, 2016).

Here is a certain misinterpretation that is to link innovation with ideas. Although innovation and novelty begins with thoughts and ideas, the acknowledgment of which ideas are worth following and the application of those concepts is essentially

correspondingly substantial. And a person who does not possess a creative and critical mind cannot innovate things as innovation does not take place in the absence of creativity. A creative mind is the key to success. As creative people are always looking for ways to make their work more interesting and exciting and in this way they produce more work. Voice in any organization be it small or big is discretionary.

Creative people draw inferences between seemingly unrelated things. They are keen observers that take in the world to generate ideas. They have such a mind that is always thinking for new ideas. The best entrepreneurs are also inquisitive by nature. Curiosity is an important trait for creativity. There are two aspects that lead to creativity and then innovation: employee voice and knowledge sharing. It is very important that whatever we learn we share that knowledge within our team and each member should respect the views of other individuals. Environment of trust and respect is equally important. This is supported by a substantial body of empirical evidence, which we use in describing each of these factors. It is important to raise voice wherever an employee feels necessary. If the environment is not flexible an employee would feel suffocated and uncomfortable at the same time. To improve the work atmosphere, it is necessary to speak up otherwise many things that can be changed remain unbothered. It is also the duty of the leadership to create a flexible environment and encourage everybody to speak up. Voice is discretionary, self-initiated extra-role behavior aimed at improving the organizational environment which is developed by the communication of ideas, suggestions, or concerns about work-related and other professional issues (Morrison, 2011). Voice is a critical forerunner of creativity and innovation because it improves group decision making and it is very important for organizational learning. Ensuing concerns about when to speak up or if employees will find it worthwhile to speak up at all should be of concern to leaders interested in promoting a psychologically safe environment ripe for creative thinking. It's an employee right to raise voice against the things that make him uncomfortable and demotivated (Woodman et al., 1993). In sum, voice is a key success factor needed for managers to become innovation leaders because if new ideas are not

articulated, they can hardly be implemented. Sometimes employees do not speak up just because they do not find courage to talk to the senior team member or they simply hesitate to speak up but this is entirely wrong a voice should always be raised wherever needed as it is a key to success of any organization. Thus, our conclusion from this study that an organization can head towards success only if its managers encourage all their employees to voice their problems and work with creative mind (Kremer, Villamor, & Aguinis, 2018).

Employee creativity not only plays a vital role for an employee but for organizations as well. As we, all know that in this 21st century technology is rapidly taking over so it is very important that all employees develop such technical and innovative mind set. It is also effects the economy positively (Runco, 2004). It is very important to match employees with problem solving experiences that would help them stretch themselves intellectually (Kremer et al., 2018). Nowadays it has become a necessity for the employees to be creative and open to new challenges. Creative business ideas set companies apart from one another. All the organizations in today's world demand creativity. It is also very important for an organization to stress upon creativity. There should also be a culture of rewards and appreciation in an organization so that staffs are enthused to contribute ideas and reflect critically. According to Wang (2010); Wang and Noe (2010) for creative performance of an individual, the assistance of knowledge sharing is very vital. In fact, creativity is developed due to information distribution.

Creativity also opens doors to new challenges and business opportunities. Without creativity, each organization would follow same patterns on marketing/advertising, techniques and even the services or products that they are selling. In the present quickly evolving business models fruitful innovation and creativity plays a vital role in project success. For the advanced development, a firm needs its personnel to be not only fruitful but also inventive. Creative dynamism is very important to meet business goals. They should bring new expansion patterns. An organization can only be efficacious if it is varying constantly conferring to the requirements of the market.

The developing pattern of project management is not just an achievement of novel point of views, instead of that it is the regeneration of discipline in a present business setting.

In carrying innovative and extremely beneficial ideas that will support in problem solving and project performance employee creativity plays a very vital role (Amabile & Conti, 1999).

It is suggested through past researchers that knowledge sharing mediates employee creativity through three mechanisms (Zhang, Sun, Lin, & Ren, 2018). Firstly, knowledge sharing with workmates is always a valuable learning opportunity. In order to describe something logically to one's team mates it is important to understand it thoroughly by him-/herself first. Hence knowledge sharing provides a great prospect for workforces to encompass their knowledge related understanding (Wang, 2010; Wang & Noe, 2010). Secondly, recipients of knowledge can offer well-timed feedback on taming and applying knowledge, that is original, to the sharer of that knowledge (Radelli, Lettieri, & Mura, 2014). Through this sharer will be able to advance understanding of encountered questions, produce innovative tactics to interpret preceding ideas, and/or integrate earlier identifications into a new charter (Plessis, 2007).Thirdly discrepancies in interpretations and knowledge may be established during the process of knowledge sharing. These disparities are likely to enable the expansion of new ideas (Wang, 2010; Wang & Noe, 2010). Shortly, knowledge sharing empowers the sharer of knowledge through the information exchange and communication of ideas to bring their knowledge and skills up-to-date (Perry-Smith & Shalley, 2003). Which is a essential requirement for the generation of new ideas (Amabile, 1988).

According to (Wang, 2010; Wang & Noe, 2010) for creative performance of an individual, the assistance of knowledge sharing is very vital. In a recent study researchers have proved that the employees who have an active and positive personality, tends to engage in more knowledge sharing (Rahman, Batool, Akhtar, & Ali, 2015). Researchers have suggested that managers should consider openness to experience of an employee before designing a job for them. As the personality trait of a person keeps a great importance in organizations therefore this study

focuses on the research of five personality traits discussed by (Barrick & Mount, 1991). With this study our interest in openness to experience increased in contrast with the creative behavior of employee. Openness to experience is a personality trait which has a reasonable effect on creativity of an employee and some great psychologists have identified this. In this study, openness to experience is used as a moderator. It is one of the five dimensions of a person's character and previous studies have discussed that how it effects the creative nature of an employee. A person who has a personality of openness to experience has great interest in trying and learning new things. It is a fact that a person, who is imaginative, is always curious to learn new things, and possess a broad mind is more open to learn and experience new things than a person who is uncreative and possess a narrow mind. openness to experience has been categorized as an essential personality trait that affects employee creativity (Xu, Jiang, & Walsh, 2018). The people with this personality trait have a tendency to be more creative as they are always ready to learn new things. All the employees should respond enthusiastically to all ideas and support each there.

To make creative thinking of a person valuable it should be applied in different ways if it is not shown in a person's activities then it is of no use but it is the duty of the organizational leaders to provide them with time and resources to device those ideas on which they can work upon. If the employees and the organization fails to promote this and fails to benefit with the innovation, it directly means that the staff is not interested in those innovative changes and find them meaningless. They tend to find their current work boring and dull and always try to make it more interesting by bringing in new ideas and creativity. They are very imaginative (Barrick, Mount, & Judge, 2001). There are a vital number of traits that have a great impact on the creativity of an employee and foremost of these is "openness to experience". An employee should always be eager to learn new things. The literate of 21st century is a person who can learn, unlearn and relearn lessons. A person can only learn and experience new things provided he is imaginative, curious about everything, adaptive and open to change (McCrae, 1987).

The trait of openness to experience encourages employees to share knowledge

with other team members more easily and openly. It is the responsibility of every employee or team member working on a project to put their hundred percent effort to make it successful.

Previous studies have proved that to make any project successful team work is required. In addition, a project can only be successful if all the team members are willing to give their hundred percent inputs and always keeping their minds open to innovation and creativeness. There should be an environment of Welcomed attitude. Each individual should be encouraged for new ideas and employees should be appreciated for this. The system of rewards and recognition is very important. Because organization where there is no appreciation from the management's side their employees are found to be disheartened and where there is demotivation, creativity and innovation cannot take place.

According to McCrae (1987) there are two pointers that are intensely related to openness to experience. The first pointer is divergent thinking which means that a person has an ability to look on the different aspects of creativity. Possessing a unique thinking than others, help people to be more innovative. The second pointer is creative personality it means that a person possesses a personality where he depicts his creative nature in whatever work he does. An employee should also possess problem-solving attitude as this attribute enhances the concept of openness and creativity. He recommended that personalities who are very open in nature, are found to be more probable to indulge in the projects that encompass imaginings and scholarly expertise because if any chore is easy it certainly bores them so to make it more attractive and thought-provoking they try to transport new characteristics to it. It is equally important to have problem solving skills as well. Employees must understand welfares of each other and should avoid any conflict of interest. There should be an atmosphere of respect and admiration so that nobody gets affronted. Their great flexible nature encourages the invention of creative concepts, and they are quite active in trying to achieve distinctive proficiencies (Xu, Jiang, & Walsh, 2014).

1.2   Gap Analysis

For the advancement and success of the organizations and projects employee creativity is very essential (Richard, Sawyer, & Griffin, 1993). While working on projects the employees are usually positioned in a controlled and regulated environment where they are given limited time and similar work construction. In such environment, they are unable to display their creative concepts and ideas. They resist giving ideas and have to forcefully accept the task that they do not want to work on. Moreover, it is believed that the working environment in which an employee operates should not be strict. There should be relaxed and positive environment. There should be open and honest communication throughout the organization. There should also be a culture of respect throughout the work place that gives employees enough flexibility to give new ideas. There should be an environment of transparency and there should not be any authoritative culture. They have to work according to the policies of the organization even if they do not want to. For an organization to be successful it is good to have procedures and policies in place and all individuals should adhere to those policies and procedures as well but there shouldn't be any headfast rule that may restrict employees to give new ideas. As in this way the individuals become demotivated and cannot produce quality work.

A person can only produce novel useful and creative ideas from a well supportive work environment where he can freely think and express (Yuan & Woodman, 2010). Employees should be encouraged to give new ideas even if the idea us not up to the mark it can be rejected decently in such the way that an employee does not feel disrespectful and demotivated. According to Hon (2012), the innovation and creativity of a project or an organization is linked with the creative attitude of an employee. If the employee is not creative, he can bring no change to an organization. The creative behaviour of an employee can be either due to the demand of his or her job or it's due to his interest in creativity. A creative individual easily gets bored. Although there is a lot of work on employee creativity and its effects on an organization, but only a handful of work on mechanism explaining the relationship between employee creativity and success of a project.

If all the employees are working according to set policies and rules the work would become quite monotonous and employees might start finding their work boring and dull so there should be an element of creativity in order to bring change and make work more attractive.

There are many factors that effects the performance of an employee in an organization like appreciation from the Boss, benefits provided by the company, ambience of an organization, and type of the co-workers. There are behaviors and characteristics of a person's personality that are the cause of assemblage of employees. It is mostly based on their creative style, openness to experience and innovative skills (Scott, Leritz, & Mumford, 2004).

To fill the gap our study focuses on how an employee's creativity effects the performance of a project and develops a research model that links employee creativity and project performance with knowledge sharing which is used as a mediator. This research focuses on the key factors that we will not only mention the positive effects but the negative as well. In today's world creativity has become a very important requirement for an individual to grow. We will also explain the moderation of OE on creative behavior of an individual and knowledge sharing process. This study also tells that why is it important for a creative employee to share knowledge for the better performance of a project.

1.3 Problem Statement

The researchers have proved that for a successful project, creativity of an employee is very important (Carine, Shukla, & Oduor, 2015). They have shown that people with an ability of great creative problem solving attitude tends to share more knowledge that the ones who have low capacity of problem solving (Carmeli, Gelbard, & Reiter-Palmon, 2013). As long as we have researched, employee creativity on project performance with the intermediating role of knowledge sharing has still been unexplored by researchers. In addition, although there is a little work on controlling effect of OE in employee creativity but how it effects knowledge sharing is still having to be discovered. Hence this study focuses on the mechanism that

how employee creativity effects the performance of project. Knowledge sharing mediates the relation and openness to experience moderate's employee creativity.

1.4   Research Questions

Research Question 1

Does employee creativity have any effect on the performance of the project?

Research Question 2

Does knowledge sharing mediate between employee creativity and project performance?

Research Question 3

Does openness to experience moderate between employee creativity and knowledge sharing?

1.5   Research Objectives

In this study we will construct and assess the hypothesis based on earlier research. The prime purpose of this study is to test these hypotheses through data collection and to prove the relationships between indirect variables, direct variables, mediator and moderators. The objectives of the study are mentioned below;

Research Objective 1

To examine the relationship of employee creativity and project performance.

