

**CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD**



**Impact of Absorptive Capacity of Project
Manager on Project Innovation Performance
with Mediating Role of Employee Learning and
Moderation of Social Interaction**

by

Syeda Pyam Zenib Naqvi

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 Syeda Pyam Zenib Naqvi

All rights reserved. No part of this thesis may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, by any information storage and retrieval system without the prior written permission of the author.

*Dedicated to my parents and siblings for their never ending support and
unconditional love*



CERTIFICATE OF APPROVAL

**Impact of Absorptive Capacity of Project Manager on
Project Innovation Performance with Mediating Role of
Employee Learning and Moderation of Social Interaction**

by

Syeda Pyam Zenib Naqvi

(MPM-171012)

THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr. S. K. Shehzad	Riphah, Islamabad
(b)	Internal Examiner	Dr. Sajid Bashir	CUST, Islamabad
(c)	Supervisor	Dr. Sana Aroos Khattak	CUST, Islamabad

Dr. Sana Aroos Khattak

Thesis Supervisor

August, 2019

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

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

Author's Declaration

I, **Syeda Pyam Zenib Naqvi** hereby state that my MS thesis titled “**Impact of Absorptive Capacity of Project Manager on Project Innovation Performance with Mediating Role of Employee Learning and Moderation of Social Interaction**” 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.

Syeda Pyam Zenib Naqvi

(MPM-171012)

Plagiarism Undertaking

I solemnly declare that research work presented in this thesis titled “**Impact of Absorptive Capacity of Project Manager on Project Innovation Performance with Mediating Role of Employee Learning and Moderation of Social Interaction**” 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.

Syeda Pyam Zenib Naqvi

(MPM-171012)

Acknowledgements

First of all thanks to the most powerful and most benecent Allah Almighty who inculcated skills, knowledge and endless eort in me to reach here and accomplish my research work. He is the one who indulged and raised my interest in research work. Likewise my parents, siblings and friends proved to be very supportive during every task that I had to do for completing my research work. I am very thankful to my most favorite teacher and supervisor of my thesis **Dr. Sana Aroos Khattak** who guided me very well to complete my research thesis and helped me out whenever I was stuck in some difficulty. I would also like to thank some lovely people in my life including my sisters **Benish Zahra & Zurriyat Zahra**, my brothers **Ali Naqvi & Wassi Naqvi** and my best friends **Aaliya Shehazadi & Atiqa Jabeen** for being with me to support me and boost my morale to complete my work well.

Thank you all.

Syeda Pyam Zenib Naqvi

(MPM-171012)

Abstract

This study focuses on the relationship between absorptive capacity of project manager and project innovation performance with mediating role of employee learning and moderating role of social interaction. This specific context of the study in project based organization in Pakistan specifically Islamabad, Azad Kashmir. Data were collected using questionnaire from 260 employees working in different project based organizations. Results absorptive capacity of project manager positively associated with project innovation performance. Moreover mediating role of employee learning is also established. In addition to above, results also confirm the moderating role of Social Interaction between absorptive capacity of project manager and employee learning. Practical implications are also discussed.

Keywords: Absorptive Capacity, Project Innovation, Employee learning, Social Interaction.

Contents

Author’s Declaration	iv
Plagiarism Undertaking	v
Acknowledgements	vi
Abstract	vii
List of Figures	xi
List of Tables	xii
Abbreviations	xiii
1 Introduction	1
1.1 Background	1
1.2 Gap Analysis	6
1.3 Problem Statement	7
1.4 Research Questions	7
1.5 Research Objectives	8
1.6 Significance of The Study	8
1.7 Supporting Theory	9
1.7.1 Absorptive Capacity Theory	9
1.8 Definitions of Study Variables	10
1.8.1 Absorptive Capacity	10
1.8.2 Project Innovation Performance	11
1.8.3 Employee Learning	11
1.8.4 Social Interaction	11
2 Literature Review	12
2.1 Impact of Absorptive Capacity on Project Innovation Performance .	12
2.2 Impact of Employee Learning on Project Innovation Performance .	15
2.3 Impact of Absorptive Capacity of Project Manager on Employee Learning	17

2.4	Mediating Role of Employee Learning Between Absorptive Capacity of Project Manager and Project Innovation Performance	22
2.5	Social Interaction as a Moderator Between the Relationship of Absorptive Capacity and Employee Learning	27
2.6	Research Model	28
3	Research Methodology	29
3.1	Introduction	29
3.2	Population and Sampling	29
3.2.1	Population	29
3.2.2	Sample and Procedures	31
3.3	Data Collection	31
3.4	Sample Characteristics	32
3.4.1	Gender	32
3.4.2	Age	33
3.4.3	Education	33
3.4.4	Experience	34
3.5	Instrumentation	34
3.5.1	Absorptive Capacity of Project Manager	35
3.5.2	Employee Learning	35
3.5.3	Project Innovation Performance	35
3.5.4	Social Interaction	35
3.6	Pilot Study	36
3.7	Reliability Analysis	36
3.8	Data Analysis Techniques	37
4	Results and Discussion	39
4.1	Descriptive Analysis	39
4.2	Correlations Analysis	40
4.3	Regression Analysis	41
4.4	Mediation Analysis	44
4.5	Hypotheses Testing/Results	46
5	Conclusion and Recommendations	47
5.1	Discussion	47
5.1.1	H ₁ : Absorptive Capacity and Project Innovation Performance	48
5.1.2	H ₂ : Employee Learning is Positively Associated with Project Innovation Performance.	49
5.1.3	H ₃ : Absorptive Capacity is Positively Associated with Employee Learning	50
5.1.4	H ₄ : Employee Learning Mediates the Relationship between Absorptive Capacity of Project Manager and Project Innovation Performance	50

5.1.5	H ₅ : Social Interaction Moderates the Relationship between Absorptive Capacity of Project Manager and Employee Learning	51
5.2	Theoretical Implication	52
5.3	Practical Implication	53
5.4	Recommendations	54
5.5	Limitation	54
5.6	Future Research	55
5.7	Conclusion	55
	Bibliography	57
	Appendices	74

List of Figures

2.1	Research Model	28
4.1	Graph	45

List of Tables

3.1	Sample Size	30
3.2	Time Lag	31
3.3	Frequency by Gender	32
3.4	Frequency by Age	33
3.5	Frequency by Education	33
3.6	Frequency by Experience	34
3.7	Instruments	36
3.8	Reliability Analysis	37
4.1	Descriptive Statistics	39
4.2	Correlation	41
4.3	Regression Analysis Results for Project Innovation Performance (PIP)	42
4.4	Regression Analysis Results for Project Innovation Performance . .	43
4.5	Regression Analysis Results for Employee Learning	43
4.6	Mediation Analysis Results	44
4.7	Moderation Effect	45
4.8	Hypotheses Testing/Results	46

Abbreviations

AC	Absorptive Capacity
ACAP	Analytical Capacity
HR	Human Resource
HRM	Human Resource Management
R&D	Resource & Development
OSF	Open Software Forum
PIP	Project Information Performa
SD	Standard Definition
TI	Turn In

Chapter 1

Introduction

1.1 Background

The complex business environment has driven the organization into temporary formats through projects. Projects are organizational activities and arise in organizations for several reasons, such as market demands, strategic opportunities or needs, technological advances and legal requirements (Larson & Gray, 2017). All these have factors a direct effect on the achievement of results (Scott-Young & Samson, 2008). According to Gonzalez-Loureiro, Vila Alonso and Schiuma (2015), organization with a rich information base will always have a competitive edge. Specifically, the capacity to develop has turned out to be progressively focal as studies have uncovered that imaginative firms will in general show higher gainfulness, more prominent market esteem, and higher survival probabilities (Zobel, 2017; Laviolette, Redien-Collot and Teglborg, 2016). Firms progressively assemble advancement limit by taking advantage of outer information sources (Martn-de Castro, 2015; Kang and Lee, 2017). Absorptive limit, or the capacity to understand, secure, use, and at last exploit learning accessible outside the association, has for quite some time been perceived as a significant driver of firms' imaginative performance. At a similar time, it is broadly acknowledged that basic information isn't in every case effectively accessible through outer sources (Argote, 1999), which

cultivates a requirement for making information inside (Nonaka, 1994). Nonetheless, concerning the two methods of learning sourcing, the ability to ingest information has turned out to be urgent.

Companies need to adapt new learning to grow innovation (Argote & Fahrenkopf, 2016). Most project-based organizations acknowledge “knowledge” as one of the key factors that influences the managers ability for superior performance in the project (Pemsel & Muller, 2012; Abu Bakr, Yusof, Tufail, & Virgiyanti, 2016). Absorptive Capacity is portrayed as the ability to enable firms to effectively get and utilize external adapting similarly as inside one, which demonstrates to be one of their prosperity factors (Daghfous, 2004). Absorptive Capacity is characterized as capacity to distinguish, acclimatize, and misuse information from the earth (Cohen and Leventhall, 1990). It is important to understand and digest information from outside to succeed (Moreno & Melndez, 2011). Furthermore, Cohen and Leventhal (1990) characterized Absorptive Capacity as an organization’s capacity to perceive the benefit of securing, absorbing and applying new external information from the environment and apply it to the project activities. Besides, they proposed that Absorptive Capacity includes the project’s capacity to connect and incorporate this external information with its past information base (Wang & Han, 2011). This capacity, alluded to as absorptive limit (Cohen and Levinthal, 1990), has developed as a hidden subject in technique and association investigate. Past research has concentrated on the job of absorptive limit in business execution (Lane, Salk, and Lyles, 2001; Tsai, 2001), intra-hierarchical exchange of information (Gupta and Govindarajan, 2000; Szulanski, 1996), and interorganizational learning (Lane and Lubatkin, 1998) however the job of absorptive capacity in making development in task based association isn’t examined with full potencial (Xie, Zou and Qi, 2018).

Zahra and George (2002) suggested that absorptive capacity includes two general subsets. Potential absorptive capacity contains information procurement and digestion forms and thus gives organizations enough key adaptability and freedom to adjust and progress in a constantly and quickly evolving condition. Acknowledged absorptive capacity incorporates learning change and misuse and envelops the fulfillment of new bits of knowledge and results from the blend of existing

and recently gained information into firms' activities. However, study of Jansen, Van Den Bosch, and Volberda (2005) have four ACAPs (including Acquiring and assimilation, conversion and exploitation better than two factors. According to researchers, absorptive capacity represents an organizational capacity to make new learning. It encourages organizations to present outside information that will permit the improvement of new items/administrations and thoughts (Newey & Zahra, 2009), in this way separating the firm from their rivals (Jansen et al., 2005) and gives firms a potential preferred standpoint regarding learning securing. Studies evaluated the interactions among absorptive capacity advancement and uncovered that development results are, as it were the consequence of a project endeavors and interest in information De Zubieta, Jones, and Lester, (2016).