Research Objective 2

To test the mediation of knowledge sharing between employee creativity and project performance.

Research Objective 3

To determine the moderating role of openness to experience on the relationship of employee creativity and knowledge sharing.

1.6   Significance of the Study

The significance of this study is that it will help in contributing a very knowledgeable, theoretical content to the literature of project management. It will also provide some solid indications that how employee creativity with a mediating role of knowledge sharing can improve the performance of a project based organization. Moreover, this study will help the organizations in increasing the performance of their projects by putting more effort in the training and grooming of employees and providing them an environment where they can showcase their abilities confidently and easily. One the main reason behind any business's success is assumed to be its ability to come up with new ideas to keep its operations, products and services up to date and in accordance with the market requirements. The following study will be assisting us in gaining an improved understanding of project management by adding notional content to it and along with this giving a strong confirmation of how important innovation and creativity is nowadays, in project based organizations.

The performance of organizations is improved and more likely to promote knowledge sharing hence increasing the creativity of an employee within and outside the boundaries of organizations (Howell & Annansingh, 2013). More interdependent procedures of work outcomes, individuals workers, work force and organizations need to analytically break through 'knowledge silos', hence recombining a variety of skills and knowledge assets to innovate the processes and practices constantly (Radelli et al., 2014; Wang, 2010; Wang & Noe, 2010).

According to previous studies, openness to experience is a personality trait that effects the creative behavior of a person the most (McCrae & John, 1992). If an employee is unwilling to take new challenges, he cannot grow. Taking on new challenges means pushing yourself out of the comfort zone. The individuals who are dull tend to shy away from them during day-to-day work life. Studies tell that this personality trait makes a person more open in expressing new ideas and experiences. These people are great thinkers and innovators. They can assess things very well. They have an efficient approach to feelings, thoughts and ideas. They

can adjust themselves easily in the evolving environment. An employee should be adaptive. Being adaptive means stepping out of your comfort zone. At first it may seem uncomfortable and take time to adjust but once everything is set everything becomes easy. An employee without creative mind cannot grow. In contrast to those who have low openness to experience, those who follow a daily similar routine and same structure of habits on daily basis are more likely to pass on the opportunities and they are conventional to new ideas (Xu et al., 2018). Opportunities are always there and a person should always be ready to grab such opportunities and such type of people miss out these chances easily. For representatives who are high on receptiveness to involvement to really show imaginative conduct in a work setting, the work setting needs to take into consideration and support the appearance of their inclination to be inventive. On the premise of the receptiveness to involvement and imagination literary works, we have recognized two key parts of the hierarchical circumstance that may serve to support inventive conduct with respect to people who are high on receptiveness to understanding (Zhou & George, 2001).

In this paper knowledge sharing is used as a mediator between employee creativity and project performance. Knowledge sharing plays a pivotal role in the performance of any project. The process of sharing knowledge works best when people sit and brainstorm new ideas sometimes come up and new untapped opportunities can be explored. All the necessary information and new knowledge should be shared among all the team working on a project. The environment should be open and transparent. When organizations provide employee with a comfortable environment and appreciate their ideas they feel owned and give ideas that can contribute in taking the organization to the next level. If any employee restricts the knowledge to himself and does not share with other team members then the team altogether does not perform well. When people with different backgrounds are provided with the platform to exhibit their ideas and opinions through dialogue innovative ideas can come out and can be used for future organizational decision making. In order to develop skills and competences in a company or organization, it needs to manage its skills. This increases the value and economy (Kogut &

Zander, 1992). To develop a model that links knowledge sharing with employee creativity, we have studied some more literatures based on creativity that inspects the procedures leading to creative outcomes (Zhang & Bartol, 2010). According to different researchers the attitude of knowledge sharing conveys a great impact on the performance of the projects (Gong, Huang, & Farh, 2009).

1.7 Supporting Theories

Different researchers have introduced different viewpoints and perspectives to support the studies of employee creativity, knowledge sharing and role of openness to experience in an organization, that are being applied globally, but here all the variables of this study are being covered in like componential theory of creativity and social exchange theory.

1.7.1 Componential Theory of Creativity

In 1983, a renowned researcher Amabile (1983) presented a componential theory for creativity. This theory keeps a huge importance in the field of creativity and is considered as one of the most powerful and influencing works on creativity. In this theory, she has explained three important units of the creativity; domain knowledge is one of them. According to this theory creativity depends on four factors from which three factors are in a person's attitude. These three factors are, skills related to a specific field, procedures related to creativity and motivation for the task. The fourth factor is outside a person's personality; it is the social environment in which a person works (Amabile, 1983). This study focuses on building an exploratory theory that links KS and EC.

In 1988 the extension of this theory was presented to include organizational innovation with employee creativity. She expanded the three components as in parallel to domain specific skill she explained resources available in that domain. Similarly, in parallel to creativity relevant process, she emphasized on skills to manage the innovation process and in contrast to individual task motivation she introduced

motivation for innovation(Amabile, 1988). These three components combine to make a working environment with creative employees resulting in positive impact in the organization. This theory is useful for our research because an if a creative employee has these components in him, he can bring a considerably positive change in the performance of the project.

1.7.2   Social Exchange Theory

Human connections is explained by the exchange behavior among people (Homans, 1958). Social exchange theory is a common notion of psychology. The concept of this theory is based on the social exchange of anything where cost and reward is involved. This theory involves self-centeredness and dependence on others (Emerson, 1976). According to this concept, human connections and social behaviors are fixed in an interchangeable process. Disciplines such as psychology, sociology and organizational behavior all supply social exchange in the study of shared human behavior. The behaviors of exchange are the main reason of collaboration between the people, this theory works very well in a working environment. An employee benefits an organization in return of a reward. Our study also works on the concept of social exchange theory. An employee shares his creative ideas and knowledge with other employees working on the project. In return the other employees also share their ideas and concept. Thus providing benefit to each other. In this way the employees of an organization can have more opportunity to showcase their creative skills thus resulting in the better performance of the project.

Chapter 2

Literature Review

2.1 Employee Creativity and Project Performance

Nowadays, a fashion of project based organization is being developed and it is increasing day by day in form of organization. These organizations carry most of their tasks and activities in form of projects (Pemsel & Muller, 2012). The organization whose employees possess a critical thinking and problem solving skills have a competitive edge (Grosser et al., 2018). Creativity of an employee is important for overall project performance and success.

Distinctive examinations have very much characterized inventiveness as the capacity or ability to pass on novel and crisp thoughts while advancement is the introduction of those thoughts. Inventive critical thinking gives that focused prevalence that any business is battling over accomplish. It has been over forty years that researchers are dealing with imagination, innovation and creative behaviours (Jain & Jain, 2016).

The success of an entity is determined to the extent through which its employees are involved in the process of creativity and innovation (He, Cho, Qi, Xu, & Lu, 2013). Innovation and creativity not only means giving new ideas but also implementing them. Both these factors make an organization strong and successful. The organization whose employees possess a critical thinking and problem solving skills have a competitive edge (Grosser et al., 2018). Creativity of an employee is

important for overall project performance and success. Employee's creativity can enhance organizational scope and contribute toward developing innovative range of product and services and provide out of the box ideas (Amabile, 1983; Shalley & Zhou, 2008). Subsequent to thinking about individual creativeness through the biography of makers, ingenuity actuating methods at the individual dimension, business inventiveness from the enterprising perspective and as a vital objective, studies about concentrated on imagination as an authoritative issue to be overseen through explicit settings and administration, the innovative process of organizations and the administration of innovative groups as a component of the "ordinary" everyday business exercises are current concerns. Latest intimated works surveyed for the multifaceted nature of the wonder of hierarchical inventiveness and proposed to incorporate its different measurements through a staggered point of view (Simon, 2006).

The research on employee creativity and project performance is much dispersed. A creative approach towards work of an employee plays a vital role in the successful performance of a project. If an employee is provided an open environment to display his creative thoughts and ideas it can bring a vast change in the progress of an organization (Richard et al., 1993). Moreover, if an employee is appreciated for this thing they would be more open to new ideas and would participate more effectively. Trainings should be given to all employees for innovative techniques. All the staff should be challenged the way the works. All the employees should be supportive and should tolerate the mistakes of each other. Different scientists and scholars have suggested that for continuous innovation of an organization or a firm it should have creative employees that can express innovative behavior. With this the firms can survive in today's competitive environment (Hon, 2012; Woodman et al., 1993). The creative behavior in a person comes from his surroundings and through new experiences. He/she adopts and learns new things from people around them. It depends on his ability and interest in learning new things. An employee with creative mind and attitude exhibits new ideas and responses that are very helpful in coping up with different tasks in a project (Amabile, 1983). Their creative ideas generate novel and innovative procedures and process during

a project. If everyone is given an equal opportunity to participate and give ideas employees would participate more efficiently and willingly. It helps in meeting the customer requirements and needs in a better way and a good understanding of products identification and services (Zhou, 1998; Zhou & Shalley, 2008).

In order to increase the creativity of employee and innovation of an organization training sessions should be arranged by the organization but these sessions should not be based on fixed and typical practices instead a complete set of activities should be planned for these sessions. The course content should be well designed and method of deliverance of content should be well developed. This training session should make the employees can learn and grow successfully. In these creative work-out sessions full understanding of the project and its approaches should be given so that the thought process of the employees is enhanced and organization can achieve success through creative thinking of their employees (Scott et al., 2004).

Employee's creative approach can improve efficiency and effectiveness of various business procedures. This can be through reducing the required inputs of various processes or by enhancing the outputs (Shalley, Zhou, & Oldham, 2004). Subsequently, the performance of the whole unit or businesses may progress. Furthermore, although such reimbursements of operatives' self-creativity may not straightforwardly influence their genuine work viability or proficiency, rather their administrators may play their share in such assistances when ranking their workers' work performance. Together these build on to creating synergistic effect and incremental benefits are achieved (Gong et al., 2009). According to different studies it has been observed that during the past few decades' employee creativity has become a focus of research. With all the studies it is concluded that there is a need of innovation and creativity in the project based organizations of Pakistan. As projects can perform well if innovative procedures are applied on them and this can only happen if a proper environment should be provided to employees to show their creative abilities. All these studies lead us to the following hypothesis

H_1: ***Employee creativity positively effects the project performance.***

2.2 Employee Creativity and Knowledge Sharing

Employees in any field of work can be creative generating some of the fresh and innovative ideas. It can be any work of any type of organization. It is not necessary that it should be a well-known organization with hide projects or startup company, innovation though creativeness can be brought in anywhere (Rice, 2006). Regardless of all the past studies on the implementation and enhancement of knowledge sharing processes in organizations and projects, very less consideration is given to employees' knowledge sharing capabilities. Even though there are many web and mobile applications that can help in gaining knowledge and sharing it among each other but the main component of information sharing and knowledge distribution in an organization are the employees (Bartol & Srivastava, 2002). The act of sharing different thought processes, knowledge and information via different channels like communication and interactions through different sources like internet, books newspapers etc. Between groups of people with same interest is known as knowledge sharing.

Innovative process cannot be implemented in an organization with the lack of creativity. For the implementation of creativity there are two key factors. These are employee voice and knowledge sharing. Employee voice is very important factor that fosters creativity and inventiveness in an organization. Employee voice is vital for the process of communication. It is only through voice that knowledge can be shared effectively. The employees should speak up for themselves in order to implement their creative skills. They should tell their leaders that what type of atmosphere they require in the organization where they can implement their creativity effectively (Morrison, 2011).

A second key achievement factor that prompts innovativeness and development is information sharing, which is the methods by which workers capitalize on the collected learning in the association. Gathered knowledge adds to inventiveness and advancement, and includes hierarchical culture and character, approaches, schedules, frameworks, and furthermore different workers (Cabrera & Cabrera,

2005). By using aggregated information, facts sharing is decidedly identified with thoughts on, for model, how to diminish generation costs and enhance team performance as well as the performance of the project based organizations. By the above information we can summarize that creativeness and innovative behavior of an individual is of no use in the lack of knowledge and information sharing. Therefore, the supervisors and managers of an organization should make their selves busy in implementing activities that motivate information sharing and knowledge transferring behavior among the teams (Kremer et al., 2018).

We have used componential theory of creativity as our supporting theory. In this theory the writer (Amabile, 1983, 1988) emphasizes on attaining the knowledge of the domain. According to her, good knowledge of domain in which an employee is working, is a very important element of creativity.

Employee competence, knowledge and continuously learning aptitude in field of his work is the basis of all forms of creativity in his/her performance. For a person being creative and showcase his/her creative skills it is crucial for him to have sufficient knowledge of the domain he/she working in (Cheung, Chau, & Au, 2008). The result of sharing knowledge depends on the amount and quality of the information being shared through different channels among people with common interest (Liao, 2006). Despite social networks and relationships being a main component of healthy population participation in physical community events' importance cannot be denied. Social networking is essential as it provides access to knowledge and support that help in the process of innovation. An organization must grow to reach its full potential and the amount of growth depends on the employees. A rapidly growing line of research employing and social connectivity approach highlights the social flora of innovation and creativity (Grosser et al., 2018). Effective communications build strong relationships. Knowledge sharing is related to networking. Information technology can help at great level in developing the networks. Organization can take benefits from the new method and technologies. Employees can create linkages with the help of computers through which they can connect with each other. Computers also provide sharing of useful

data and information (Mittal & Dhar, 2015). Knowledge sharing between individuals increases work place engagement and interaction between employees. It allows effective communication between employees at all levels in an organization. It also helps to produce good amount of work with enhanced quality.

Studies have identified that employees who keeps on sharing knowledge with others have higher chances of deploying their novel and creative ideas into creative outcome than those who do not discuss or share knowledge with others (Wang, 2010). In this ways they also get to learn from each other. In the organization there should be a culture to stress innovation and creativity. Knowledge sharing is a thoughtful exchange of information that helps with vigilance and progression. Apart from that, knowledge sharing plays an pivotal role in enhancing employee's creativity (Wang & Noe, 2010).

We ascertain and investigate three major approaches for employee knowledge sharing: (1) By collaborating and interrelating with employees (2) sharing knowledge with the employees in teams or groups, and (3) attaining knowledge apprehended by other divisions (Gong et al., 2009). Knowledge sharing also enables fast and better decision making process. In comparison to this, a particular employee will also be evaluated as distinctive if he/she shares knowledge and thoughts with his/her fellow colleagues. So as to be creative in front of others inside a venture, an employee should let others know about his/her distinct set of ideas, previous experience and unique knowledge. An employee can only think of new ideas when he finds something boring. The sharing of past encounters and learning might be begun by following the three imperative advances (issue concern definitions, data searching and creation and production of ideas) (He et al., 2013). The process of knowledge sharing is necessary for the creative employee otherwise it will remain with himself and no one will able to take complete benefit from it. Thus employee creativity is dependent on knowledge sharing in the projects. This leads us to out next hypothesis, which suggests that

H_2: **There is a positive association between employee creativity and knowledge sharing.**

2.3   Knowledge Sharing and Project Performance

For the better performance of project and to achieve project success sharing of ideas in between the project team is essential. The team members should have clear understanding of the project and should be encouraged to give new and different ideas. Working together is more productive than working as individuals. Even if every individual in a team is giving one idea only it can bring a big change, this viewpoint is based on an essential principle of teamwork, collaboration and association in the tasks (Liu, Keller, & Shih, 2011). As we know that project based organizations are quite diverse than other businesses and they always take projects that are exclusive and unique, complex and uncertain in nature. Due to these differences their requirements of knowledge and information distribution also differs and requires a proper process of sharing of experiences, information and knowledge among the project teams and other teams working on similar nature of projects (Ajmal & Koskinen, 2008). There are many projects that are of same nature, and it is obvious that similar nature of projects faces similar type of problems. Therefore, according to the research project teams are willing to share their experience and issues with the team of projects are who are working on same nature of projects, in this way many project issues can be resolved easily and efficiently (Lewis, Lange, & Gillis, 2005).

Information stream is a basic factor in an association's prosperity. Researchers have classified such information stream from three points of views. The first point of view is for solutions, as experience and as socially created. Every organization depends on a key factor, Knowledge flow. When knowledge is taken as a solution, real-time transfer of knowledge for solution is emphasized. Where as in experience perspective, it is across time, emphasize is on practitioner's experience which is made accessible for others. Here in these two, knowledge is dealt as a commodity. Knowledge as social creation is focused on learning through interpersonal relationships. The administrative issues these perspectives study, when comes as solution, administrative issues like, selection of technology, motivation for use the system. And as experience is concerned about the time, nor about the geographical space of the organization, hence it covers learning from mistakes, to avoid attempts to

reinvention of wheel. Third perspective, discusses the administrative problems concerned with enhancing the development of inter personal relationships. This perspective has been advocate of unstructured informal talks, interpersonal, to draw out sketch of arguments, sense making and negotiation is facilitated, as they are necessary for knowledge transfer process (Ajmal & Koskinen, 2008).

Organizations can implement procedures to motivate employees to thrive for achieving structural goals, thus generating benefits that are worthy for both firms and their staffs, in aggregating organizational success which is heightened by enriched knowledge distribution at the office (Wilkinson, 1998). It is the duty of a project manager to arrange meetings and brain storming sessions among the team where they can share their thoughts and ideas. Interactive sessions among the team members should be arranged to discuss different ideas and One of One sessions with employees should be set up to see how effectively each individual is participating. The creative employees should share their innovative ideas among the team so that they can all work on it. Other team members should also respect each other's views and ideas even if they do not like it. Moreover, an individual should keep aside all conflicts of interest and should give 100% input. By adopting procedure and way over in an organization and providing platform for knowledge sharing massive growth can be achieved in its projects and operations (Han, Chiang, & Chang, 2010). The top management of an organization should first create such a culture among themselves and pass it on to their respective teams.

In a study Ren, Deng, and Liang (2018) There are many dynamics that effects the efficiency of the process of knowledge transfer among the team in project based organizations. One of these dynamics is the project's nature that keeps a reasonable importance in transferring of the knowledge. Mostly the projects are spread in different cities and countries and sometimes all over the world while it has been seen that employees or other people share knowledge and among the people with whom they can contact or reach easily. Therefore, the process of transferring of knowledge in project based organizations is a challenging work but studies show that the transfer of better and clear knowledge and information has

always played an optimistic role in successful completion of a project (Lindner & Wald, 2011).

Knowledge is of two type explicit knowledge and implicit knowledge but in this study we will discuss the overall effect of knowledge on project performance. The Top management should conduct meet up sessions where information about the project is being shared among the team. The project manager has the responsibility of project success. For this purpose, he should be unbiased. He should encourage all the employees to participate and He or she should provide his team with such working environment where they can discuss problems and share ideas and their creative thoughts with each other (Keller, 2001). It is very important for a Manager to possess a creative mind and critical thinking. He should create a friendly environment where employees are open to give new ideas.

Moreover, there should be an environment of openness where employees if facing any issue or hurdle without any hesitation report to the manager. Response of a single member in a project team cannot exhibit all the changes that will bring innovation in a project. It can be achieved by gathering different individuals with different skills and ideas. This element should be incorporated in the organization goals so that it becomes important for every individual is bounded to think is a creative way. There should be cooperation among all the team members, with this management innovation and improvements in work can be achieved. (Liu et al., 2011). All the team members should be supportive and willing to help each other every time. There should be a friendly environment among all the team members and every individual should respect the views and ideas of other individuals.

The studies tell that over some formal communication sessions information sharing on similar nature of projects can be attainted. In these formal sessions we can also discuss about the temporary projects when they share their experiences. In this way transferring of knowledge between each other can be enhanced (Riege, 2005). Organizations can also motivate some informal discussion as they can they develop a relationship of friendship and closeness among the teams that are collaborating with each other. These informal sessions can be done over a tea or coffee or some informal events can be arranged by the organizations (Wiewiora,

Trigunarsyah, Murphy, & Liang, 2009). It is a complicated process that knowledge can be discussed and shared openly, but with these informal events and networks, it can be discussed easily thus, these sessions can increase the comfortability level of employees among each other and decrease the struggle of obtaining information from the project teams. As we know that the projects are dispersed widely in different places and there is always an urgency to complete the projects in limited time therefore it greatly effects the knowledge transferring process. this can be abridged by formal and informal sessions of communications and discussions. With all this discussion we can conclude that knowledge sharing is an important part of project success therefore there is a need of broader information exchange networks and channels that can make it easier for team members to gain and use the required knowledge in their work (Hoegl, Parboteeah, & Munson, 2003). Based on this principle, we intend to find out the effect of knowledge sharing on project performance whereby proposing that

H_3*: There is a positive relationship between knowledge sharing and project performance.*

2.4 Mediating Role of Knowledge Sharing

According to Wang (2010); Wang and Noe (2010) knowledge sharing is described as the deliverance of all the details related to job and proficiency to provide guidance to others and to work together and pool resources in order to resolve difficult problems, cultivate and introduce fresh ideas and to instrument new strategies and processes. Knowledge sharing among employees help them to have superior innovation competence. Individuals that share knowledge work more effectively towards meeting the goals of an organization and producing more quality work (Yang, Nguyen, & Le, 2018). KS behaviors among workforces may support firms to have greater innovation proficiency. When an organization motivates the process of knowledge transfer among employees, its ability to accomplish its objectives increases. The organizations today are striving hard to motivate collaboration among their team members and enhance the knowledge sharing process (Le &

Lei, 2017). The importance of knowledge sharing is increasing day by day in both public and private organizations. Organizations today are encouraging the behavior of knowledge distribution and involvement in knowledge sharing process every day. They are now making it a part of their curriculum and for this they are implementing different activities of knowledge sharing in their organizations (Kim & Lee, 2006).

This attitude has been seen in private organizations more that public organizations. Private organizations are striving hard to meet their customers' requirements and giving them every facility they require. As they give a lot of importance to their customers so for this they give huge importance to their employees and they are giving them different training to enhance the knowledge sharing process. The difference in public and private organizations is another dimension of discussion that cannot be discussed in this paper.

Revolution can be described as the process of translating an idea or invention into good and services that creates value for customers. Innovation is the application of creative ideas and interventions through which new products, systems and processes come into existence (Liao, 2006). The act of administration of originality in an employee's job is only comprehended as the skill of quantifiable, societal and figurative perimeters of the organization that is altogether experienced as an innovative playground (Simon, 2006). Employee creativity, if being used intelligently, can bring such innovation in the organization and the projects. To take the benefit of employee creativity in projects knowledge sharing plays a very vital role. For better knowledge, sharing it should be managed in an efficient way. For knowledge sharing knowledge management has to be done. Knowledge management is a methodology through which information can be shared. It is the procedure through which knowledge is crafted and then shared among the different members which can later on be used by them where there is a need. It is about supporting creativity and innovation. Every organization on the planet is working towards Innovation. The ability to innovate is enhanced by exploitation of organization's strategy and thinking power.

Knowledge management is very important for knowledge sharing process. For the better management of knowledge initiatives should be take, process should be created and systematic strategies should be developed. This helps in better sharing and creation of knowledge (Santoro, Vrontis, Thrassou, & Dezi, 2018). It has been observed over a century, that by brining inventiveness in the management and administration style of an organization, as compared to any other type of enhancement, has resulted in remarkable performances of employees, projects and the overall organization. A management innovation creates long-lasting advantage when it's based on novel experience that challenges management convention. Knowledge management means attaining useful information and making it available whenever needed (Plessis, 2007). Knowledge sharing behaviors among workforces may support firms to have greater innovation proficiency. Knowledge sharing helps to maximize a firm's ability to manage knowledge and allows individuals in organization to work or achieve goals more efficiently (Le & Lei, 2017).