The idea of absorptive capacity of project supervisor has advanced and extended from a static view, which centers on earlier learning, to a progressively powerful, process-based point of view, which underlines aggregate capacity (Lane, Koka, & Pathak, 2006). Project based organization ordinarily need to create absorptive capacity (Schwab, 2009) to keep up their fruitful execution in the global market. They are compelled to team up with different firms, networks and, specifically, colleges to separate their item contributions from those of universal contenders with lower production. Firms enriched with more noteworthy absorptive capacity of undertaking administrator relied upon to beat rivals. At last, research perceive the significance of the quality of the outer interactions in the advancement of absorptive capacity. Improvement of closer interactions may add to an project's on the grounds, that such interactions may make and fortify data channels and 'thicken' the learning stream, hence expanding the productivity of the exchange of implied information (Dahlander, O'Mahony, & Gann, 2016). Due to the limited attention devoted to the role of individuals in the absorptive capacity process (Tortorello and Krackhardt, 2010), looking at individuals' absorptive capacity through the lenses of social interaction is fully consistent with Cohen and Levinthal's claim that "an organizations absorptive capacity is not res-ident in any single individual but depends on the links across a mosaic of individual capabilities" (Cohen and

Levinthal, 1990). In line with this insight and building upon research that has emphasized the importance of social interaction for the creation, dissemination, and use of knowledge (Tortoriello, 2015; Scuotto, Del Giudice & Carayannis, 2017), the moderating role of social interaction has been suggested.

Patterns are driven by the expanding globalization and changes in the social, financial and mechanical condition, which calls for new, dynamic and participative ways to deal with development (Siggelkow, 2001). At the Academy of Literature, the knowledge management question is more in the context of the project, the subject is studied using different structures and from different theoretical perspectives. Previous experimental studies have shown that knowledge management systems have a positive impact on the performance of project innovation. However, the mechanism that influences knowledge management does not fully understand the project innovation performance. Innovation is knowing as an essential competitive benefit for both technology and organization, high cost goods, services, systems, networks, capital assets and infrastructures are formed in low volumes and modified to fulfill customer's specific requirements, they require project policies, project capabilities, tools and techniques for project management and project based organization (Davies, Brady, Prencipe & Hobday, 2011). Following Beise and Rennings (2005), innovation performance is characterized as new or improved practices, forms, strategies, frameworks and items went for forestalling ecological harms. These activities may include vitality sparing and contamination counteractive action arrangements, just as green item plans or setups that encourage squander reusing or corporate ecological administration. Alborn-Morant, Henseler, Leal-Milln, and Cepeda-Carrin, (2017) characterize innovation performance as a sort of development whose primary target is to relieve or maintain a strategic distance from natural harm while ensuring the earth and empowering organizations to fulfill new customer requests, make esteem and increment yields. The writing concentrating on mechanical advancements regularly recognizes item development and procedure development.

Providing employee learning exercises is becoming critical for managers in the continuously evolving working environment (Indreicaa, Cazan, & Truta, 2011;

Alpkan, Bulut, Gunday, Ulusoy, & Kilic, 2010). Commitment in learning alludes to employees' optional practices in continuous learning exercises to ace new information, aptitudes, and capacities (Bezuijen, Van Den Berg, Van Dam, & Thierry, 2009). It is imperative for project employees to be good at adapting new abilities and processes as well to meet business objectives for their organizations. Different forms of learning has been highlighted in literature as explained by (Tucker and Edmondson, 2003) hierarchical learning and conscious learning (Nembhard & Tucker, 2011). Kraimer, Seibert, Wayne, Liden, & Bravo, (2011) argued that support learning helps employee development and profession open doors just as motioning to employees that they are esteem and regarded by the organization. Numerous observers contended that learning has turned out to be progressively critical to the survival of project-based organization and projects (Senge, 1990).

According to Turner (Tortoriello, 2015), social interaction is the foundation in every single relationship at workplace. Social interaction is an expensive term that alludes to different practices that can encourage the formation of social capital inside a specific gathering or association. These interactions can build the power and recurrence of social cooperation, accordingly giving people more chances to exchange information (Yli-Renko, Autio, & Sapienza, 2001). From an examination point of view, cooperation's in programming advancement have predominantly been researched as to the project-based organization among designers and clients (Ghobadi & Mathiassen, 2016). Essentially, research found that the relationship quality among undertaking individuals can be improved in the more extended time, prompting better project citizenship conduct. Given these discoveries, researchers have started to give more consideration to extend execution in both the short and long run and have raised numerous notable issues, especially the procedure of learning exchange from momentum to future undertakings, the development of long haul fitness and the advancement execution of task part (Tsai, 2001; Weigelt & Sarkar, 2012). Companies that are trying to obtain information from different sources using distinct tools to create the dimensions of progress (Jung-Erceg, Pandza, Armbruster, & Dreher, 2007), Researchers argued that deep interactions with external partners bridge the knowledge gaps between the firms. Indeed, this

can make firm better in identifying the valuable external knowledge, enhancing firm understands of the knowledge, and improving firm's transformation and exploitation on the valuable external knowledge sources. Inside this unique situation Liao, Tu and Marsillac, (2010) argued that development relies upon the authoritative capacity to transform both inner and outer information without hesitation and results depends not on the learning itself (Zhao & Chadwick, 2014). We are additionally keen on researching how the quantity of social collaborations, enacted by the firm individuals, impacts the learning forms, in this way influencing the firm absorptive limit. This study adds to look at the effect of absorptive capacity of project manager on project innovation performance with the intervening component of the employee learning and impact of social interaction. For this relationship, analyst has connected absorptive capacity theory since profitable outer information of employee through learning builds innovation performance.

1.2 Gap Analysis

Absorptive capacity of manager has been studied only in the domain of organizations, which are not project based. Absorptive capacity, as a manager's ability to consistently acquire, process , and use outside information, has turned into a critical skill, imperative for employee learning in project based organizations. The literature continues to lack empirical basis Ozkan-(Ozkan-Canbolat and Beraha,2016; Limaj & Bernroider, 2019).This study aims to fill the gap by studying the role of absorptive capacity as managers ability and how it can influence employee's learning.

While addressing this gap, the study also identifies potential mediator and moderator. The study proposes that employee learning as a mediator between the relationship of absorptive capacity of project manager and project innovation performance would be a vital distinction in the domain of project management. However, this study also inculcates that social interaction, as moderator is one of the unique domains, which still needs to explore in the context of project management.

Moreover, there is still more room to study these variables in the context of Pakistan because study using such variables together would be very useful for meeting the competitive criteria of innovation in Pakistan. As such recently, no study has done on the impact of absorptive capacity of project manager on project innovation performance with the mediating role of employee learning and moderating role of social interaction in Pakistani context, so it would contribute significantly towards the literature as well as towards the research study in Pakistan for project based organizations.

1.3 Problem Statement

The role of project managers has become instrumental in fostering employees learning abilities. In such situation project managers individual ability of assimilating, absorbing and transferring the information to employee matters a lot. The current study argues that absorptive capacity of project manager not only influences positive relationship with employee learning directly, but also influences project innovation performance. Therefore, the current study aims to find out whether and how absorptive capacity of project manager affects project innovation performance through mediating role of employee learning. The present study is also proposing social interaction as significant moderator to enhance the absorptive capacity towards innovation performance interacting with employee learning. Hence, this study is attempting to fill all the above-discussed gaps by exploring the impact of absorptive capacity of project manager on project innovation performance through employee learning and the proposed relationship between absorptive capacity of project manager and employee learning of subordinates is proposed to be moderated by social interaction in the context of Pakistan.

1.4 Research Questions

In view of the above expressed issue proclamation, the present investigation intends to look for answers for the accompanying inquiries:

Question 1:

What is the relationship between absorptive capacity of project manager and project innovation performance?

Question 2:

Does Employee Learning mediate the relationship between absorptive capacity of project manager and project innovation performance?

Question 3:

Does Social Interaction play a role of moderator on the relationship of absorptive capacity of project manager and employee learning?

1.5 Research Objectives

The general aim of the study is to find and test an incorporated model to discover the interactions between absorptive capacities of project manager, project innovation performance. In addition, social interaction is proposed a significant moderator to enhance the relation of absorptive capacity of project manager and employee learning.

1. To find out the relationship between absorptive capacity of project manager and project innovation performance.
2. To find out the mediating role of employee learning between the relationship of absorptive capacity of project manager and project innovation performance.
3. To find out the moderating relationship of social interaction between absorptive capacity of project manager and employee learning.

1.6 Significance of The Study

Research on absorptive capacity of manager and its impact on innovation performance is new area to be discussed in project management context with mediation

role of employee learning and moderating role of social interaction. Hence developing a framework of absorptive capacity of project manager and related variables, this study holds great significance for the project based organizations to develop such capacity for productive outcomes. Moreover, In Pakistani context, project manager face issues related to employees learning or team confidence. Hence, there is a need to increase the level of employee learning through the social interaction. With higher social interaction absorptive capacity of project manager promote employee learning. As Pakistan is an Islamic country with a multicultural society, therefore it is a great setting for performing and reporting such an excellent study. It helps to develop social interaction in employees easily for more productive and innovative results.

1.7 Supporting Theory

1.7.1 Absorptive Capacity Theory

Cohen and Levinthal (1989, 1990) investigate absorptive capacity to the degree at which firm acknowledge the worth of new external information, understand it and utilize it towards the accomplishment of organizational goals. The theory presumes that new knowledge absorption assists organizations to increase its performance level and also makes it more flexible and innovative than without new knowledge absorption. The theory also contends that firms with this kind of capacity have competitive advantage over firms who have low or no capacity of absorption of new knowledge. According to Kedia and Bhagat (1988), absorptive capacity is a door for firm to bring new ideas and execute them. Moreover, in regards to innovation performance, absorptive capacity is vital for the fabrication of employee competencies and capabilities. The reason is most often, success of a firm hinges on the collection and absorption of new knowledge. According to Cohen and Levinthal (1990), ACAP is project capacity to ascertain the approximation of new information present outside, understand it and utilize it to the business. Therefore, the absorptive capacity apprehension is that when firms have got firsthand

information they are more amenable to add new thoughts and understandings to it (Volberda, Forss & Lyles, 2010). When organization has accountability for innovation and employee learning mechanism, it invigorates new understandings and thoughts which ultimately brings efficiency in innovation performance. Moreover, the absorptive capacity of a firm is also influenced by the density of social interactions (Zahra & George, 2002). Similarly, Hotho, Becker–Ritterspach & Saka-Helmhout, (2012) highlight the importance of strength of social relationships in enhancing the learning and knowledge transfer. The implication we draw for understanding the micro-macro dynamics of absorptive capacity theory is that organization level absorptive capacity is a function of both the motivation and the prior knowledge of employees who participate in learning activities (Minbaeva, Pedersen, Bjrkmann, Fey & Park, 2003) and of the social interaction patterns between these employees. Successfully assimilating or accommodating external knowledge in new or existing schemata may lead individual employees to develop intuitive insights and innovations (Todorova & Durisin, 2011), but the shared understanding and justification of new knowledge required for group problem solving and the innovation performance of local applications is produced in dialogue and social interaction (Yakhlef, 2010). Absorptive capacity of project manager inside enables the representatives by giving social condition through which increment advancement execution. According to absorptive capacity theory if a project manager or organization absorb knowledge and transform it helps to improve the innovation and learning.

1.8 Definitions of Study Variables

1.8.1 Absorptive Capacity

Cohen and Lethal (1990) have offered the most generally referred to meaning of ACAP, seeing it as the organizations capacity to esteem, absorb and apply information.

Absorptive limit has additionally been characterized as “a company’s capacity to perceive the estimation of new data, absorb it, and apply it to business closes Tiwana, Amrit, and Ephraim, McLean (2005).

1.8.2 Project Innovation Performance

The utilization of thoughts of imagination to improves items forms systems that expansion criticalness, handiness, execution of item and services. Innovation is an adjustment in the point of view for accomplishing something or “new stuff that is made valuable”. Advancement can mean breaking new ground and testing the manner in which things have consistently been finished. Execution measure ought to be on a profitability connection of development Kabiri(2018).