In today's world knowledge economy has a great importance therefor knowledge sharing behavior should be promoted in workplaces. This can be done with the progression of knowledge distribution practices and optimistic intellectual thinking of the employees which can make them to learn and comprehend the demands of their organization and bring products and services to corporate market in order to heighten the performance of their organization and strive with their competitors. For this the organizations should take on board a competent and well versed team of HRM that can help the other employees to recognize the organization's and the project's goal and objectives and can take in organization's provision to foster the process of KS. Based on our research on Knowledge sharing we consider that it is a process to exchange knowledge, ideas and experience among individuals thus helping them to achieve overall organizations goals by working more effectively and efficiently. These days, a large percentage of associations apprehend that the significance of managing information adequately. For doing as such, they should be continuously ready to identify, create, get, diffuse and catch the most significant compensations of information that sets up a key favored position to themselves.

Knowledge sharing among employees help them to have superior innovation competence. Individuals that share knowledge work more effectively towards meeting the goals of an organization and producing more quality work (Yang et al., 2018). Knowledge sharing means interacting with employees and exchanging ideas to help them do something better and more efficiently. In simple terms, innovation is the application of transmission of knowledge down a pipeline from research to development to application, with sharing knowledge through collaborative innovation becoming increasingly important. It is important as removes wastes and enables organizations to enhance innovative performance. A person putting knowledge into action needs to be proficient and that means three essential elements they must have the knowledge and skill but most of all they must have the right motivation and attitude. Therefore, it is very important to have Rewards and recognition system in place to keep employees motivated (Lin, 2007). These findings and social exchange theory indicates that if knowledge management practices are introduced as an organizational best practice, it will increase employee creativity and its employees will engage more frequently in knowledge sharing and thus, the organization will enjoy higher performance.

We build on the principle that employee creativity will improve project performance provided there is an efficient process of knowledge sharing. Therefore, based on the findings of the previous studies we anticipate testing the following hypothesis.

H_4: ***knowledge sharing mediates the relationship between employee creativity and project performance.***

2.5 Moderating Role of Openness to Experience

The association between job and personality of a person has been a great discussion from the past century. The researchers have been studying the industrial organizational psychology very frequently (Xu et al., 2018). Inventiveness and active imagination implies to not only giving new thoughts and ideas but actualizing them as well. Both these variables make an association solid and effective.

Worker's inventiveness can improve authoritative extension and contribute toward creating imaginative scope of item and benefits and suggest ideas that are novel and never implemented before (Zhang & Bartol, 2010). An individual that possess a creative mind is always open to experience. This trait plays a vital role in the creativity of an employee a project performance. Employees with creative mind are always looking for ideas to make their monotonous work more interesting and exciting. They get bored very easily therefore try to bring in new things every day (Baer, 2010). When an employee has an urge to experience new things then it becomes very easy for such an employee to get bored easily. Openness to experience causes you to learn, develop and fortifying your faith in yourself. There is a trustworthiness and genuineness that accompanies a receptive outlook on the grounds that being liberal methods conceding that you aren't all knowing and you are available to adapt new things (Barrick & Mount, 1991). It means believing that whatever truth Employee finds might always have more to it than you realize. Monotonous nature of the work is a challenge for such type of people as they are always looking for new opportunities and same type of work every day bores them easily. Bringing innovations to their work makes work attractive for them. It is the duty of the organization to provide them with resources to implement innovative ideas. It has been a point of argument by different researches that in organizational values and beliefs, conviction and openness keeps a great importance in promotion of knowledge sharing between the team members. By creating an environment of trust and reliability, the workforce's speed of communicating with each other increases and they can easily share information and other knowledge concerns with each other and among their team (Von Krogh, 1998).

Moreover, Openness to experience allows the employer and the employees to be more creative in their work. It allows them to implement new ideas in the projects regardless of the time and cost constraints. Each individual should invest their time in the creative nourishment of co-workers. The employers should start accompanying Stand-Up Consultations with their employees. Your entire energy changes when you are standing. In this way they start finding pleasure in their work and this contents them. They are always looking for ideas that can make their work

more interesting and enjoyable to them (Xu et al., 2014). Employees that have curiosity about everything tends to get bored more easily as they want to bring change in everything and same type of procedures and environment bores them easily. They are innately eager toward developing novel assignments, or making adaptions in existing practices in order to upgrade their adequacy. Management should always trust the abilities of their employees this helps in being more creative and motivated. Employees that possess a creative mind have a strong urge to learn new things. Employees with a creative mind set have a good observation as well they are always looking for ideas as to how they can make it better. They try to accept tasks that more challenging in nature. They also apply the concept of lean and automation in existing practices and methods, as we know that technology is taking over. Subsequently, these representatives hold extraordinary potential in rolling out key improvements on current work strategies through radical imagination. Therefore, every individual should be open to new ideas and should have such critical to understandings if fundamental variations are useless at work. Even if these workers are performing daily tasks, they are always looking for creative ways to make it better (Xu et al., 2018). Keeping in view the nature of the projects creativity can play a vital role. We believe that Openness to Experience will be an effective interpreter of one of the performance criteria, performance of all employees are judged through their ability to innovate and bring new ideas. As described before an individual who has an urge to learn new things, possess a broad thinking and has a smart mind is more open to experience new things than a person who has a dull mind. The findings of Xu et al. (2018) suggest that some aspects are way more demotivating than being merely asked to do very stress-free easy to do work, and this is especially true when employees are creative.

Openness to experience is a characteristic of a person's personality that impacts employee creativity in the organization which proves that openness to experience is related certainly to creativity, it can be beneficial to managers when assigning responsibilities to relevant team members. So the trait of openness is directly associated to training expertise and this attribute moves organizations towards success (Barrick & Mount, 1991). When the openness to experience is high in

an employee, he is more likely to think creatively he takes ideas and experiences from his surroundings through observation, which in turn bring a positive effect on project performance and its success through knowledge sharing. Openness to experience relates with imaginative and creative thinking, as estimated by trial of disparate reasoning. Openness has been connected to both masterful and logical imagination as expert specialists and researchers have been found to score higher in transparency contrasted with individuals from the general population. If the openness to experience is low, the employees tend to work in a typical working environment. Open-mindedness is receptiveness to new ideas. It means you possess such a mind that is always eager to learn and experience new things.

Studies indicate that the business ventures that offer their most brilliant people with tailored development and improvement plans, provide them with training chances and follow culture with encouragement and support is provided to the employees get the remunerations of increased performance. Giving these opportunities can be financially and operationally difficult for some organizations but if they will fail to deliver these opportunities can be a threat of losing their inventive, resourceful and artistic faculty to the competitors (Baer, 2010).

Emphasis on these variables have been in context of organizations other than project-based organizations. In addition, the moderating impact of openness to experience on employee's creative nature and knowledge sharing has not been a part of any research yet. Knowledge sharing is a very important skill that needs to be learned by every individual. Based on this premise we argue that employee creativity coupled with openness to experience should bring and optimistic impact on the process of knowledge sharing. As sharing knowledge between colleagues increases the productivity of the team. Employees tend to work faster and smarter as they get access to internal resources. Learning to share is as important as to learn. This proposition forms the basis for our next hypothesis:

H_5**: Openness to experience moderates the relationship between employee creativity and knowledge sharing such that if openness to experience is high it strengthens the relationship between employee creativity and knowledge sharing.**

FIGURE 2.1: Research Model

2.6   Research Hypotheses

H$_1$: *Employee creativity positively effects the project performance.*

H$_2$: *Employee creativity has a positive relationship with knowledge sharing.*

H$_3$: *Knowledge sharing has a positive relationship with project performance.*

H$_4$: *Knowledge sharing mediates the link between employee creativity and project performance.*

H$_5$: *Openness to experience moderates the relationship between employee creativity and knowledge sharing such that if openness to experience is increased it supports the relationship among employee creativity and knowledge sharing.*
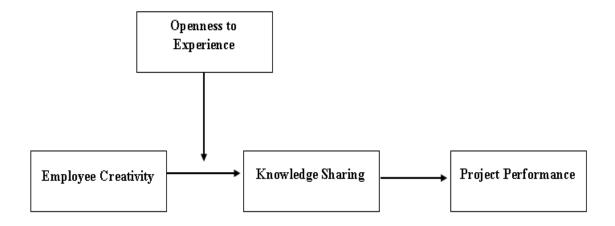
Chapter 3

Research Methodology

Research methodology is the process of collection information and data in order to carry out the research. In this chapter we have discussed about the steps that are required in the process of data analysis which is a very important step in carrying out the results. This chapters discussed about all the information related from the process of data collection to data analysis. The results of our study are obtained through this process.

3.1 Research Design

3.1.1 Purpose of Study

The main aim of this research was to highlight the influence of employee creativity over project performance while using the mediation of knowledge sharing and moderating effect of openness to experience on employee creativity and knowledge sharing in project- based organizations of Pakistan. To conduct this research the target population that was selected was the project based organizations of Pakistan. The data was distributed to four major cities of Pakistan these cities are Karachi Lahore Islamabad and Rawalpindi as it was convenient to collect data from these four cities. We distributed almost 320 questionnaires from which we were able to gather 273 genuine responses. With this sample size of 273 respondents we have presumed to signify the whole population of this Pakistan.

3.1.2   Research Philosophy and Quantitative Research

For our study we have used hypothetico-deductive research method. This method is used for analyzing theories or hypotheses. It is based on developing the hypotheses through previous studies and prevailing theories. These hypotheses are then tested and can turned out to be false after going through the process of data analysis.

Our research is based on quantitative research methods. This research accentuates the objective capacities and arithmetical or statistical analysis of data collected through different sources. These sources can be surveys, questionnaires polls etc. In most of the studies quantitative research is used. We have used questionnaires for our study. The method of quantitative research is used for identifying the kind of relationship among the variables used in this study.

3.1.3   Unit of Analysis

The key characteristic of any study is the unit of analysis. Unit of analysis can be a group of people from a specific organization, cultures or targeted group. This study is based on dyadic relationship. In this type of relationship two members of a group are involved in carrying out the research. This can be a boss and the employee. In our study these two members were the project manager or team lead and the employee. One part of the questionnaire was filled by the respondent or employee's supervisor or manager and the other part by the employee himself. The employees and their team leads were people specifically belonging to a project based organization.

3.2   Research Population

The population picked for carrying out this research were the project based organizations of four major cities of Pakistan. The project team was selected as the population of the study. The project team included the project manager, project

officers, field team and anyone working on the project. The data was mainly collected from different organization operating in four main cities of Pakistan. These cities were Islamabad, Rawalpindi, Lahore and Karachi. There were different organization working on several projects of health, infrastructure and social services etc. Many non-profit organizations played an important role in becoming a part of our population.

3.3   Sample and Sampling Technique

Data collection is a quite tough job as there is a very limited time and other resources because of this issue a method of sampling is used, in which a sample is determined to carry out the research process. The sample size is selected from a group of targeted population. It is considered that the sample size includes the whole targeted population.

The data on dependent variable (i.e., project performance), moderator (openness to experience) as well as the mediating variable (i.e., knowledge sharing) were reported by the projects core team members who had direct influence on project performance such as project leaders, team Leaders, employees and advisors/experts. The support staff was included as well. The data on employee creativity has been obtained from the employee supervisor. As an employee supervisor has a better understanding of an employee behavior towards innovation. The sample mainly consists of managerial and operational level of different organizations and the counterparts who actually benefited from the project.

We approached to almost 320 project managers and project teams out of which we were able to collect 273 original results. Some of the data collected was not filled according to the instructions so we had to discard it. We used the method of convenience sampling in this research as through this method we were able to collect data easily from different cities of the country. Convenience sampling technique helps to get data from the part of targeted population that is easy to reach. as we have limited time to carry out the research therefore this sampling technique works the best.

3.4 Sample Characteristics

In this research we have used the demographics of employee's gender, age, qualification and working experience in a project based organization. Our study was based on a dyadic relationship as our questionnaire was divided into two parts. One section was filled by the respondent's supervisor whereas the other section was filled by the respondent him/herself. The section of employee creativity was filled by employee's team lead, supervisor or to whoever he reports to in his organization. The section of knowledge sharing, openness to experience and project performance was filled by the employee or respondent him/herself.

The details of the sample characteristics are explained as fellows;

3.4.0.1 Gender

One of the most important element of the demographic that should be highlighted is gender. It is important to maintain gender equality and this demographic distinguishes between male and female. In this study we have tried our best to maintain gender equality but it has been observed that the ratio of male mangers is greater than the female ones. And so is the case with the ratio of female respondent's and male ratio. The latter one is greater.

Table 3.1 depicts the ratio of male and female respondents. As we can see majority of the respondents were male, which illustrates that 62.6% of the participants were males and 37.4% participants were females.

TABLE 3.1: Gender Distribution

Gender	Frequency	Percent
Male	171	62.6
Female	102	37.4
Total	273	100

3.4.0.2 Age

Age is considered as one of the demographics, in this study age was asked directly however in spss the scale was developed to enter the information of age.

It has been shown in Table 3.2 that most of the respondents were having age between the range of 26-33, that means 41.8% of majority respondent were having age ranging between 26-33, 21.6% of respondents were having age ranging between 34-41, 15.8% respondents were having age ranging between 42-59, while 14.7% were having age ranging between 18-25 and only 62% of the employees were having age range of 50 or above.

TABLE 3.2: Age Distribution

Age	Frequency	Percent
18-25	40	14.7
26-33	114	41.8
34-41	59	21.6
42-49	43	15.8
50 Above	17	6.2
Total	273	100.0

3.4.0.3 Qualification

Education is the major element which contributes towards the prosperity of the whole Nation and it is also the basic need of the hour to compete globally. Hence after gender, qualification/education is another vital dimension of the demographics. It was observed that people with qualifications of matric and intermediate are also working on different projects but they are very well experienced individuals.

Education opens up many new and unique paths for success and creativity in order to gain competitive advantage amongst all the other countries around the

TABLE 3.3: Qualification Distribution

Qualification	Frequency	Percent
Matric	2	0.7
Intermediate	18	6.6
Bachelors	122	44.7
MS/M.Phil.	131	48.0
PhD	0	0
Total	273	100

globe. Probably education has an imperative role in demonstrating creativity and innovation in project tasks by facilitating the effective knowledge management. The right mix of creativity along with curriculum encourages students to learn new things and to be more creative.

It has been shown in Table 3.3 that most of the respondents were having qualification of Master, which comprises 48.0% of the total respondents chosen as the true representative sample of the whole population. 44.7% were having qualification of Bachelor, 6.6% respondents were having qualification of Intermediate and 0.7% of the respondents were of matric amongst the 273 respondents.

3.4.0.4 Experience

Again in the questionnaire experience was asked directly without any scale or range. But while entering the data scale was developed in the SPSS.

It can be seen from the Table 3.4 that most of the respondents were having an experience ranging between 0-5 years, which depicts that 35% respondents were having experience between the range 0-5 years, 30% participants had an experience ranging between 3-6 years, whereas 15% participants had an experience ranging between 6-10 years, 8.1% members were having an experience from the range of 10 years -15 years, 11% of respondents were having experience ranging between 15 years above experience.

TABLE 3.4: Experience Distribution

Experience	Frequency	Percent
0-3	98	35.0
3-6	82	30.0
6-10	41	15.0
10-15	22	8.1
15 Above	30	11.0
Total	273	100

In organizations especially in project-based organizations, experience is considered more important than education as it allows the employees to gain knowledge and information about their field of work and also the ins and outs of an organization and more over the person learns how to work in a professional environment. A person can gain experience through different ways. It can be gained through work placements, unpaid internships or by volunteering in different jobs. As experience includes gaining knowledge about new procedures and ideas to bring creativity in the tasks, experience is considered as one of the most effective demographics which contribute too much towards the employee creativity and knowledge sharing domain for the success of the creative and innovative projects.

3.5   Control Variables

A variable in a study which is kept persistent throughout the research in order to determine the association between different variables, is a control variable. In any study, control variables are used as a part of research. These variables are kept constant throughout the research as their unchanging state allows to understand the relationship of variables under study in a much better way. Age, gender, experience and qualification were used as control variables because they

have some effect on knowledge sharing and project performance. To check is there any significant difference a one-way ANOVA comparison is performed on the variables of the present study. The results show that among all the variables none is controllable (P> 0.05).

TABLE 3.5: Control variables

Variables	Knowledge Sharing		Project Performance	
	F Value	Sig.	F Value	Sig.
Gender	1.364	.244	2.143	.144
Age	1.141	.338	1.712	.148
Experience	.850	.495	2.012	.093
Qualification	.693	.557	1.643	.157

3.6 Instrumentation

3.6.1 Measures

The data was collected through adopted questionnaires from different authentic sources. Almost 40-50 questionnaires were distributed in each project based organization that have been visited during questionnaire distribution period. Questionnaires were also distributed online to the websites of project based organizations for the quick response.

According to the nature of research, items included in the questionnaire that is knowledge sharing, openness to experience and project management was filled by the employees (project teams) and employee creativity was filled by the respondent's supervisor. 5-points Likert scale was used by the participants to answer the questions. This is a kind of scale where 1 (strongly disagree) to 5 (strongly agree) is used, unless otherwise stated. Questionnaires also consist of control variables like Gender, Age, Qualification and Experience.

320 questionnaires were distributed in total but only 289 were received. Out of which the actual numbers of questionnaires used for the analysis of data for demonstrating the results were 273. The discarded questionnaires out of 320 questionnaires were those which were not having the complete information or many of the questions were unfilled in those questionnaires hence making them not appropriate for the study.

3.6.1.1 Employee Creativity

Employee inventiveness was measured using a 8-items scale developed by (Tierney, Farmer, & Graen, 1999). The section of employee creativity was filled by employee's supervisor, evaluating the employee according to his performance in the during the project. These items indicate the employee's creative behavior in the organization. All the 8 items of this scale indicates the employee's performance in an organization that how creatively he works in his workplace. The answers were gained through 5 point Likert scale ranging from 1= Strongly disagree to 5= Strongly agree. No item was deleted after reliability analysis. The value of Cronbach alpha was 0.854.

3.6.1.2 Openness to Experience

Openness to experience was measured by using a 10-items scale. In this section the respondents will specify their behavior. These questionnaire items were adapted from the scale developed by (Flynn, 2005). In this scale the items indicate about different attitudes of an employee's personality. This portion of the questionnaire was filled by the respondent himself. The questionnaire items in this scale are related to a persons' personality and indicates the likes, dislikes and regular attitude of a person. The person with highest attributes of items that indicate the creative and outgoing behavior of a person's personality shows that how much he is open to new experiences. The reactions were attained through 5 point Likert scale ranging from 1= Strongly disagree to 5= Strongly agree. After reliability analysis 3 items were deleted and we got the result of Cronbach alpha = 0.739.

3.6.1.3 Knowledge Sharing

We used the 9-item scale developed by (Lu, Leung, & Koch, 2006) to measure knowledge sharing. In this scale the items from 1 to 5 indicates the knowledge sharing behavior of an employee in the organization whereas items from 6 to 9 indicate the knowledge sharing behavior of the respondent's co-workers in an organization. The participants answered through 5 point Likert scale ranging from 1= Strongly disagree to 5= Strongly agree. This section will be filled by the employee according to his perception of his behavior in the project and his co-workers' behavior of knowledge sharing during the project. We had to delete 3 items after reliability analysis and we got the result of Cronbach alpha 0.753.

3.6.1.4 Project Performance

While discussing about project management there are three criteria through which project performance can be calculated. These three criteria are quality, schedule and cost, all these are used for the better performance of a project. We have used a 6 item scale developed by (Robey, Smith, & Vijayasarathy, 1993). Project performance was evaluated with the six questionnaire items which were taken from the works on project management. The questions of this scale were based on the usual apprehensions at work place that are linked with project productivity and the quality of work done in a project.

These questions can only be answered by the employees who have completely worked on a project till its completion. We used a five-point scale ranging from "very high" to "very low" in order to answer these questions. These questions are related to performance of project in regards with budget, time and team work. No item was deleted after reliability analysis. Cronbach alpha was equal to 0.851 which is a good outcome.

TABLE 3.6: Instruments.

No	Variable	Source	Items
1	Employee Creativity (IV)	(Tierney et al., 1999)	8
2	Knowledge Sharing (Med)	(Lu et al., 2006)	9
3	Project Performance (DV)	(Robey et al., 1993)	6
4	Openness to Experience (Mod)	(Flynn, 2005)	5

3.7 Statistical Tool

Firstly, single linear regression was done in order to find out the casual relationship between the independent variable, employee creativity and dependent variable project performance. Regression analysis is generally used when we have to study the impact of multiple factors on the dependent variable under the study. Regression analysis will make it assure that the previous study regarding the variables is still supporting the acceptance or rejection of the proposed hypothesis or not.

Then for further analysis three steps of Preacher and Hayes (2004) were used. In these three steps, first we have to put our dependent variable i-e project performance in the outcome column, then our independent variable I.e. employee creativity in the independent variable column and after that we have to put all the demographics in covariant column. Along with all these steps we have to choose our model number as we have to perform both mediation and moderation through Preacher and Hayes we have to separately perform the analysis both for mediation and moderation by selecting model 1 for moderation and model 4 for mediation respectively for both analyses.

3.8   Pilot Testing

Pilot testing is the method used to conduct test on a small sample before performing it on a larger scale. It is a very effective way of testing as it avoids many errors and saves from wasting time and resources. Therefore, we conducted pilot testing of almost 80 questionnaires in order to confirm that if our results are going with the proposed hypotheses or not. After the execution of pilot testing it was confirmed that there was no significant issue in the variables.

3.9   Reliability Analysis of Scales Used

In the process of reliability analysis, the variables are tested again and again in order to achieve the same results every time. Therefore, reliability analysis is the aptitude of the scale to give exactly the same results each time when the item is tested. If there is variation in the results, then it means the reliability analysis has been not conducted correctly. In order to test the reliability and get the correct results items should be tested for a few times. In reliability analysis w check the value of Cronbach alpha which should be always greater than 0.7 and less than 1. The value of Cronbach alpha > 0.7 is considered acceptable. Value > 0.8 is considered good and the value > 0.9 is considered excellent but the value < 0.7 is considered questionable and is not acceptable. In reliability analysis the deletion of items also takes places if any item from our selected scale does not support our models it should be deleted from the scale.

In this study reliability test through Cronbach alpha was conducted, it tells about the internal reliability of the variables and tells about if those variables have a connection among them or not along with that it also measures the distinct concept. The value of Cronbach alpha of all the variables was 0.876. It was obtained after deleting three items of knowledge sharing and three items of openness to experience. The reliability analysis of items of each variable was also carried out whose results are given in the table below.

TABLE 3.7: Scales Reliability.

Variables	Cronbach's Alpha	Items
Employee Creativity (IV)	0.854	8
Knowledge Sharing (Med)	0.753	6
Project Performance (DV)	0.851	6
Openness to Experience (Mod)	0.739	7

3.10 Data Analysis Techniques

273 questionnaires were successfully collected from the respondents. Once the required data was collected it was then evaluated on SPSS. For this purpose, series of steps were followed to achieve our required results. These steps were as follows:

1. The first step was of selection of appropriately filled questionnaires that were used for the analysis.

2. Secondly all the items of questionnaire were coded specifically and each item was used for the process of data analysis.

3. Tables that include frequency were used in order to explain the sample characteristics.

4. Detailed information was required for analysis by using the numerical values.

5. Cronbach alpha values of all the variables were used for the reliability analysis of the variables.

6. After that correlation analysis was directed. It is used to determine the significance of association between the variables.

7. After correlation analysis, the proposed affiliation between independent variable and dependent variable was determined

8. In order to inspect mediation and moderation effect and the role of mediator and moderator between independent variable and dependent variable we have used Preacher and Hayes process.

9. The suggested hypotheses were then tested for refusal and acceptance by the correlation analysis, regression analysis and Preacher and Hayes method.

Chapter 4

Results

4.1   Correlation Analysis

It is a process used to determine the connection between the variables. The reason of conducting a correlation analysis is to determine the relationship between employee creativity and project performance, the intervening role of knowledge sharing between employee creativity and project performance and the moderating role of openness to experience for developing the validity of the proposed hypotheses. This analysis process is conducted to determine the level of variation among the two variables, that if they are varying together at one time or not. For this process, Pearson's correlation analysis is used which articulates the strength and type of correlation among the variables. The range of Pearson correlation is from -0.1 to 0.1. Therefore, through this value we can determine the association between two variables. If the value is greater than or less than zero, then it determines that a strong relationship exists between two variables but if it has zero value then it directly tells that no correlation is present among the variables. The plus and minus signs tells about the nature of relation. If there is a positive sign it means that the two variables have a direct relation with each other. This shows that the increase in one variable causes a significant growth in the related variable. Similarly, if the sign is negative then an indirect relationship occurs between the

two variable, that means the increase in one variables results in the decrease of other variable and vice versa.