1.8.3 Employee Learning

Employee learning is the subset of HR aims to improve group and individual performance by increasing knowledge (Goodman,& Jodi ,2004).

1.8.4 Social Interaction

Exchange between two or more individuals by interacting with one another people design rules and system (Klein, Katherin , Amy Buhl Conn, & Brent Smith ,2001).

Chapter 2

Literature Review

2.1 Impact of Absorptive Capacity on Project Innovation Performance

Absorptive capacity is an imperative factor to help endeavors accomplish authoritative execution (Fosfuri & Tribo, 2008). According to Kostopoulos, Papalexandris, Papachroni, & Ioannou, (2011), absorptive capacity advances the undertaking's development execution from development speed, development recurrence and advancement level. A company's absorptive capacity is imperative to their advancement exercises (Leal-Rodriguez, Ariza-Montes, Roldán, & Leal-Milln, 2014). Besides, absorptive capacity assumes a main job in deciding the size and scope of learning streams (Hurmelinna Laukkanen, Olander, Blomqvist, & Panfilii, 2012). Overall, comprehend that the outside sourcing of information is a basic technique for firms or tasks to improve their advancement execution (Carayannopoulos & Auster, 2010). Various late examinations have featured the job of absorptive capacity in open development achievement. For example, Rangus, Drnovsek, Di Minin and Spithoven, (2017) indicated observationally how absorptive capacity of an association connected with its ability for open development so as to accomplish the ideal project's execution. Moreover, Xia and Roper (2016) appeared, in light of an overview led in a few European nations and the USA, that investment

in exploitative interactions in the open development demonstrate progressively that it is contingent on firm's absorptive capacity. Additionally, powerful learning assimilation capacities of a firm are known to be of crucial significance in open advancement adequacy (Huang & Rice, 2009).

In addition, a firm that develops deep interactions with external partners tends to increase the potential information and tacit knowledge transfer from its focal firms (Lund Vinding, 2006). Likewise, Rowley, Behrens, and Krackhardt (2000) contended that strong relationship between the collaborating partners produce thick information exchange that allows firms to gain better assimilate, transform and exploit the knowledge. In this respect, Ferreras-Mendez et al. (2015) found a positive relationship between collaboration depth and firm's absorptive capacity. Furthermore, Bates and Khasawneh (2005) demonstrated that an project's learning society advances development. Different examinations have featured that an authoritative culture that energizes information sharing among its individuals and supports the usage of new thoughts, bolsters compelling use of learning for commercialization (Naqshbandi & Kamel, 2017). A hierarchical learning society should be bolstered by an project's capacity to investigate and misuse the information (Zollo & Winter, 2002). In this way, given an project's learning society, it is construed that its absorptive capacity will result in improved outbound open development results (De Arajo Burcharth, Knudsen, & Sndergaard, 2014). Elevated amounts of absorptive capacity will elevate an project's capacity to build up a superior gratefulness and utilization of learning assets and their commercialization. Numerous past investigations have demonstrated that absorptive capacity contributes either straightforwardly or in a roundabout way to a task advancement and monetary execution. Project execution alludes to the degree to which project yields and fulfill spending objectives, plan objectives, operational and specialized determinations, and, eventually, the business needs of the customer (Popaitoon & Siengthai, 2014).

The absorptive capacity of undertaking chief at an abnormal state can bring numerous advantages for the endeavor, for example, first-mover favorable circumstances, fast reaction to client needs, and stay away from the "lock essentially" and

“ability trap” (Cohen & Levinthal, 1990; Hamel, 1991), which can urge projects to increase higher task development execution. Moreover, the accomplishment of development is not ensured. It is very dubious whether clients will embrace the new items and administrations brought into the market or whether such advancements will yield the looked for after return for the organization (Baker & Sinkula, 2005). Besides, Absorptive capacity of task director can go about as a course of exchanging information between various hierarchical units, learning that can be instrumental in encouraging undertakings development exercises (Tsai, 2001).

In addition, absorptive capacity of firms can influence the viability of advancement exercises (Cockburn & Henderson, 1998). What’s more, absorptive capacity of task chief empowers firms or undertakings to viably get and use outside learning just as inward one, which influences their capacities of project advancement (Daghfous, 2004). Absorptive Capacity of task supervisor may add to a company’s or project imaginative execution by working as a pathway for exchanging learning for cross-hierarchical development exercises (Kostopoulos et al., 2011). The idea of information absorptive capacity concerning various fields of study, including association hypothesis, key administration, and financial matters (Lewin, Massini, & Peeters, 2011). Cepeda-Carrin, Navarro, and Martinez-Caro (2012) record that organizations with high absorptive capacity would think that it is suitable to reshape their operational abilities to improve execution by adequately reclassifying and conveying information based resources. Absorptive capacity additionally assumes a vital job in coordinating diverse sorts of learning from various sources by helping firms recognize and acclimatize profitable information viably. Organizations with the ability to improve will almost certainly react to natural difficulties quicker and superior to non-imaginative organizations (Brown & Eisenhard, 1995). Absorptive capacity of project director is a key capacity for undertaking development, taking into account that advancement can be viewed as a procedure where new information is delivered (Wang, Tian, Geng, & Guo, 2013), and an essential piece of this learning originates from outer sources (Popadiuk & Choo, 2006).

(Fosfuri & Trib, 2008), argued that absorptive capacity influences development results and a roundabout impact on task's execution through advancement. Damanpour (1991) characterized development as the selection of an inside created or obtained gadget, framework, arrangement, program, procedure, item, or administration that is new to the receiving association. He noticed that advancement incorporates both item and procedure developments, where item developments are new items or administrations acquainted with meet an outer client or market need, and procedure developments are new components brought into an project's generation or administration activities that are utilized to make an item or render an administration.

H₁: Absorptive Capacity is positively associated with project Innovation Performance.

2.2 Impact of Employee Learning on Project Innovation Performance

Representative learning is the system by which the firm develops new data and bits of information from the normal experiences of people in the affiliation, and can impact rehearses and improve the task's abilities (Slater and Narver, 1995). Following Huber (1991), this methodology includes four sub structures (Weerd-Nederhof, Pacitti, Da Silva Gomes, and Pearson, 2002). The first is learning obtainment, which is the methodology the association uses for getting new information and data. The second is learning scattering, the strategy by which delegates share information inside the firm. The third is learning interpretation, which happens when individuals give importance and change information into new fundamental data. Finally, definitive memory is the path toward securing the information and data for quite a while later. Legitimate learning is a purpose behind grabbing a viable advantage and a key variable in the redesign of various leveled execution (Brockmand and Morgan, 2003).

A couple of assessments give verification of positive connections between definitive learning and firm execution. Bread cook and Sinkula (1999) find that learning presentation straightforwardly influences definitive execution. Various assessments, which in like manner use a culture extent of learning, have found relative results (Ussahawanitchakit, 2008). Moreover, Bontis et al. (2002) give confirmation of positive connections between legitimate learning and execution, yet they focus the provisions of learning at three measurements: individual, social event and affiliation. Only two or three examinations revolve around the various leveled learning process. Tippins and Sohi (2003) exhibit that the five stages they perceive inside the progressive learning process (information getting, information dispersal, shared explanation, impactful memory and procedural memory) decidedly influence firm execution. A couple of assessments have focused on the impact of data absorptive limit on various leveled picking up, getting the hang of sharing, capacity building, improvement, and firm execution (Tseng et al., 2011).

As per Tippins and Sohi (2003), firms that can learn stand a prevalent shot of distinguishing events and examples in the business focus. Subsequently, learning venture based association are commonly continuously versatile and faster to respond to new troubles than contenders (Slater and Narver, 1995), which engages firms to keep up whole deal high grounds (Dickson, 1996). Darroch and McNaughton (2003) give confirmation that the whole technique of progressive learning produces better execution. Finally, investigate found that data the administrators accept an intervening activity in the connections between various leveled culture, structure, framework, and legitimate sufficiency. Regardless of the way that composing mindfully reinforces the connections between various leveled learning and headway, research to date does not give enough observational evidence (Darroch and McNaughton, 2002). Furthermore, choices of past assessments are difficult to entirety up in perspective on the refinements among their rule reason, tests, frameworks and the measures they use. Some abstract examinations exhibit that legitimate learning improves advancement. For instance, Forrester (2000) discovers positive associations between progressive learning and headway when she considers how two different carmakers used gatherings to offer improvements to

cost abatement purposes. Similarly, think about find that various leveled learning impacts improvement in the three collecting associations they mull over.

H₂: Employee learning is positively associated with project innovation performance.

2.3 Impact of Absorptive Capacity of Project Manager on Employee Learning

West and Bogers (2017) in this unique circumstance, engaging authority encourages imagination and adaptability among devotees, bringing about “extremely high advancement” through supporters’ improvement and fearlessness. As strengthening is one of the pivotal variables for accomplishing imaginative results (Sok & O’Cass, 2015), the primary goal of this examination is to look at the job of enabling initiative in open development achievement. Existing investigations bolster the view that enabling initiative advances development; in any case, a surviving audit of the writing shows that very little is thought about the job of administration in advancing open advancement. This is especially imperative since the job of initiative in open development is relied upon to vary from its job in the shut advancement worldview. The administration in the open development worldview is relied upon to not just utilize the learning of individuals working in their organization yet in addition of those working in different organizations.

Notwithstanding analyzing the immediate interactions between enabling administration and open development, this investigation additionally proposes an intervening instrument through which engaging initiative impacts open advancement. Surviving writing has featured interceding factors that mediate the relationship of administration and development. Likewise, the intervening system of how engaging initiative will influence open advancement is yet to be investigated. Past examinations contend that pioneers urge devotees to fabricate and keep up a feeling of network (Fleming & Waguespack, 2005), which encourages them in creating learning based systems where individuals can trade information with one another

(Whelan et al., 2011). Moreover, ongoing exploration by Kratzer, Meissner, and Roud, (2017) has demonstrated that advancement happens in an institutional situation described by tenets and guidelines that may bolster or block development. Since the open advancement worldview depends on outer interactions for development, a suitable interior condition is an unquestionable requirement before structure project based organization with outside accomplices. Building such an inward situation can be an immediate consequence of a pioneer's activity.

While high mechanical separation to extend accomplices outside of the set up esteem chain can decidedly influence development execution, project objectives must be accomplished if the social association of task individuals is improved regarding coordination and correspondence. This paper draws on embeddedness and absorptive capacity writing to investigate how social interactions systems convert into various learning results in removed coordinated efforts inside and crosswise over hierarchical capacity. The job of social procedures, explicitly nature, correspondence, nearness and trust (Akgn, Byrne, Keskin, Lynn, & Imamoglu, 2005), in directing the impact of information sharing on absorptive capacity of undertaking manager, just as on task execution. Projects with solid social procedures and an abnormal state of inside social capital, learning sharing practices would make significant trades between members dependent on a common comprehension of undertaking goals and data needs. So also, social procedures would animate the successful utilization of inward and outer learning to beat project difficulties and improve project advancement execution.

In this way, we set that social collaboration would decidedly direct the interactions between absorptive capacity of project manager, employee learning and task execution. The human part of information the board, as interpersonal organizations and cooperation between people, is a basic segment of any learning administration frameworks (Duffield and Whitty, 2016). The accentuations on the social parts of information the executives forms is likewise a rising pattern in undertaking the board explore (Holzmann, 2013). In view of the conceptualization of Akgn et al. (2005), this investigation centers around four social procedures, to be specific,

nature, correspondence, vicinity and trust. Social collaborations incredibly improve the adequacy of learning sharing practices and encourage the stream of data between authoritative units (Tsai, 2002). Representatives construct and keep up social ties through social project based organization, by finding out about non-work interests, leisure activities, and families (Cross & Sproull, 2004) in future, scenes of execution advancement, and they at that point depend on these interactions. In any case, in our survey of the writing, we found almost no exact work that has explicitly researched these social collaborations, regardless of statements as to their calculated significance. This issue contains the subject of our examination, and we propose that social interactions can be comprehended as informal communication collaborations between employees that sway project advancement execution.

Researchers concentrating social interactions have typically accepted that representatives with expanded association with colleagues have favorable position in imaginative critical thinking and improving task advancement execution (Burt, 2004). Likewise, as of late examinations have experimentally estimated undertaking or firm development with progressively complex pictures of informal organization settings (McFadyen, Semadeni & Cannella, 2009). As regards with personality traits organizations need to choose opportune individual for right occupation on the grounds that a few persons have overwhelming conduct which influence the sharpness and execution of general group. Arrangement of the group is exceptionally troublesome errand for an association because it is hard to recognize that the group is sufficiently capable to confront basic circumstances.

At the point when groups are created at first, their qualities converged with the progression of time what's more; aggregate exertion of colleagues builds group execution. Generally pleasant what's more, enthusiastic stable colleagues are fulfilled and demonstrate unrivalled execution. Group execution relies upon numerous components, for example, group configuration, society; assorted qualities and so forth. Collaboration conduct can likewise recognize by past studies behavioural perceptions and some group elements are likewise used to quantify group execution (Ancona & Caldwell, 1992). Productivity is the key variable that will permit

organizations to keep on contending effectively in an extreme, aggressive what's more, worldwide business coliseum. In an organization, people having different personality characteristics are working together at one place. A study coordinated by Lounsbury et al., (2012) analysed the relationship of identity attributes and bearer fulfilment among client organization pros. For future research, this study proposes that identity variable ought to be tried against group execution. Different researchers found that team performance can be accomplished through employee's involvement in the employment and coordination with one another.

Furthermore, it is the employees' attitude that deciphered HRM strategies and practices into express execution. So also, numerous different investigations discover the relationship of huge five with cooperation execution, for example, institutionalized youthful proportions of locus control and confidence are found to foresee the adult income to an equivalent degree as mental limit (Heckman et al. 2006). As Kahn (1990) for example fought that mental, contrasts may impact on individual capacity to progress admirably or not at work spot. Character characteristics generally don't guarantee or foresee workplace accomplishment, certain qualities give the essentialness expected to the progression of specific working environment abilities yet there is still need to analyze the character impact on gathering execution, as various attributes have an alternate inclination toward cooperation. Therefore, it is the matter of individual difference that how they contribute to the improvement of group output. For example how extrovert individual contribute differently toward team performance then non-extrovert individual.

Nyhus and Pons (2005) discover utilizing Dutch family unit information that wages are associated with two of the Big Five identity characteristics, emotional stability and conscientiousness. Hogan and Holland (2003) find in a meta-examination that every one of the five Big Five measures absolutely anticipate execution on particular occupation criteria, and that the forecasts get to be more grounded as the employment criteria turn out to be more particular. McFadyen et al., (2009) demonstrated that visit interactions with trade accomplices would extend their comprehension of one another, subsequent in the gathering of trust in accepting valuable input from accomplices to create new information. Maurer, Mitchell, and

Barbeite (2002) recognized an assortment of criticism types by seeking after helpful formative exercises intended to upgrade singular expertise. The main inspiration is to acquire helpful data through successive cooperation with others. In this way, social communication can be utilized to get helpful criticism, obtain new abilities, acknowledge new undertaking difficulties, and change singular reasoning in innovative conduct (Morrison & Bies, 1991).

Bouty (2000) recommended that valuable criticism looking for happens routinely in activities and is emphatically determined by common cooperation: parties are all the more eager to share helpful information and expertise on the off chance that they have grown long haul interactions through social association. Ensuing examination has inspected additional proof of these translations (De Stobbeleir, Ashford, & Buyens, 2011). In this manner, as representative's increment social interactions with similar collaborators after some time, helpful input and information trades become simpler, and the results of development additionally increment. Experimental research has undoubtedly demonstrated that representatives respond on other employees' feelings (Anderson, Keltner, & John, 2003) and forceful practices (Glomb & Liao, 2003), bringing about proportional impacts (Glomb and Liao, 2003) and furthermore the assembly on consequent passionate and conduct results at the larger amount (Barsade, 2002). The accentuation on the social parts of information the board forms is likewise a rising pattern in project the executives inquire about (Holzmann, 2013). In view of the conceptualization of Akgun et al. (2005), this investigation centers around four social procedures, to be specific, commonality, correspondence, vicinity and trust.

H₃: Absorptive Capacity is positively associated with employee learning.

2.4 Mediating Role of Employee Learning Between Absorptive Capacity of Project Manager and Project Innovation Performance

Employees are progressively given power over how they learn, and their decisions for preparing are different and shifted, yet representatives must adjust contending requests. On one hand, they are relied upon to be progressively effective in their present place of employment obligations then again, they are required to grow new aptitudes and abilities that empower them to adjust and react to changing occupation requests (Greco, Charlier, & Brown, 2018). As representative's increment, social interactions with similar collaborators after some time, helpful input and information trades become simpler, and the results of development additionally increment. Madjar, Oldham, and Pratt (2002) contended that work and non-work backing could advance representative learning through expanding social association notwithstanding learning and improvement. We contended before that representatives who get backing and assistance from associates ought to be useful in playing out their assignments; therefore, such help may likewise go with valuable thoughts and data for taking care of issues. Therefore, investigating and trying different things with valuable thoughts and elective courses to taking care of issues not just expect employees to build cooperation with their colleagues to talk about starting thoughts. But, also answers for guarantee that they satisfactorily address a given issue yet additionally to look for collaborators assistance in refining the answers for reasonable later usage (Baer & Oldham, 2006).

The social cooperation process is the trademark describing the group and development marvels (Ployhart & Moliterno, 2011). Amid the social interactions process, people impersonate one another, decipher and respond to other people, and draw inductions from others, all of which add to the spread of one individual's recognition, frames of mind and practices to various individuals and in this manner the

rise of more elevated amount ideas (Hareli & Rafaeli, 2008). Product innovation requires a broad knowledge base because the development of new product involves multi-discipline of knowledge (Annie Un & Montoro-Sanchez, 2010). In this respect, firm's open access to external sources exposes greater opportunities for firms to access to knowledge that is needed in product innovation process (West & Bogers, 2014).

Furthermore, collaboration with external partners enables the firm to fill up the knowledge gap and enable them successfully commercializing new knowledge to the market (Nieto & Santamaria, 2007). Collaboration breadth is one of the open search strategies that enables firm sources important knowledge for their product innovation. Collaboration breadth refers to the extent of the firm has a relationship with different types of external partners (Laursen & Salter, 2006). Typically, collaboration with diverse partners enables firm to access to different types of knowledge that are important for innovation to take place (Nieto & Santamaria, 2007). The findings of empirical research in investigating linkages between collaboration breadth and product innovation are mixed. There are some prior research indicated direct positive linkages of collaboration breadth with PIP, some indicated inverted U relationship with PIP, and others indicated insignificant relationship with PIP (Mendez, Newell, Fernandez-Mesa, & Alegre, 2015). Hierarchical and project development is particularly applicable in the present dynamic and fierce conditions, where other inside factors, for example, innovative resources, worker preparing, coordination of new administration abilities, and new flexible HR and progressively versatile authoritative plans must be strength to make esteem and upper hand. Worker learning is basic in the dynamic administration condition; yet, much is obscure about its key significance.

While cutting edge administration representatives (for example client contact employees) are broadly viewed as pivotal to the execution of many administration firms (Kao & Chen, 2016), the administration of such employees is likely more testing than that of their partners in assembling firms. Employees who have larger amount of instruction for the most part likewise have more grounded assimilation

capacity, psychological capacity and long haul vision (Zhu & Yin, 2016). Moreover, employees need to consistently learn questionable client needs and after that modify their administration conveyance process (Yee, Lee, Yeung, & Cheng, 2013). Exploitative development is a procedure of improving and refreshing the current items and innovation. Project based organization occupied with improving current practice need first to assemble data about the issues of the present practice. They at that point break down the issues and look for answers for illuminate them to accomplish better execution by improving product offerings or updating advancements. This critical thinking procedure can make open doors for employees figuring out how to look for new learning and produce new thoughts (Hahn, Lee, & Lee, 2015).

Gambardella (1992) noticed that the organizations with better in-house R&D programs were increasingly proficient in abusing outer information, proposing the job of inner firm assets, for example, absorptive capacity. The capacity to retain information from outside the association is established in individual representatives. Project based organization depend on individual employees to look for and gain from outer learning sources (Li, Maggitti, Smith, Tesluk, & Katila, 2013). The jobs of center directors in the learning concentrated condition as seen by the employee and essential chiefs concerning the absorptive capacity process (Rafique, Hameed & Agha, 2018). Larger amount of aptitudes of representatives gained through preparing improves advancement dimension of project-based organization (Wignaraja, 2016). Worker learning is a basic procedure that intervenes the effect of execution development on absorptive capacity (Yao & Chang, 2017). HRM rehearses, for example, preparing and learning, legitimate enrollment and choice, have been found decidedly connected with information creation and development in writing (Laursen & Foss, 2003).

The development of Employee learning catches the dimension of which singular representatives effectively take part in learning and advancement exercises (Edmondson, 1999). It was evaluated by R&D chiefs with 3 things, to be specific, our representatives take the activities to get the hang of amid work; our representatives regularly gain from their past experience and blunders; our employees

are not happy with existing conditions and dependably consider approaches to improve and advance. Employees' qualities add to a company's or project absorptive capacity, i.e., the capacity of a firm or task to distinguish, acclimatize, and absorb information from the earth. Since firms have progressively taken advantage of outer assets to cultivate development in the course of recent decades, absorptive capacity is significant to firm learning and achievement. Yao and Chang (2017) given the quick changes in business condition these days, project based organization ability to accomplish TI promptly through outer learning has turned into a basic determinant for progress (Wang & Han, 2011). Regardless of the capacity of project based organization to create information inside (Martinkenaite, 2012) there is a developing need to depending on outside learning (Laukkanen, 2012) because of the confinements of capitals for certain project based organization close by (Tseng et al., 2011) and excessively relying upon inner learning can prompt hierarchical nearsightedness then again (Zahra & Hayton, 2008). Likewise, assessing related writing it showed that experimental investigations concerning the communication among OSFs and ACAP appear to be shockingly uncommon regardless of the huge expanding significance of ACAP of outside created information and the components that may influence it in accomplishing, most examinations drew their consideration towards the interactions among ACAP and hierarchical learning (Andersn, 2012; Dixon & Day, 2007). While others concentrated on the system perspectives for creating ACAP (Sparrow, Tarkowski, Lancaster, & Mooney, 2009; Jung-Erceg et al., 2007) and the job of earlier information in brace ingestion procedure of new information (Minguela-Rata, Concepcin Rodrguez-Benavides, & Lpez-Snchez, 2012).