The below table illustrates the mean values, values of standard deviation and values of correlation between all the four variables that are being used in this research. The values of correlations show the magnitude and nature of the relationship between the variables.

employee creativity has an average value of 3.6566 with a standard deviation of .68865. The mean of project performance is 3.8883 whereas standard deviation is .67974. Knowledge Sharing which acts as a mediator between employee creativity and project performance has a mean value of 3.9060 and a standard deviation of value .63490. Openness to experience which acts as a moderator between employee creativity and knowledge sharing has and average value of 3.6039 whereas standard deviation is .68522. According to the Table 4.1 our correlation analysis outcome is as following:

TABLE 4.1: Means, Standard Deviation, Correlation

S.No	Variables	Mean	S.D	1	2	3	4
1	Employee Creativity	3.6566	.68865	1			
2	Knowledge Sharing	3.9060	.63490	.327**	1		
3	Openness to Experience	3.6039	.68522	.318**	.475**	1	
4	Project Performance	3.8883	.67974	.467**	.435**	.378**	1

*P < 0.05, **p < 0.01, ***p < .001 N=273 **Correlation is significant at the 0.01 level (2-tailed).

The above table 4.1 of correlations tells that there is a direct connection between the variables employee creativity and project performance. Correlation table shows that relationship between employee creativity and project performance is significant, where r = .467** at P< 0.01. It can be seen from the table given above that employee creativity has a positive relationship with knowledge sharing, where r = .327 ** at P< 0.01. We found out that at r = .318** with P< 0.01, employee creativity has a significant relation with the openness to experience.

There is a favorable association among project performance and KS, here r = .435** with P< 0.01. A significant relationship exists between project performance and OE, where r = .378** at P< 0.01, KS and OE also has a positive association, in which r = .475** at P< 0.01.

4.2 Regression Analysis

The process of correlation analysis was implemented in this study to examine the presence of connection between the variables but we cannot we depend on the correlation only, as it is not sufficient for our findings. It only shows the presences of a relationship among the variables but does not tell about the extent of dependency of one variable on another. For this purpose, we perform regression analysis to determine the extent of dependency of one variable on another. The values that are often significant in correlation turns out to be insignificant in regression analysis.

Preacher and Hayes (2004) methodology was introduced for the regression analysis of mediation and moderation. Moderation analysis was directed to find out the interactive impact of openness to experience on employee creative nature and behavior of knowledge sharing. Similarly, Mediation analysis was performed to determine the communication effect of knowledge sharing with employee creativity and project performance.

Table 4.2 demonstrates that employee creativity has a significant association with project performance. We can strongly justify that this hypothesis is accepted through the outcomes of un-standardized regression coefficient. Therefore, H_1: Employee Creative nature has positive connection with performance of the project is acknowledged (β=.36, t= 6.88, p= .00). Likewise, the outcome of above table also shows that H_2: Employee creativity is having a positive association with knowledge sharing is also accepted as shown by un-standardized regression coefficient (β=.30, t= 5.69, p= .00).

TABLE 4.2: The Mediating Effect of Knowledge Sharing

			β	se	t	p
Employee **Creativity**	$\rightarrow$	**Project** **Performance**	0.36	.05	6.88	.00
Employee **Creativity**	$\rightarrow$	**Knowledge** **Sharing**	0.30	.05	5.69	.00
Knowledge **Sharing**	$\rightarrow$	**Project** **Performance**	0.34	.06	5.89	.00

	LL 95% CI	**UL 95% CI**
Bootstrap results for indirect effect	0.22	0.45

*Note. Un-standardized regression coefficient stated. Bootstrap sample size 5000. LL =lower limit; CI = confidence interval; UL = upper limit. N=273, * P <.05; ** P <.01*

TABLE 4.3: Mediation of Knowledge Sharing between Employee Creativity and Project Performance

Direct Effect of IV on DV in presence of M		**Total Impact of IV on DV**		**Bootstrap results for Indirect Effects**	
B	**T**	**B**	**T**	**LL 95 CL**	**UL 95 CL**
0.33	5.89	0.35	6.78	0.22	0.45

*Note. Un-standardized regression coefficient stated. Bootstrap sample size 5000. LL =lower limit; CI = confidence interval; UL = upper limit. N=273, * P <.05; ** P <.01*

The hypothesis H_3 which is also accepted this hypothesis showed that knowledge sharing has a positive effect on project performance constructed from the un-standardized regression coefficients (β=.34, t= 5.89, p= .00).

The direct effect of employee creativity on project performance through knowledge sharing shows the value of upper limit 0.45 and the value of lower limit 0.22.

Which is clearly demonstrates that it does not have zero in the bootstrapped 95% confidence interval. Therefore, results prove that there is a mediation of knowledge distribution between employee creative behavior and performance of the project. So, H_4: Knowledge Sharing intermediates between Employee Creativity and project performance is accepted.

TABLE 4.4: The Moderating effect of Openness to Experience

			β	se	t	p
Int_term	$\rightarrow$	**Knowledge Sharing**	-.21	.06	-3.38	.08
			LL 95% CI		**UL 95% CI**	
Bootstrap results for indirect effect			-.33		.08	

*Note. Un-standardized regression coefficient stated. Bootstrap sample size 5000. LL =lower limit; CI = confidence interval; UL = upper limit. N=273, * P <.05; ** P <.01*

In Table 4.4, outcomes demonstrates that openness to experience does not have any moderation effect on employee creativity and knowledge sharing according to unstandardized regression analysis (β=-.21, t= -3.38, p= .08) and also there is an existence of zero in bootstrapped 95% of the confident interval upper and lower limits (-0.33, 0.08).

Hence "H_5: openness to experience regulates the relationship of employee creativity and knowledge sharing" is rejected because it shows that the relationship of employee creativity and knowledge sharing are stronger in presence of openness to experience.

4.3 Summary of Accepted/ Rejected Hypothesis

Table 4.5 illustrates the precise summary of results for the proposed hypotheses under this study. In these results the first four hypotheses are accepted while the fifth one that is openness to experience moderates the relationship between employee creativity and knowledge sharing, has been rejected.

Table 4.5: Hypotheses Summarized Results.

Hypothesis	Statements	Results
H_1	Employee creativity positively effects the project performance	**Accepted**
H_2	There is a positive relationship between employee creativity and knowledge sharing.	**Accepted**
H_3	There is a positive relationship between knowledge sharing and project performance.	**Accepted**
H_4	Knowledge sharing mediated the relationship between employee creativity and project performance	**Accepted**
H_5	Openness to experience moderates the relationship between employee creativity and knowledge sharing	**Rejected**

Chapter 5

Discussion and Conclusion

This study mainly focuses on developing an integrated model of our perception that employee creativity effects the project performance. To attain our main objectives, data was collected after devising the research questionnaire in order to verify our proposed hypotheses. After analyzing our data, most of the results were in favor of our hypotheses but there were some results that were completely opposite to our assumptions. These results are discussed below in detail.

5.1 Discussion

Job-related results have been an important discussion over the last two decades as they have a huge impact on the efficiency of the organization due to their positive and negative outcomes. In the current era, organizations are facing a great challenge of implementing employee creativity in their work-place (Mittal & Dhar, 2015). Employee creativity is considered as an important factor in today's organization and they are facing a great challenge in the assessment of essential traits which include motivation of employees and enhances their innovative skills so they can work wholeheartedly in creating quality content. Moreover, in order to obtain a competitive benefit above other firms the organizations should construct a creative atmosphere (George & Zhou, 2002; Oldham & Cummings, 1996).

This study majorly focuses on the study of relationship between employee creativity and project performance in project in project based organizations of Pakistan. Moreover, the mediating role of knowledge sharing and moderating role of openness to experience on employee creativity and project performance was also studied. The researcher who have worked on employee creativity have repeatedly emphasized on the fact that employee creativity increases the organizational performance (Gong, Zhou, & Chang, 2013). Our study suggested that employee creativity effects the project performance positively. So if the creativity of an employee is management well and systematically it can improve the performance of the overall project of an organization.

In this regard knowledge sharing plays a very vital role and intervenes the relationship between employee creativity and project performance positively. Therefore, our hypotheses H_1, H_2 and H_3 are accepted as they propose that if employee creativity is managed well by sharing the creative knowledge of an employee with the project team effectively it can bring a positive change in the performance of the project.

Likewise, knowledge sharing plays the role of mediator between employee creativity and project performance, therefore hypothesis H_4 has also been accepted. Furthermore, after regression analysis the it was observed that our moderator openness to experience doesn't proves its moderating role with employee creativity and knowledge sharing thus it was rejected. Thus it shows that it is not important for an employee to be high in openness to experience to be creative and it does not disturb the information sharing behavior of an employee. Therefore, the hypothesis H_5 has been rejected.

5.1.1 Hypothesis H_1: Employee Creativity Positively Effects the Project Performance

In hypothesis H_1 we predicted that employee creativity and project performance has a positive relationship such that the increase in employee creativity can bring a positive change in the performance of the project. The result of this hypothesis

(β=.36, t= 6.88, p= .00) also verified the existence of significant relationship among the two variables. Our data analysis showed the outcome of β co-efficient to be 0.36 which means that of a change of one unit in employee creativity can bring an increment of 36% in the performance of the project.

It has been proved by the past researchers that employee creativity keeps a great importance in the performance of an organization. It is considered as a key factor that plays an important role to innovate an organization (Yang & Wang, 2010). For a better performance of the project managers should have confidence in the capability of their workforce and they should concentrate on coordinating the employees on the project objectives and provide all the necessary support. It will not only boost up the employees morale but will increase the performance of the project as well (Simon, 2006). The enactment of project firms is enhanced and bound to advance developments, thus propelling learning sharing inside and outside the limits of the organizations (Hoegl et al., 2003).

Through our results and different past studies of well-known researches we have concluded that employee creativity keeps a great importance in today's organizations and in projects innovation is required at great level. All the project based organizations should create an environment which can enhance the creative behavior of the employees. It has been studied that an employee of this era, gets bored in typical working environment with the same working routine every day. They find innovation in their work environment and learning new things keep them involved in their work. Hence, resulting in the better outcome of the work.

5.1.2 Hypothesis H_2: There is a Positive Association Between Employee Creativity and Knowledge Sharing

It was presumed in H_2 that there is a positive association between employee creativity and knowledge sharing. Thus suggesting that an environment should be created where employee can easily share their leanings and expertise with each other. A complete plan is mandatory while networking with different employees

in an organization. Detailed communication should be held among the staff of a workplace on the knowledge and information that has to be shared. In addition, conferences. Seminars or training sessions must be organized on the significance of knowledge distribution where such comportment is exhilarated and employee supervisors should take lead to boost this process of knowledge sharing (Mittal & Dhar, 2015).

The results of H_2 (β=.30, t= 5.69, p= .00) also proves the existence of the assumed relationship. The β co-efficient was found to be 0.30 which demonstrates that with a unit change in employee creativity there is a chance of knowledge sharing process to be increased by 30%.

According to (Kremer et al., 2018) by following few guidelines of knowledge sharing, organizations can foster the process of employee creativity very well. These are (1) By empowering the employee's trust. (2) by admiring the managers and leaders who are willing to provide helping hand to the employees. (3) Enhance fortification of information sharing among all colleagues. (4) Create an atmosphere of sharing information and knowledge among the project teams. (5) Develop standards that support good manners and mindful sharing of thoughts and ideas. (6) Stimulate group sociability to share encounters and learning among correspondence collaborators.

Organizations should provide an environment to the employees where they can work freely and comfortably without and limit of time and space. By making the process of knowledge sharing easy and feasible, the employees can showcase their creative skills more easily and can help the other team members to learn from them. A quickly developing line of research utilizing and social network approach features the social advancement and imagination. (Grosser et al., 2018).

5.1.3 Hypothesis H_3: There is a Positive Association Between Knowledge Sharing and Project Performance

According to our assumptions through previous studies, H_3 also indicated that KS positively influences the performance of the project. The results of H_3 (β=.34,

t= 5.89, *p*= .00) also proves the existence of the expected relationship. The β co-efficient was found to be 0.34 which demonstrates that with a unit change in knowledge sharing there is a significant chances of project performance to be increased by 34%.

Lin (2007) explains that KS brings new chances to enhance an organization's ability to progress. It provides a lot of competitive advantage to project based organizations in increasing the performance of employees working in a project. According to (Wang & Wang, 2012) KS behaviors have been a great discussion over the past few years as they can contribute a lot in the organizational capabilities such as creativity and innovation which plays a vital role in organizations performance. How and what kind of knowledge should be shared? This questions keeps a great importance in success of the project. For the higher performance of the project, knowledge related to the project and project team should be shared through proper channels. The project manager or team lead should validate the knowledge before its been transferred to the the other team members so that no false information is transferred to the project team. As there is a limited time, budget and resources available for a project therefore the project team cannot afford false information to be implemented during the project time frame. so that no false information is transferred to the project team.

For this (Kremer et al., 2018) has suggested few guiding principles for better knowledge sharing as well. These principles are (1) By motivating the project team to share learning experiences and problems faced during the project with the other project teams. (2) By raising the spirits of the team members to show trust in their collaborations (3) By cooperating crosswise over authoritative limits, physical boundaries, and progressive dimensions. (4) By motivating employees to be aware of other's skills and expertise. (5) By supporting employees' social networks through different computer applications like LinkedIn and other social media networks. Thus it is very important in a project based organization that knowledge is shared efficiently among the team members.

5.1.4 Hypothesis H_4: Knowledge Sharing Mediated the Relationship Between Employee Creativity and Project Performance

It was presumed in H_4 that a positive mediation is present among employee creativity and project performance. After finding the indirect outcome of employee resourcefulness on the output of the project through facilitation effect of knowledge sharing, tells the values of upper limit i.e. 0.45 and the lower limit i.e. 0.22. These results undoubtedly tell that in bootstrapped 95% confidence level there is no zero. These outcomes show that mediation of knowledge sharing exists between independent variable employee creativity and dependent variable project performance.

Thus our results also proved that in project based organization employee creativity works as a key factor for project performance if it is shared efficiently among the team. Knowledge plays an important role in not only project based organization but in others as well. But without sharing it with other teams it will not bring any positive effect. The theory of social exchange was used in this research which can also be applied in project teams. Information sharing and creating awareness about the project and work should also be done between the staff in a team.

It should be a two-way process such that if there are two teams the and one is sharing its knowledge with the other so the other team should also in return exchange their knowledge with them. KS is a give and take process. If one is taking favor from other he/she should also return that favor in the same way (Wang & Noe, 2010; Wang, 2010).

Employee's fitness in work, outstanding information of domain and persistently learning inclination in field of his/her work is the premise of all types of creative implementations in his/her work. For an individual being innovative and exhibit his/her imaginative abilities, it is critical for him/her to have an adequate learning of the area he/she working in (Cheung et al., 2008).

Organization's success should be the main aim of the employee working there. If an employee keeps his creative knowledge to himself only and does not share it

with other, it will not only effect the organization but the employee himself too. Therefore, procedures and methods should be made for sharing the creative skills of all the employees among the team working on the project. This will definitely result in a positive effect on project performance.

5.1.5 Hypothesis H_5: Openness to Experience Moderates the Relationship Between Employee Creativity and Knowledge Sharing

This research also inspected the regulating effect of openness to experience among employee creativity and knowledge sharing and assumed that it moderates the relationship of these two variables but after data analysis we got the negative results.

The results of regression analysis show that openness to experience is an insignificant variable as a moderator and does not moderates the relationship of employee creativity with knowledge sharing (β=-.21, t= -3.38, p= .08). The value of β co-efficient was -0.2142 and also the existence of zero in bootstrapped 95% of the confident interval, the upper and lower limits (-.33, .08), the negative sign proves that as the openness to experience grows in an organization the relations between employee creativity and knowledge sharing gets weakened.

Thus the moderator openness to experience is not acceptable and this leads to the rejection of hypothesis 5 i.e. H_5 that is openness to experience moderates the outcome of employee creativity and knowledge sharing. Previous studies have showed that how employees with a personality of openness to experience enhances the employee creativity and his behavior of knowledge sharing but after collecting data from different people of project based organizations and analyzing that data it was found out that openness to experience does not affect the employee creative behavior. The people with other personality types can also be creative and can be better in sharing knowledge among people.

It depends on the organizations that what type of environment they are providing to their employees to showcase their creativity skills. The employee creativity

can be enhanced if they are provided with their desired environment. Openness does not affect the information sharing behavior of an employee as it can be enhanced when organizations create environment for the employees where they can communicate openly with each other and share their experiences of working in a project and discuss about the issues they have faced and how did they manage to overcome those issues. Through these results it has been justified that openness to experience is not important for the enhancing the creativity of an employee thus resulting in better knowledge sharing. The results show that relationship of employee creativity and knowledge sharing is stronger when openness to experience is not present.

5.2 Practical and Theoretical Implication

This research has made a reasonable contribution in the field of project management. The domain of employee creativity has been discussed widely by many expert researchers. But this study is a very important contribution to the literature as no such study based on the effect of employee creativity on project enactment with the intermediation of knowledge sharing is conducted before, especially in Pakistan.

The study has highlighted some important traits of knowledge sharing from the previous studies and also emphasized on its role as a mediator between employee creativity and project management. Knowledge sharing plays a significant role in linking with employee creativity in a project. The environment of knowledge sharing should be developed in an organization for the better learning of the employees, thus enhancing the performance of the project.

Organizations should arrange training sessions for their employees where they can express, discuss and share their ideas, knowledge and thinking efficiently. They should arrange official gatherings, workshops and brainstorming sessions where the employees can develop friendly relations with each other, thus making the process of knowledge sharing more comfortable and effective because employee creativity is useless if it is not shared. this study is a huge contribution in the field of

project management. As it has highlighted the fact that how employee creativity is important for the projects and how can it be implemented in different project based organizations.

5.3 Limitations of Research

Like all the other researches, this study also has some limitations. These limitations were mainly due to shortage of time and resources. The selection of sample size was small due to limited time constraint. Furthermore, this study is implemented only on the project based organizations of Pakistan so there are possibilities that results would be different for organizations working in different domains. One major limitation of this study was that it was a dyadic research the questionnaire was needed to be filled by the employee and his supervisor, during the data collection process quite difficulty was faced in contacting with the employees' supervisors or team leads.

This took a lot of time in data collection process. Another limitation of this research work was that data was collected through convenient sampling technique. As the time and money were in limited amount therefore data was collected through convenient sources. The outcomes would have been different if data was composed through exact sampling population. One more limitation of this study is that it has been conducted only in four major cities of the country due to limited time and resources.

5.4 Future Research Directions

Employee creativity is a very vast domain and there is a lot of work that is still unexplored in this domain. For future the researchers should focus more on the study of employee creativity and project performance. It can be carried out in different organizations other than project based organizations only with this they can cover a large sample size of population. To increase the size of population for

future, the researcher can also cover more cities of Pakistan as in this study only four cities could be covered.

Moreover, in this study openness to experience was used as moderator, the researchers can also use other variables like social network and political skills as moderator. Social network and political skills can also moderate the relationship of employee creativity and knowledge sharing.

Furthermore, knowledge sharing is used as a mediator it can be enhanced by discussing explicit knowledge and implicit knowledge as the mediators. Knowledge management also keeps a great importance in the impact of employee creativity on project performance. In this study we could not discuss knowledge management in detail but for future it can be used as moderation between EC and PP. Researchers can also explore more variables that can be used as mediators and moderators in this study.

5.5 Conclusion

This study has proved this fact that employee creativity positively effects the project performance. It has also proved the intermediation of knowledge sharing but the regulating role of openness could not be proved. This research and the suggested hypotheses are being supported by componential theory of creativity and social exchange theory. Furthermore, this study has opened new doors for researchers to study on employee creativity and is going to contribute a lot in the existing literature as there have been no or very limited work on effect of employee creativity in project performance with knowledge sharing as mediator and openness to experience as moderator.

Five hypotheses were suggested in this work, out of which four were accepted with the help of previous studies and data analysis, where as one was rejected as openness does not moderates the association among employee creativity and knowledge sharing.

The study shows that it does not matter for an employee to be social and outgoing to learn new things. He/she can adopt new ideas through observations and through his/her environment. Other than being open there are more personality traits that influence employee creativity and thus enhancing the process of information sharing.

After all this research and findings, a question arises that what should a project manager or team lead do to foster employee creativity in projects? For this we suggest that for the practice of employees, organizations should plan should make small teams and give few responsibilities to every team. The project manager should give them full authority to communicate and develop the guidelines and instructions that they want for their team. It has been observed that every person has some creative abilities but the only problem is that they are not given proper platform to display them. To foster innovation, the employee should put up his/her suggestions and the organization should value their input. If their ideas or input is advantageous for the organization, the management should make sure that they are rewarded for that and the idea is implemented in the organization. The power of authority should not stop the employees from sharing their ideas and speak up for themselves in fact the innovative idea can come up by anyone in the organization.

References

Ajmal, M. M., & Koskinen, K. U. (2008). Knowledge transfer in project-based organizations: an organizational culture perspective. *Project Management Journal*, *39*(1), 7–15.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of personality and social psychology*, *45*(2), 357.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in organizational behavior*, *10*(1), 123–167.

Amabile, T. M., & Conti, R. (1999). Changes in the work environment for creativity during downsizing. *Academy of Management Journal*, *42*(6), 630–640.

Baer, M. (2010). The strength-of-weak-ties perspective on creativity: A comprehensive examination and extension. *Journal of applied psychology*, *95*(3), 592.

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology*, *44*(1), 1–26.

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and assessment*, *9*(1-2), 9–30.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies*, *9*(1), 64–76.

Cabrera, E. F., & Cabrera, A. (2005). Fostering knowledge sharing through people management practices. *The international journal of human resource management*, *16*(5), 720–735.

Carine, U., Shukla, J., & Oduor, J. (2015). Relationship between the determinants of employee creativity and project performance in rwanda: Case of imbaraga farmer maize sheller project. *European Journal of Business and Social Sciences*, *4*(08), 01–13.

Carmeli, A., Gelbard, R., & Reiter-Palmon, R. (2013). Leadership, creative problem-solving capacity, and creative performance: The importance of knowledge sharing. *Human Resource Management*, *52*(1), 95–121.

Cheung, P.-K., Chau, P. Y., & Au, A. K. (2008). Does knowledge reuse make a creative person more creative? *Decision Support Systems*, *45*(2), 219–227.

Chi, N.-W., & Pan, S.-Y. (2012). A multilevel investigation of missing links between transformational leadership and task performance: The mediating roles of perceived person-job fit and person-organization fit. *Journal of Business and Psychology*, *27*(1), 43–56.

Emerson, R. M. (1976). Social exchange theory. *Annual review of sociology*, *2*(1), 335–362.

Flynn, F. J. (2005). Having an open mind: the impact of openness to experience on interracial attitudes and impression formation. *Journal of personality and social psychology*, *88*(5), 816.

George, J. M., & Zhou, J. (2002). Understanding when bad moods foster creativity and good ones don't: the role of context and clarity of feelings. *Journal of Applied Psychology*, *87*(4), 687.

Gong, Y., Huang, J.-C., & Farh, J.-L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of management Journal*, *52*(4), 765–778.

Gong, Y., Zhou, J., & Chang, S. (2013). Core knowledge employee creativity and firm performance: The moderating role of riskiness orientation, firm size, and realized absorptive capacity. *Personnel Psychology*, *66*(2), 443–482.

Grosser, T. J., Obstfeld, D., Choi, E. W., Woehler, M., Lopez-Kidwell, V., Labianca, G., & Borgatti, S. P. (2018). A sociopolitical perspective on employee innovativeness and job performance: The role of political skill and network

structure. *Organization Science*, *66*(2), 443–482.