As respects to the components that may influence ACAP, the majority of researchers concentrated their considerations on the individual effect of explicit administration attributes, administrative practices (Dixon & Day, 2007) and some authoritative elements (Andersn, 2012). As per past investigations in ACAP field, numerous inside elements can encourage ACAP. Such inward forerunners making establishments for ACAP incorporate a current information base and a hierarchical culture and structures that enable absorptive ability to prosper (Laukkanen, 2012;

Zahra & George, 2002). Barely any examinations have talked about the ability to retain outside information from an authoritative methodology (Andersn, 2012) to encourage TI. Likewise, OSFs in Alpkhan et al. (2010) contemplate has received in this examination for its reasonableness to explore the immediate and intuitive impacts of authoritative help on the TI of organizations.

The plenitude of available time for employees is another critical factor for their both every day exercises and advancement of new thoughts and urges them to go for broke for putting their new thoughts into training (Alpkhan et al., 2010). In spite of the fact, that time has considered as a critical factor that decide development process few examinations have attempted to illuminate the interactions between time portion and advancement (Darini, Pazhouhesh, & Moshiri, 2011). Both authoritative learning scholars and AC researchers have contended that a company's AC lives in its individual employees (Cohen & Levinthal, 1990; Minbaeva, Pedersen, Bjrkmann, Fey, & Park, 2003). Volberda et al. (2010) even contend that AC is supervening on individual representatives, as there is no association level. Representatives can thus get a handle on what changes on item ideas, parts and linkages between them truly matter for clients and comprehend the capacity and ability of the assembling forms, improving project execution development (Kim, Kumar, & Kumar, 2012).

Development is firmly identified with authoritative learning. Thompson (1978) characterizes development as the age, acknowledgment, and usage of new thoughts, procedures, items, or administrations. Exploitative development is a procedure of improving and refreshing the current items and innovation. Project based organization occupied with improving current practice need first to assemble data about the issues of the present practice. They at that point break down the issues and look for answers for illuminate them to accomplish better execution by improving product offerings or updating advancements. This critical thinking procedure can make open doors for employees figuring out how to look for new learning and produce new thoughts (Hahn et al., 2015).

Present study is proposing employee learning as a significant mediator between Absorptive Capacity of project manager and Project innovative performance. There

is a broad writing in studies identifying with ACAP yet either this development has been investigated in the authoritative viewpoint at full scale level or identified with the free builds. For example, advancement point of view, entomb firm learning exchange (Krylova, Vera, & Crossan, 2016), basic leadership at hierarchical dimension (Wang and Byrd, 2017) and there are not many examinations featuring the small scale systems identified with employees which leaves a hole that should be tended to in intra-association viewpoint (Minbaeva et al, 2003).

According Rogers (2015), it is a thought, practice, or material ancient rarity saw as new by the important unit of selection. Center information employees, characterized as representatives who are basic to the production of new learning and the improvement of advancements (Collins & Smith, 2006), speak to a perfect gathering of people who can unite miniaturized scale full scale joins. Learning practices devour significant time and exertion, yet in addition have the potential for raising shame or the danger of being seen as bumbling. In this regard, advancement execution gives utility to employees to require activities and apply exertion to partake in learning exercises (Gottschalg & Zollo, 2007).

H₄: Employee learning mediates the relationship between Absorptive Capacity of Project Manager and Project Innovation Performance.

2.5 Social Interaction as a Moderator Between the Relationship of Absorptive Capacity and Employee Learning

Open development keeps on being a most loved research zone in the key administration area (Elmqvist, Fredberg, & Ollila, 2009). While open advancement examine has concentrated on recognizing the components that cultivate or block open development (Naqshbandi et al., 2015), a few parts of open development the executives still stay under-considered (West and Bogers, 2017). Characterized social interactions as a circumstance where the practices of one on-screen character

are deliberately revamped by and influence the practices of, another performer, and the other way around. Turner utilized conduct in its broadest sense to incorporate the plain developments of people in space, the cover or 'mental' considerations of people and their mental procedures. So also, numerous different investigations discover the relationship of huge five with cooperation execution, for example, institutionalized youthful proportions of locus control and confidence are found to foresee the adult income to an equivalent degree as mental limit (Heckman et al. 2006). As Kahn (1990) for example fought that mental, contrasts may impact on individual capacity to progress admirably or not at work spot. Character characteristics generally don't guarantee or foresee workplace accomplishment, certain qualities give the essentialness expected to the progression of specific working environment abilities yet there is still need to analyze the character impact on gathering execution, as various attributes have an alternate inclination toward cooperation.

2.6 Research Model

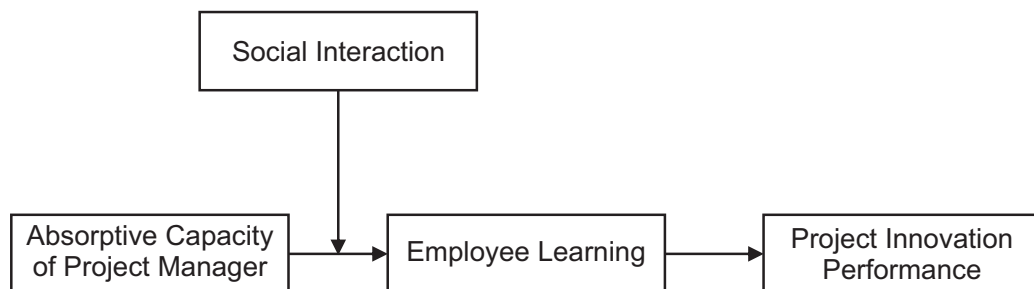


FIGURE 2.1: Research Model

Chapter 3

Research Methodology

3.1 Introduction

In this part, the techniques utilized for directing the investigation are talked about. It clarifies the exploration structure and how this plan prompted the accumulation of information. It demonstrates the reason for picking the populace, explore test, inspecting strategies and gathering of information. It likewise clarifies about the factors used to complete this investigation. It clarifies the purpose for utilizing of a poll study as a technique for information gathering.

3.2 Population and Sampling

3.2.1 Population

Since the research seeks to focus on both public and private sector. Some of the project-based organizations are highly concerned about absorptive capacity and performance innovation work including software houses and IT based organizations working and located in Azad Kashmir and Islamabad written in table 3.1. The population of the study were the information technology based organizations and software houses currently working in the capital territory Islamabad and Azad

Kashmir. Data has been collected through a self-administered paper-and-pencil survey and in some cases even through online-survey.

TABLE 3.1: Sample Size

Software and Project Based Companies Names	Frequency
Nexus Technology	54
ZKB Engineers and Contractors	45
CWE china	39
CGGC China	53
Zipcare	34
SmartIS	28
MetaSoft	19
Tera Data Technolgies	40
Cybervision International	37
Zeropoint IT	24
Diya Tech	38
LMKR	26
STAIRS IT SOLUTION	10
Dynasols pvt	06
Next Brigde Pvt	10
ICONOMY	08
DBS	09
E-TECH	20

3.2.2 Sample and Procedures

Just about 500 surveys have been appropriated. The circulation of polls was even in every chosen association. The introductory letter has expressly shown that the investigation is being directed for scholastic research purposes as it were. Members were guaranteed of the privacy of their reactions and namelessness so the respondents don't hesitate to fill in the survey decisively. Because of time requirement and primary motivation behind investigation being scholarly in nature, non-likelihood test plan with accommodation examining system has been connected. This will be snappy, helpful, and more affordable just as the way that most effectively open individuals are being picked as subjects. In addition, polls were coursed among these individuals to take exact reaction about the examination. It was foreseen that all respondents has given the reaction straightforwardly and effectively up to their very own discernment and comprehension of the survey. Programming Managers, designers, venture supervisors, Operation Managers and so on have been incorporated into it.

3.3 Data Collection

Primary data has been obtained through structured questionnaires in 3 different time lags, Time T1 for (Absorptive Capacity and Social Interactions), Time T2 Lag (Employee Learning) Time T3 lag for (Project Innovation Performance) and demographics part was also included.

TABLE 3.2: Time Lag

Time	Variables	Respondents
1 st Time lag= T1	Independent Variable and Moderator	500
2 nd Time Lag= T2	Dependent Variable	390
3 rd Time lag =T3	Mediating Variable	260

3.4 Sample Characteristics

For the present research, questionnaire was designed in such a way to get the complete information about the respondents. So demographics were included while designing the questionnaire. Four demographics variable such as gender, age, qualification and experience were included. The detailed sample characteristics are given below in the tables with description.

3.4.1 Gender

TABLE 3.3: Frequency by Gender

Gender	Frequency	Percent
Female	85	36.4
Male	175	63.6
Total	260	100.0

Table 3.2 depicts the ratio of male and female respondents. As we can see majority of the respondents were male, which shows that 63.6% of the respondents were male and 36.4% respondents were female.

3.4.2 Age

TABLE 3.4: Frequency by Age

Age	Frequency	Percent
18-24	41	17.4
25-35	27	12.8
36-45	174	73.7
46+	18	7.6
Total	260	100.0

Table 3.3 shows that most of the respondents were having age between the range of 36-45, that means 73.7 % respondents were having age ranging between 18-24 ,that means 17.4% respondents were having age ranging between 25-35 that means 12.8% and only 7.6% of the employees were having age range of 46 or above.

3.4.3 Education

TABLE 3.5: Frequency by Education

Education	Frequency	Percent
Graduate	62	21.2
Masters	152	71.6
MS/M. Phil	21	6.2
Total	260	100.0

Table 3.4 shows that the respondents were having Education as Graduate 62 (21.2%) , Masters 152 (71.6%) and MS/M. Phil 21 (6.2%) of the employees respectively.

3.4.4 Experience

TABLE 3.6: Frequency by Experience

Experience Year	Frequency	Percent
0-4	60	25.4
10-14	75	32.0
15-19	19	8.8
5-9	106	43.6
Total	260	100.0

Table 3.5 demonstrates that the greater part of the respondents were having an encounter going between 5-9 years, which delineates that 43.6% respondents were having knowledge between the range 0-4 years, 32.0%, 8.8% respondents were having background extending between 15-19 years. 25.4% respondents were having background going between 10-14 years. As experience includes gaining knowledge about new procedures and ideas of the organization helps to bring creativity in the tasks, experience is considered as one of the most effective demographics which contribute too much towards the Absorptive Capacity of project manager, Employee learning and project performance innovation domain for the success of the project.

3.5 Instrumentation

The factors incorporated into the survey were Absorptive Capacity, Employee Learning, Innovation Performance and Social Interaction. Reactions for every one of the things in the poll were made utilizing a 5 Liker-scale where 1 (firmly deviate) to 5 (unequivocally concur).

3.5.1 Absorptive Capacity of Project Manager

To gauge absorptive capacity of project manager 10-thing scale created by Zahra and George (2002) was embraced. The example things were “We are fruitful in adapting new things inside this gathering”. “We are compelling in growing new learning or bits of knowledge that can possibly impact item advancement”. “We have powerful schedules to distinguish, worth, and import new data and information”.

3.5.2 Employee Learning

To quantify employee learning few scale created by Maurer and Hult (2002). The things incorporated into the scale are “My manager underscores representative figuring out how to its workers.” “My boss underlines worker figuring out how to its representatives”. “My friends are steady of learning exercises”. “My manager urges me to take an interest in profession pertinent learning exercises”.

3.5.3 Project Innovation Performance

A 12 things scale have been utilized to project innovation performance created by Scott, (1994) Example thing incorporates “Inventiveness is energized here”. “Around here, individuals are permitted to attempt to take care of similar issues in various ways”. “The fundamental capacity of individuals in this association is to pursue orders which descended through channels”.

3.5.4 Social Interaction

Social Interaction have been estimated by the 6-thing survey created by Phinney, (1992) good faith. “I once in a while feel it would be better if distinctive ethnic gatherings didn’t attempt to combine”. “I frequently invest energy with individuals from ethnic gatherings other than my own”.

TABLE 3.7: Instruments

Variable	Sources	Item
Absorptive Capacity of Project Manager	Zahra and George (2002)	10
Employee Learning	Maurer and S Hult (2002)	10
Project innovation performance	Scott (1994)	12
Social Interaction	Phinney (1992)	6

3.6 Pilot Study

It was directed with the goal that it could be guaranteed that poll was substantial. The pilot considers was led on the example size of 75. In the wake of gathering every one of the 75 surveys, factors' unwavering quality was assessed which demonstrated sufficient alpha coefficient esteems. The alpha coefficient estimation of innovative self-viability was 0.50, which was low.

3.7 Reliability Analysis

Cronbach's (Alpha) is a coefficient of unwavering quality. It is normally utilized for inspecting mental examination for inside information. Empowers inward solidness of the material used to gauge balance. The legitimacy technique for unwavering quality ascertains the ordinarily utilized measures and gives data on the size of individual merchandise. Notwithstanding, unwavering quality is raised, for example, the occasion's movement in the cash action. The present most dependable database for the present use is Branch Alpha (Cronbach, 1951) today. The branch builds up the equalization of alpha overview and the examination between the reconnaissance studies.

TABLE 3.8: Reliability Analysis

Variables	Items	Cronbach's Alpha
Absorptive Capacity	10	.865
Employee Learning	10	.811
Project Innovation Performance	12	.748
Social Interaction	6	.791

Table shows reliability of pilot testing. Table indicates that all variables have acceptable range. Reliability of absorptive capacity of project manager was 0.865, which is greater than the threshold value. Similarly, the reliability of employee learning was 0.811, which is also greater than the threshold value. Moreover, the reliability of project performance innovation and social interaction was 0.748 and 0.791 respectively. After execution of pilot testing, it was deduced that there was no issue in the studying variables and the scales were completely reliable as all the values are meeting the criteria.

3.8 Data Analysis Techniques

I have collected the data from 260 respondents and then added to the SPSS software version 20 for analyzing. I have used the following procedure for analysis and they are as follows:

1. The questionnaire with appropriate responses was selected only.
2. Only, the coded variables were used and all variable were coded.
3. For explanation of samples' characteristics, frequency table were used.
4. Descriptive statistics was used.
5. Cronbach coefficient alpha was used for the reliability process of all variables.

6. To check the relationship of variables under study, correlation was used.
7. For checking the relationship of Dependent and Independent variable, Single Linear Regression was made to work.
8. Evangelist and Hayes Process was utilized for leading intervention and balance to decide the presence of the job of middle person and mediator between the relationship.
9. Through, regression and Preacher and Hayes strategy, the planned hypothesis were tried to check the dismissal and acknowledgment of the proposed hypothesis.

Chapter 4

Results and Discussion

This chapter includes general study results and discussions that we guide the decisions taken from the study to accept and reject. All statistical tests, such as relationships, discussions, and statistical analysis were used and their interpretation was explained.

4.1 Descriptive Analysis

Descriptive statistics of all variables such as absorptive capacity, employee learning, project performance innovation and social interaction are depicted in the table below. Descriptive statistics has direct interaction with ideas and methods relating to the detailed aspects of summary and statistical information.

TABLE 4.1: Descriptive Statistics

	Min	Max	Mean	Std. Dev
Absorptive Capacity	1.0	5.0	3.22	.530
Employee Learning	1.0	5.0	3.44	.822
Project Innovation Performance	1.0	5.0	3.45	.611
Social interaction	1.0	5.0	3.29	.501

The table demonstrates the realistic bits of knowledge of the viewpoints under assessment. The table uncovers the data perceived with least, most exceptional and typical regards for each factor and moreover shows the mean and SD. The chief segment of the table shows detail of variables, the subsequent fragment light up about the model size of the assessment, third and fourth portion exhibit the base and outrageous mean regards for the data gathered. The table demonstrated that the mean an incentive for absorptive limit was 3.22 and standard deviation was .53. Thus, the mean an incentive for worker learning was .344 and standard deviation was .822. Additionally, the mean an incentive for task advancement execution was 3.45 and standard deviation was .611. Last yet not the least the mean an incentive for social connection was 3.29 and standard deviation was .50.

4.2 Correlations Analysis

The present investigation fundamental point is to lead relationship examination to appreciate the connection among absorptive limit venture administrator and task execution advancement, the intervening job of worker learning and directing job of social association with the end goal of approval of proposed hypothesis Pearson connection perceive the quality and nature of connection by means of connection that is run from - 1 to +1. Connection investigation is led so as to think about the idea of variety between the two factors that if the factors change together simultaneously or not. Connection examination does not involve connection between at least two than two factors since it is not quite the same as the relapse investigation. In connection investigation, Pearson relationship examination tells about the quality and nature of the relationship through Pearson relationship go I-e from - 0.1 to 0.1. Thus, through extent esteem we can finish up the quality of the connection between two factors and that greatness worth can sum up by the separation of relationship from zero. In the event that the connection is far off from zero that implies the connection between the two factors is solid and the other way around. In any case, if the qualities are zero that straightly implies that there exist no connection between the understudied factors. Positive and negative

sign portrays the idea of the relationship, positive sign methods increment in one variable causes increment in the other variable and that is considered as immediate relationship and similarly, negative sign implies that expansion in one variable will cause decline in another variable and that would be an aberrant relationship.

TABLE 4.2: Correlation

	1	2	3	4
1 Absorptive Capacity	1			
2 Employee Learning	.481**	1		
3 Project Innovation Performance	.329**	.428**	1	
4 Social interaction	.442**	.642**	.317**	1

*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 4.2 depicts information regarding correlation between the variables. As the table exhibits, that absorptive capacity has a positive and significant relationship with all the variables. Like the correlation of absorptive capacity with employee learning was ($r = .481^{**}$ at $P < 0.01$) with project innovation performance was ($r = .329^{**}$ at $P < 0.01$) and with social interaction was ($r = .442^{**}$ at $P < 0.01$). Similarly, the correlation of employee learning with project innovation performance was ($r = .329^{**}$ at $P < 0.01$) and with social interaction was ($r = .642^{**}$ at $P < 0.01$). Moreover, the correlation of project innovation performance with social interaction was ($r = .317^{**}$ at $P < 0.01$). Therefore, the above table and values indicate that all variables are correlated with each other according to the proposed hypothesis.

4.3 Regression Analysis

Connection examination were directed to know the presence of connection between factors however it gives no proof about the causal connection among factors.

Thusly, for knowing the causal connection between factors relapse investigation has been done to approve the reliance of one variable on another. Two sorts of relapse investigation one is basic relapse and another is various relapse. At the point when just two factors are there, straightforward relapse is led and when multiple factors are, there various relapse is led. All the more regularly, the relapse examination gauge the temporary prospect of the ward alterable given the free factors, that is, the run of the mill rate of the reliant variable when the autonomous factors are fixed. Less much of the time, the center is on a quintile or other position the reliant variable sure will be given the autonomous factors.

TABLE 4.3: Regression Analysis Results for Project Innovation Performance (PIP)

Predictors	β	R^2	ΔR^2
Step 1			
Control Variables		0.411	
Step 2			
ACPM	.439**	0.316	.123

$N=235$, (* $P_i .05$, ** $P_i .01$)

Hypothesis 1 expresses that absorptive capacity has a positive and huge effect on undertaking innovation performance. Table 4.3 gives proof to that. In stage 1, control factors were put. Results demonstrated that absorptive capacity has positive and critical effect on project innovation performance as appeared by the relapse coefficient ($B=.439$, $p=.005$). Besides, the estimation of ($R^2=.41$) implies that absorptive capacity gets 41% changes project innovation performance. Consequently, we presume that hypothesis 1 was upheld.

TABLE 4.4: Regression Analysis Results for Project Innovation Performance

Predictors	Project Performance Innovation		
	β	R^2	ΔR^2
Step 1			
Control Variables		0.624	
Step 2			
EL	.432**	0.543	.81

N=235, Control Variables are those variables which have been taken as demographic variables ($P_i .05$, ** $P_i .01$)*

Hypothesis 2 expresses that employee learning has a positive and critical effect on project innovation performance. Table 4.4 gives proof to that. In stage 1, control factors were put. Results demonstrated that representative learning has positive and huge effect on project innovation performance as appeared by the relapse coefficient ($B=.432$, $p=.005$). Moreover, the estimation of ($R^2=.62$) implies that employee learning acquires 65% changes project innovation performance. Consequently, we presume that hypothesis 2 was upheld.

Evangelist and Hayes (2008) mediation method has been used as a piece of this assessment to see the interceding some portion of absorptive capacity on the connection between project innovation performance. The present have utilized middle person for example absorptive limit as free factor with Project Innovation execution as DV alongside interceding variable employee learning and directing variable as Social cooperations.

TABLE 4.5: Regression Analysis Results for Employee Learning

Predictors	EL		
	β	R^2	ΔR^2
Step 1			
Control Variables		0.522	
Step 2			
ACPM(Overall)	.349**	0.432	.65

N=235, ($P_i .05$, ** $P_i .01$)*

Hypothesis 3 expressed that absorptive capacity has a positive and critical effect on employee learning. Table 4.3 gives proof to that. In stage 1, control factors were put. Results demonstrated that absorptive capacity of project manager has positive and noteworthy effect on employee learning as appeared by the relapse coefficient (B=.349, p=.005). Besides, the estimation of (R2=.43) implies that absorptive limit acquires 43% changes employee learning. Along these lines, we presume that hypothesis was upheld.

4.4 Mediation Analysis

Mediation examination is a factual strategy used to assistance answers the inquiry in the matter of how some fundamental operator X exchanges its impact on the result variable Y and what is the basic instrument through which association remains constant.

TABLE 4.6: Mediation Analysis Results

Effect of AC on PIP		Effect of SI on PIP		Direct Effect of EP on PIP		Total Effect of SI on PIP		Bootstrap results for Indirect Effects	
B	T	B	T	B	T	B	T	LL95	UL95
								CI	CI
.411**	5.332	.521**	4.154	.432**	3.124	0.323	6.112	0.4322	0.4235

Hypothesis 4 expressed that Employee learning intervenes the connection between Absorptive Capacity of Project Manager and Project Innovation Performance. The outcomes offered help in the table 4.5. Table spoke to that backhanded impact of absorptive capacity on project innovation performance has the upper level certainty interim and lower level certainty interim of 0.4235 and 0.4322 separately has a similar sign and no zero is available between them. Along these lines, we

presume that representative learning intervenes the connection between absorptive capacity and project innovation performance. Subsequently, hypothesis 4 was bolstered.

TABLE 4.7: Moderation Effect

Predictors	Project Innovation Performance		
	β	R^2	ΔR^2
Main effect PIP			
Step 1			
Control Variables		0.421	
Step 2			
SI	.462**	0.511	.143
AC	.332**	0.432	.129
Step 3			
SI*AC	.457**	0.419	.108

Hypothesis 5 enunciated that Social Interaction moderates the relationship between Absorptive Capacity of Project Manager and Employee Learning. The values in the table 4.6 provided support for the hypothesis of moderation. The results showed that interaction term of “absorptive capacity and social interaction” moderates on the relationship of absorptive capacity and employee learning as both the upper and lower level confidence interval has the same sign, and there was no zero present. Similarly, the regression coefficient was significant ($B=.37$, $p=.001$) showed that social interaction moderates the relationship between absorptive capacity and employee learning. Hence, hypothesis 5 was supported.