Han, T.-S., Chiang, H.-H., & Chang, A. (2010). Employee participation in decision making, psychological ownership and knowledge sharing: mediating role of organizational commitment in taiwanese high-tech organizations. *The International Journal of Human Resource Management*, *21*(12), 2218–2233.

He, W., Cho, V., Qi, C., Xu, X., & Lu, F. (2013). Linking knowledge sharing and employee creativity: Decomposing knowledge mode and improving the measure of tacit knowledge sharing. In *Pacis* (Vol. 21, pp. 2218–2233).

Hoegl, M., Parboteeah, K. P., & Munson, C. L. (2003). Team-level antecedents of individuals' knowledge networks. *Decision Sciences*, *34*(4), 741–770.

Homans, G. C. (1958). Social behavior as exchange. *American journal of sociology*, *63*(6), 597–606.

Hon, A. H. (2012). Shaping environments conductive to creativity: The role of intrinsic motivation. *Cornell Hospitality Quarterly*, *53*(1), 53–64.

Howell, & Annansingh. (2013). Knowledge generation and sharing in uk universities: A tale of two cultures. *International Journal of Information Management*, *29*(3), 9–32.

Jain, R., & Jain, C. (2016). Employee creativity: A conceptual framework. *Management and Labour Studies*, *41*(4), 294–313.

Keller, R. T. (2001). Cross-functional project groups in research and new product development: Diversity, communications, job stress, and outcomes. *Academy of management journal*, *44*(3), 547–555.

Kim, S., & Lee, H. (2006). The impact of organizational context and information technology on employee knowledge-sharing capabilities. *Public administration review*, *66*(3), 370–385.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization science*, *3*(3), 383–397.

Kremer, Villamor, & Aguinis, H. (2018). Innovation leadership: Best-practice recommendations for promoting employee creativity, voice, and knowledge sharing. *Business Horizons*, *18*(2), 65–74.

Le, P. B., & Lei, H. (2017). How transformational leadership supports knowledge

sharing: Evidence from chinese manufacturing and service firms. *Chinese Management Studies*, *11*(3), 479–497.

Lewis, K., Lange, D., & Gillis, L. (2005). Transactive memory systems, learning, and learning transfer. *Organization Science*, *16*(6), 581–598.

Liao, L.-F. (2006). A learning organization perspective on knowledge-sharing behavior and firm innovation. *Human Systems Management*, *25*(4), 227–236.

Lin, H.-F. (2007). Knowledge sharing and firm innovation capability: an empirical study. *International Journal of manpower*, *28*(3/4), 315–332.

Lindner, F., & Wald, A. (2011). Success factors of knowledge management in temporary organizations. *International Journal of project management*, *29*(7), 877–888.

Liu, Y., Keller, R. T., & Shih, H.-A. (2011). The impact of team-member exchange, differentiation, team commitment, and knowledge sharing on r&d project team performance. *R&D Management*, *41*(3), 274–287.

Lu, L., Leung, K., & Koch, P. T. (2006). Managerial knowledge sharing: The role of individual, interpersonal, and organizational factors. *Management and Organization Review*, *2*(1), 15–41.

McCrae, R. R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of personality and social psychology*, *52*(6), 1258.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of personality*, *60*(2), 175–215.

Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity: mediating role of creative self-efficacy and moderating role of knowledge sharing. *Management Decision*, *53*(5), 894–910.

Morrison, E. W. (2011). Employee voice behavior: Integration and directions for future research. *Academy of Management annals*, *5*(1), 373–412.

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of management journal*, *39*(3), 607–634.

Pemsel, & Muller. (2012). The governance of knowledge in project-based organizations. *International Journal of Project Management*, *29*(3), 865–876.

Perry-Smith, J. E., & Shalley, C. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Journal*, *29*(3), 33–41.

Plessis, M. (2007). The role of knowledge management in innovation. *Journal of knowledge management*, *11*(4), 20–29.

Preacher, K. J., & Hayes, A. F. (2004). Spss and sas procedures for estimating indirect effects in simple mediation models. *Behavior research methods, instruments, & computers*, *36*(4), 717–731.

Radelli, G., Lettieri, E., & Mura, M. (2014). Knowledge sharing and innovative work behaviour in healthcare: A microlevel investigation of direct and indirect effects. *CREATIVITY AND INNOVATION MANAGEMENT*, *14*(2), 400-414.

Rahman, S., Batool, S., Akhtar, N., & Ali, H. (2015). Fostering individual creativity through proactive personality: A multilevel perspective. *Journal of Managerial Sciences*, *9*(2).

Ren, X., Deng, X., & Liang, L. (2018). Knowledge transfer between projects within project-based organizations: the project nature perspective. *Journal of Knowledge Management*.

Rice, G. (2006). Individual values, organizational context, and self-perceptions of employee creativity: Evidence from egyptian organizations. *Journal of Business Research*, *59*(2), 233–241.

Richard, Sawyer, J., & Griffin, R. (1993). Toward a theory of organizational creativity. *Academy of management review*, *18*(2), 293–321.

Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of knowledge management*, *9*(3), 18–35.

Robey, D., Smith, L. A., & Vijayasarathy, L. R. (1993). Perceptions of conflict and success in information systems development projects. *Journal of Management Information Systems*, *10*(1), 123–140.

Runco, M. A. (2004). Everyone has creative potential. *Creativity Research Journal*, *16*(4), 361–388.

Santoro, G., Vrontis, D., Thrassou, A., & Dezi, L. (2018). The internet of things: building a knowledge management system for open innovation and knowledge management capacity. *Technological Forecasting and Social Change*, *136*, 347–354.

Scott, G., Leritz, L. E., & Mumford, M. D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal*, *16*(4), 361–388.

Shalley, C. E., & Zhou, J. (2008). Organizational creativity research: A historical overview. *Handbook of organizational creativity*, *52*(3), 591–620.

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of management*, *30*(6), 933–958.

Simon, L. (2006). Managing creative projects: An empirical synthesis of activities. *International Journal of Project Management*, *24*(2), 116–126.

Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel psychology*, *52*(3), 591–620.

Von Krogh, G. (1998). Care in knowledge creation. *California management review*, *40*(3), 133–153.

Wang. (2010). Influence of knowledge sharing and project complexity on group creativity: taking the development of information system for example. *Journal of e-Business*, *12*(1), 73–102.

Wang, & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human resource management review*, *20*(2), 115–131.

Wang, & Wang, N. (2012). Knowledge sharing, innovation and firm performance. *Expert systems with applications*, *39*(10), 8899–8908.

Wiewiora, A., Trigunarsyah, B., Murphy, G. D., & Liang, C. (2009). Barriers to effective knowledge transfer in project-based organisations. In *Proceedings of the 2009 international conference on global innovation in construction*

proceedings (pp. 220–230).

Wilkinson, A. (1998). Empowerment: theory and practice. *Personnel review*, *27*(1), 40–56.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of management review*, *18*(2), 293–321.

Xu, S., Jiang, X., & Walsh, I. J. (2014). The influence of openness to experience on employee creativity. In *Academy of management proceedings* (Vol. 2014, p. 11655).

Xu, S., Jiang, X., & Walsh, I. J. (2018). The influence of openness to experience on perceived employee creativity: The moderating roles of individual trust. *The Journal of Creative Behavior*, *52*(2), 142–155.

Yang, Nguyen, V. T., & Le, P. B. (2018). Knowledge sharing serves as a mediator between collaborative culture and innovation capability: an empirical research. *Journal of Business & Industrial Marketing*, *33*(7), 958–969.

Yang, & Wang, C.-C. (2010). Creativity among r&d professional: Supervisory support and personality traits. *Asian Journal of Technology Innovation*, *18*(1), 229–248.

Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, *53*(2), 323–342.

Zhang, & Bartol, K. M. (2010). The influence of creative process engagement on employee creative performance and overall job performance: A curvilinear assessment. *Journal of Applied psychology*, *95*(5), 862.

Zhang, Sun, J., Lin, V., & Ren, H. (2018). Linking core self-evaluation to creativity: the roles of knowledge sharing and work meaningfulness. *Journal of Business and Psychology*, *14*(2), 1–14.

Zhou, J. (1998). Feedback valence, feedback style, task autonomy, and achievement orientation: Interactive effects on creative performance. *Journal of applied psychology*, *83*(2), 261.

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management journal*, *44*(4),

682–696.

Zhou, J., & Shalley, C. E. (2008). Expanding the scope and impact of organizational creativity research. *Handbook of organizational creativity*, *28*, 125–147.

Appendix-A

Survey Questionnaire

Dear respondent,

As an MS research student at capital University of Science and Technology, Islamabad, I am collecting data for my thesis. **Title: Effect of Employee Creativity and Project performance: The Mediating role of knowledge Sharing and Moderating role of openness to experience.** It will take your 5 -10 minutes to answer the questions and to provide the valuable information. I assure you that data will be strictly kept confidential and will only be used for academic purposes.

Thanks a lot for your help and support!

Sincerely,

Cynthia Sigamony,

Name: ——————————————

Gender: ——————————————

Age: ——————————————

Qualification: ——————————————

Experience: ——————————————

Employee Creativity:

This section will be filled by the respondent's supervisor, keeping in view the respondent's performance in the workplace.

It will be measured from 5-point scale ranging 1 - 5

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4= Agree 5= Strongly Agree

1	Demonstrated originality in his/her work.	1	2	3	4	5
2	Took risks in terms of producing new ideas in doing job.	1	2	3	4	5
3	Solved problems that had caused other difficulty.	1	2	3	4	5
4	Found new uses for existing methods or equipment.	1	2	3	4	5
5	Tried out new ideas and approached to problems.	1	2	3	4	5
6	Generated novel, but operable work-related ideas.	1	2	3	4	5
7	Generated ideas revolutionary to our field.	1	2	3	4	5
8	Served as a good role model for creativity.	1	2	3	4	5

Knowledge Sharing:

This section will be filled by the respondent.

It will be measured from 5-point scale ranging from 1 - 5

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4= Agree 5= Strongly Agree

1	I share with others useful work experience and know-how.	1	2	3	4	5
2	I keep my work experience and never share it out with others easily. (R)	1	2	3	4	5
3	After learning new knowledge useful to work, I promote it to let more people learn it.	1	2	3	4	5
4	I never tell others my work expertise unless it is required in the company. (R)	1	2	3	4	5
5	In workplace I take out my knowledge to share with more people	1	2	3	4	5

6	At the end of each day, our employees feel that they have learned from each other by exchanging and combining ideas.	1	2	3	4	5
7	Employees in this company do not do a good job of sharing their individual ideas to come up with new ideas, products, or services	1	2	3	4	5
8	Employees here are capable of sharing their expertise to bring new projects or initiatives to fruition.	1	2	3	4	5
9	It is rare for employees to exchange and combine ideas to find solutions to problems.	1	2	3	4	5

Openness to Experience:

This section will be filled by the respondent.

It will be measured from 5-point scale ranging from 1 - 5

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4= Agree 5= Strongly Agree

I see myself as someone who...

1	Is reserved	1	2	3	4	5
2	Is generally trusting	1	2	3	4	5
3	Tends to be lazy	1	2	3	4	5
4	Is relaxed, handles stress well	1	2	3	4	5
5	Has few artistic interests (reverse scored)	1	2	3	4	5
6	Is outgoing and social able	1	2	3	4	5
7	Tends to find faults with others	1	2	3	4	5
8	Does a thorough job	1	2	3	4	5
9	Gets nervous easily	1	2	3	4	5
10	Has an active imagination	1	2	3	4	5

Project Performance:

This section will be filled by the respondent.

It will be measured from 5-point scale ranging from 1 - 5

1 = Very Low 2 = Low 3 = Normal 4 = High 5 = Very High

1	The amount of work the team produced.	1	2	3	4	5
2	The efficiency of team operations.	1	2	3	4	5
3	The team's adherence to budgets.	1	2	3	4	5
4	The team's adherence to the schedule.	1	2	3	4	5
5	The quality of work the team produced.	1	2	3	4	5
6	The effectiveness of the team's interactions with people outside the team.	1	2	3	4	5