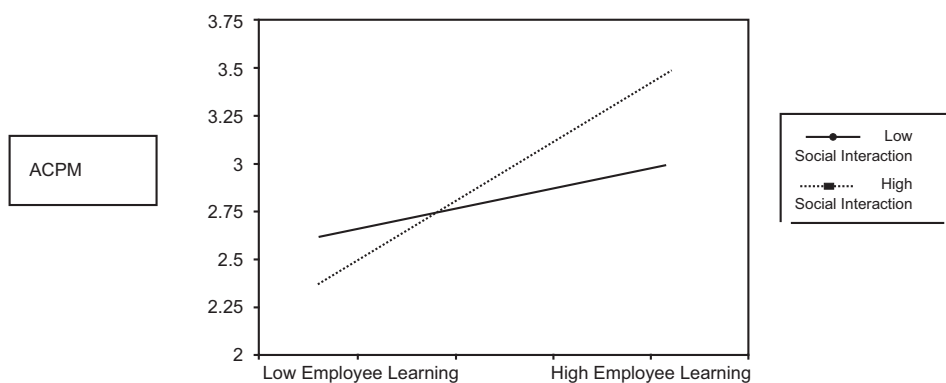


FIGURE 4.1: Graph

4.5 Hypotheses Testing/Results

TABLE 4.8: Hypotheses Testing/Results

Statement	Status
H ₁ : Absorptive Capacity of Project Manager is positively associated with Project Innovation Performance.	Accepted
H ₂ : Employee learning is positively associated with Project Innovation Performance.	Accepted
H ₃ : Absorptive Capacity is positively associated with Employee learning.	Accepted
H ₄ : Employee learning mediates the relationship between Absorptive Capacity of Project Manager and project Innovation Performance.	Accepted
H ₅ : Social Interaction moderates the relationship between Absorptive Capacity of Project Manager and Employee Learning.	Accepted

Chapter 5

Conclusion and Recommendations

5.1 Discussion

The key commitment of this investigation was trying the connection between absorptive capacity of firms chief and undertaking innovation performance. The discoveries propose that absorptive capacity of task supervisor positively affects firm innovation performance. The fundamental reason for this examination was to respond to the inquiries in regards to the effect of undertaking director on task execution development alongside other variable i-e interceding job of representative learning and directing job of social interaction. Information for this examination was gathered from various task based associations of Azad Kashmir and Islamabad. H₁ demonstrate that the absorptive capacity of project manager director positively affects project innovation performance. On the off chance that the director associated with his group and association all through the undertaking, the organization will prevail toward the end. Projects assumes a significant job in project innovation performance. H₂, H₃, H₄ and H₅ likewise supported the critical relationship of project innovation performance, employee learning and social interaction. Also, representative learning intervenes the connection between

absorptive Capacity of project manager and undertaking innovation performance. Projects are authoritative exercises and emerge in associations for a few reasons, for example, showcase requests, vital chances or needs, mechanical advances, and lawful necessities. They directly affect the association's outcomes (Scott-Young and Samson, 2008). The definite talk of every hypothesis is given beneath.

5.1.1 H₁: Absorptive Capacity and Project Innovation Performance

Hypothesis 1 was framed in order to examine the impact of absorptive capacity on project innovation performance. Hypothesis 1 stated that absorptive capacity positively and significantly influences project innovation performance. The results provided support for this particular hypothesis that absorptive capacity has linked with project innovation performance. The results are in line with the hypothesis model. Also consistent with previous research. According to Tsai (2001), high absorptive capacity is linked with increased business performance and more innovation. Similarly, Fosfuri and Tribo (2006) research showed that absorptive capacity is vital condition for getting benefit in innovation, but firm also need to flourish the potential to reshape and exploit external knowledge in order to get full benefit. Research of Nieto and Quevedo (2005) stated that absorptive capacity ascertain business performance struggling for innovation. Moreover, it has been argued that the complex business environment has driven the organization into temporary formats through projects. Absorptive capacity empower firms to successfully get and use outer learning just as interior one, which influences their developments (Daghfous, 2004). Furthermore, studies revealed that for successful implementation of these interventions the role of both project manager and employees cannot be ignored. For this purpose, different researchers have worked to explore various contextual and dispositional factors, which promote absorptive capacity of project manager. The openness degree of the innovation process is explained through the number of external sources of knowledge involved and the depth of each external relationship. In addition, Bates and Khasawneh (2005) demonstrated that an association is learning society advances development. Different examinations have

featured that an authoritative culture that energizes information sharing among its individuals and supports the usage of new thoughts, bolsters compelling use of learning for commercialization (Naqshbandi & Kamel, 2017).

5.1.2 H₂: Employee Learning is Positively Associated with Project Innovation Performance.

For the investigation to see the impact of employee learning on project innovation performance, hypothesis 2 was proposed. Hypothesis 2 stated that employee learning positively associated with project innovation performance. The results provided support for hypothesis 2, acceptance that employee learning positively and significantly influence project innovation performance. The results are in line with the hypothesized model and in congruence with the literature. According to Calantone, Cavusgil, and Zhao (2002), learning is crucial for innovation and performance. It has been argued, that it is vital for manager to invigorate employees to utilize company time to hunt knowledge that are outside from the scope of their immediate work. Research stated that employee learning is the procedure, by which the firm grows new information and bits of knowledge from the regular encounters of individuals in the association, and can possibly influence practices and improve the project's capacities (Fiol & Lyles, 1985; Senge, 1990; Slater & Narver, 1995). As indicated by setup hypothesis, project based organization that are multidimensional in nature speak to unpredictable, bound together ideas of various, reliant, and commonly strengthening hierarchical parts (Ozkan-Canbolat & Beraha, 2016). In addition, given the quick changes in business condition these days, project based organization ability to accomplish performance innovation promptly through outer learning has turned into a basic determinant for progress (Wang & Han, 2011). Keeping this in mind, we argue that learning is key to innovation, if an employee is countering new things in project environment, experience new knowledge, this will ultimately led to increase project innovation performance. Moreover, Authoritative learning is a reason for picking up a maintainable upper hand and a key variable in the upgrade of hierarchical execution (Brockman & Morgan, 2003; Fiol & Lyles, 1985).

5.1.3 H₃: Absorptive Capacity is Positively Associated with Employee Learning

Hypothesis 3 was design in such a way to check the effect of absorptive capacity on employee learning. The hypothesis was that the indirect effect of absorptive capacity and employee leaning. According to West and Bogers (2017) that the open development movement of an association is translated, chosen, and executed by its employees. In this unique circumstance, engaging authority encourages imagination and adaptability among devotees, bringing about "extremely high advancement" through supporters' improvement and fearlessness (Sims et al., 2009). Moreover, as strengthening is one of the pivotal variables for accomplishing imaginative results (Sok & O'Cass, 2015), the primary goal of this examination is to look at the job of enabling initiative in open development achievement. Existing investigations bolster the view that enabling initiative advances development; in any case, a surviving audit of the writing shows that very little is thought about the job of administration in advancing open advancement. This is especially imperative since the job of initiative in open development is relied upon to vary from its job in the shut advancement worldview. The administration in the open development worldview is relied upon to not just utilize the learning of individuals working in their organization yet in addition of those working in different organizations.

5.1.4 H₄: Employee Learning Mediates the Relationship between Absorptive Capacity of Project Manager and Project Innovation Performance

For investigating, the interceding job of representative learning between absorptive limit and undertaking development execution, theory 4 was recommended. Theory 4 expressed that representative learning intervenes the connection between absorptive limit of task director and undertaking development execution. The outcomes

gave solid help to the proposed speculation acknowledgment that worker learning intervenes between the relationship of absorptive limit of venture chief and undertaking advancement execution. In addition, the outcomes are in accordance with the guessed model and predictable with the past looks into. Research demonstrated that workers are continuously given control over how they learn, and their choices for getting ready are extraordinary and moved, yet agents must modify fighting solicitations. On one hand, they are depended upon to be logically successful in their present spot of work commitments on the other hand, they are required to develop new aptitudes and capacities that enable them to alter and respond to changing occupation demands (Greco et al., 2018). In addition, examine contended that various leveled and task advancement is especially material in the present dynamic and savage conditions, where other inside elements, for instance, inventive assets, laborer getting ready, coordination of new organization capacities, and new flexible HR and continuously adaptable legitimate plans must be solidarity to make regard and high ground (Garca-Snchez, Garca-Morales, and Martn-Rojas, 2018). Laborer learning is fundamental in the dynamic organization condition; yet, much is dark about its key essentialness. Notwithstanding the limit of venture based association to make data inside (Martinkenaite, 2012) there is a creating need to relying upon outside learning (Laukkanen, 2012) as a result of the constrainments of capitals for certain task based association close by (Tseng et al., 2011) and exorbitantly depending upon inward learning can incite progressive partial blindness of course (Zahra and Hayton, 2008).

5.1.5 H₅: Social Interaction Moderates the Relationship between Absorptive Capacity of Project Manager and Employee Learning

For the reason, of dissecting the directing impact of social association on the

connection between absorptive limit and representative learning theory 5 was encircled. Theory 5 articulates that social collaboration directs the connection between absorptive limit of task chief and representative learning. The outcomes gave solid help to its acknowledgment. Likewise, the outcomes are in accordance with past writing. As indicated by Gherardi and Nicolini (2001), learning does not happen primarily or exclusively in people mind but instead advance from individual support in social exercises. Research expressed that for figuring out how to be significant, neighborhood combination of learning is must, it must be gained, changed and connected from there on, and empower in genuine practice, which depend inalienably on social cooperation Hotho, Becker-Ritterspach, and Saka-Helmhout, (2012). Besides, absorptive limit on hierarchical level is an element of the two representatives earlier information who partake in learning exercises and the inspiration (Minbaeva et al., 2003). As indicated by Elmquist, Fredberg, and Ollila, (2009), open advancement continues being a most cherished research zone in the key organization zone. While open progression analyze has focused on perceiving the segments that develop or square open advancement, a couple of parts of open improvement the officials still remain under-considered (West and Bogers, 2017). So also, Dahlander and Gann (2010) raised that as the improvement of open headway models incites firms to move past their ordinary headway measures, establishments would need to grasp logically contemporary approaches to manage advancement the administrators. In this manner, moving to display day methods of progression invites firms to a looking at move in their organization models from standard to the contemporary.

5.2 Theoretical Implication

The present examination has concurred in the writing where the examination of factors like absorptive limit of a task chiefs, worker learning, social communication and venture advancement execution had been coordinated. The examination has made specific commitment to the writing of absorptive limit of task director and undertaking advancement execution. This specific investigation has their own

embodiment it might be said that no earlier examination considers, the effect of absorptive limit of a task director on venture advancement execution and explicitly in undertaking based associations. Essentially, the investigation has accumulated the noteworthy parts of representative learning by examining its intervening job between absorptive limit and task advancement execution. The roundabout impact of this specific develop on task advancement execution is similarly critical to the two experts and scientists as it improve the writing of undertaking the executives in this point of view. Furthermore, the present investigation made another critical commitment by breaking down the job of social cooperation as an arbitrator that whether it upgrade this relationship or cushion this relationship. By and large, this examination add to the task the board writing and to the setting of Pakistan in a few different ways.

5.3 Practical Implication

Although past literature has shown the role of project manager. In the beginning, this study is one of the earliest initiatives in the region, in which the promotion of relationships with learning and the experience has been reviewed. From the practitioner's point of view, this study is expected to provide insights into interaction and a desire to improve innovation. Moreover, this study is equally important for managers, subordinates, supervisors and employees, as Pakistan is facing a highly power distance culture, which needs many new researches to overcome such dimension of Pakistani culture. Similarly, to illustrate the concepts of affective presence of project managers, subordinates and supervisors in order to enhance the relationship between managers and employees by using effective knowledge management channels and procedures to entail creativity in the projects which is the most demanding need of this century.

5.4 Recommendations

1. As a tactic, this study assumes that companies should be encouraged to get higher results for open and internal programs to promote innovation and employee learning, Because open innovation activities require more flexibility and elasticity.
2. Companies need to identify flexible project managers who are independent in the decision making process and having desirable behavior and encourages his/her team through to achieve internal and external targets of the specific projects.
3. At the same time, companies should encourage project managers to encourage their followers to engage in knowledge-based activities and participate in them.
4. Companies need to help their project managers to create a social interaction that will help them learn and encourage new ideas and information.
5. This social interaction, which increases learning and motivation, promotes job interests and promotes new ideas and experiences.
6. Companies need to enable their project managers to promote an open and creative innovation culture within the organization.

5.5 Limitation

Restriction in this examination was the utilization of accommodation test, as comfort inspecting is utilized to gather information arbitrarily from a huge populace, it restrains the generalizability. Henceforth, the outcomes probably won't be broadly summed up. As, it is finished up after investigation that a few outcomes are not equivalent to what was normal in respect with the past looks into and writing, for the most part due the very power separation culture, that is the reason the

outcomes probably won't be appropriate in a non-Pakistani setting. This investigation inspected the job of the arbiter in adapting, yet it was not referenced how the association has open measurements to the various components of the learning society. The example size was 260 respondents. This investigation depended entirely on the essential information and was scanning for real reaction. Since this examination has not been fruitful in attesting the moderate job of learning limit regardless of hypothetical certainties, future research can investigate a relative job of passionate ability to assume a job in setting.

5.6 Future Research

Nothing is perfect; everything has something that needs attention, which eventually brings improvement in that particular thing. The current research has some recommendations for future research on this study. Like, future research should consider conducting a study by utilizing longitudinal study as it helps in illustrating the causal relationship comprehensively. Moreover, the current study took only software industry projects as its sample, future research should take into account other industries and projects to study this relation, as it will help in the generalizability of the study. Industries other than project based should also be considered for further implementing the findings of the study. In addition, future research should include some other mediators and moderators that can help in investigating the relationship of absorptive capacity and project innovation performance. Last but not the least the current research was conducted in the context of Pakistan and took in consideration only Pakistani project based organization. Future research should be conducted in some other contexts to make the study more generalizable.

5.7 Conclusion

This examination has made an endeavor to survey the connection between absorptive limit of undertaking chief and venture development execution in task based

associations of Pakistan. Information was gathered from venture based associations of Islamabad and Azad Kashmir through a poll review to gauge the degree to which absorptive limit of undertaking chief effects venture Innovation execution with intervening job of representative learning and directing job of social connection. Measurable tests demonstrate that legitimacy and unwavering quality of the model factors and attack of the model are likewise reasonable. The proposed speculations are additionally upheld through absorptive limit hypothesis. The aftereffects of the examination are likewise in accordance with absorptive limit hypothesis which delineates learning and association. As per which association and correspondence between the people and the hierarchical colleagues adds to making of new representative learning. Worker learning is happens when there is trade of data or experience among people and groups. In like manner the outcomes additionally line up with Absorptive limit hypothesis which likewise underlines the take for comprehension and clarifying the social association in an association, anyway the speculation that social cooperation directs the connection between absorptive limit of task chief and undertaking advancement execution in venture based associations of Pakistan isn't acknowledged which is perhaps because of the reality the just one measurement was contemplated and furthermore because of the social setting. The examination has given an all encompassing perspective on effect of absorptive limit of undertaking director on task development execution alongside representative learning as go between in venture based associations of Pakistan.

Bibliography

- Abu Bakar, A. H., Yusof, M. N., Tufail, M. A., & Virgiyanti, W. (2016). Effect of knowledge management on growth performance in construction industry. *Management Decision*, 54(3), 735-749.
- Akgün, A. E., Byrne, J., Keskin, H., Lynn, G. S., & Imamoglu, S. Z. (2005). Knowledge networks in new product development projects: A transactive memory perspective. *Information & management*, 42(8), 1105-1120.
- Albort-Morant, G., Henseler, J., Leal-Millán, A., & Cepeda-Carrión, G. (2017). Mapping the field: A bibliometric analysis of green innovation. *Sustainability*, 9(6), 1011.
- Alpkan, L., Bulut, C., Gunday, G., Ulusoy, G. & Kilic, K. (2010). Organizational support for intrapreneurship and its interaction with human capital to enhance innovative performance. *Management Decision*, 48(5), 732 – 755.
- Ancona, D. G., & Caldwell, D. F. (1992). Bridging the boundary: External activity and performance in organizational teams. *Administrative science quarterly*, 37(4).
- Andersén, J. (2012). Protective capacity and absorptive capacity: Managing the balance between retention and creation of knowledge-based resources. *The Learning Organization*, 19(5), 440 – 452.
- Anderson, C., Keltner, D., & John, O. P. (2003). Emotional convergence between people over time. *Journal of personality and social psychology*, 84(5), 1054.

- Annique Un, C., & Montoro-Sanchez, A. (2010). Innovative capability development for entrepreneurship: A theoretical framework. *Journal of Organizational Change Management*, 23(4), 413-434.
- Argote, L., & Fahrenkopf, E. (2016). Knowledge transfer in organizations: The roles of members, tasks, tools, and networks. *Organizational Behavior and Human Decision Processes*, 136, 146-159.
- Baer, M., & Oldham, G. R. (2006). The curvilinear relation between experienced creative time pressure and creativity: moderating effects of openness to experience and support for creativity. *Journal of Applied Psychology*, 91(4), 963.
- Baker, W. E., & Sinkula, J. M. (1999). Learning orientation, market orientation, and innovation: Integrating and extending models of organizational performance. *Journal of market-focused management*, 4(4), 295-308.
- Baker, W. E., & Sinkula, J. M. (2005). Market orientation and the new product paradox. *Journal of Product Innovation Management*, 22(6), 483-502.
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47(4), 64s
- Bates, R., & Khasawneh, S. (2005). Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations. *International journal of training and development*, 9(2), 96-109.
- Beise, M., & Rennings, K. (2005). Indicators for lead markets of environmental innovations. In *Indicator Systems for Sustainable Innovation* (pp. 71-94). Physica-Verlag HD.
- Bezuijen, X. M., van den Berg, P. T., van Dam, K., & Thierry, H. (2009). Pygmalion and employee learning: The role of leader behaviors. *Journal of Management*, 35(5), 1248-1267.
- Bouty, I. (2000). Interpersonal and interaction influences on informal resource exchanges between R&D researchers across organizational boundaries. *Academy of Management Journal*, 43(1), 50-65.

- Bowen, S. (2012). April 2012 Quarterly Report to Congress (p. 158). Arlington. Retrieved from <http://www.sigir.mil/>
- Brockman, B. K., & Morgan, R. M. (2003). The role of existing knowledge in new product innovativeness and performance. *Decision sciences*, *34*(2), 385-419.
- Brown, S. L., & Eisenhardt, K. M. (1995). Product development: Past research, present findings, and future directions. *Academy of management review*, *20*(2), 343-378.
- Burt, R. S. (2004). Structural holes and good ideas. *American journal of sociology*, *110*(2), 349-399.
- Caccia-Bava, M. D., Guimaraes, T. & Harrington, S. J. (2006). Hospital organization culture, capacity to innovate and success in technology adoption. *Journal of Health Organization and Management*, *20*(3), 194 -217.
- Carayannopoulos, S., & Auster, E. R. (2010). External knowledge sourcing in biotechnology through acquisition versus alliance: A KBV approach. *Research Policy*, *39*(2), 254-267.
- Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial marketing management*, *31*(6), 515-524.
- Cepeda-Carrion, G., Navarro, J. G. C., & Martinez-Caro, E. (2012). Improving the absorptive capacity through unlearning context: an empirical investigation in hospital-in-the-home units. *The Service Industries Journal*, *32*(9), 1551-1570.
- Cockburn, I. M., & Henderson, R. M. (1998). Absorptive capacity, coauthoring behavior, and the organization of research in drug discovery. *The Journal of Industrial Economics*, *46*(2), 157-182.
- Cohen, W. M., & Levinthal, D. A. (1994). Fortune favors the prepared firm. *Management science*, *40*(2), 227-251.
- Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of management journal*, *49*(3), 544-560.

- Cronin, M. A., Weingart, L. R., & Todorova, G. (2011). Dynamics in groups: Are we there yet?. *The academy of management annals*, 5(1), 571-612.
- Cross, R., & Sproull, L. (2004). More than an answer: Information relationships for actionable knowledge. *Organization Science*, 15(4), 446-462.
- Daghfous, A. (2004). Absorptive capacity and the implementation of knowledge-intensive best practices. *SAM Advanced Management Journal*, 69(2), 21.
- Dahlander, L., & Gann, D. M. (2010). How open is innovation?. *Research policy*, 39(6), 699-709.
- Dahlander, L., O'Mahony, S., & Gann, D. M. (2016). One foot in, one foot out: how does individuals' external search breadth affect innovation outcomes?. *Strategic Management Journal*, 37(2), 280-302.
- Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal*, 34(3), 555-590.
- Darini, M., Pazhouhesh, H. & Moshiri, F. (2011). Relationship between Employee's Innovation (Creativity) and time management. *Procedia - Social and Behavioral Sciences*, 25(1), 201-213.
- Darroch, J., & McNaughton, R. (2003). Beyond market orientation: Knowledge management and the innovativeness of New Zealand firms. *European journal of Marketing*, 37(3/4), 572-593.
- Davies, A., Brady, T., Prencipe, A., & Hobday, M. (2011). Innovation in complex products and systems: implications for project-based organizing. In *Project-Based Organizing and Strategic Management* (pp. 3-26). Emerald Group Publishing Limited.
- de Araújo Burcharth, A. L., Knudsen, M. P., & Søndergaard, H. A. (2014). Neither invented nor shared here: The impact and management of attitudes for the adoption of open innovation practices. *Technovation*, 34(3), 149-161.
- De Stobbeleir, K. E., Ashford, S. J., & Buyens, D. (2011). Self-regulation of creativity at work: The role of feedback-seeking behavior in creative performance. *Academy of management journal*, 54(4), 811-831.

- de Weerd-Nederhof, P. C., Pacitti, B. J., da Silva Gomes, J. F., & Pearson, A. W. (2002). Tools for the improvement of organizational learning processes in innovation. *Journal of Workplace Learning, 14*(8), 320-331.
- De Zubielqui, G. C., Jones, J., & Lester, L. (2016). Knowledge inflows from market-and science-based actors, absorptive capacity, innovation and performance—a study of SMEs. *International Journal of Innovation Management, 20*(06), 1650055.
- Dickson, P. R. (1996). The static and dynamic mechanics of competition: a comment on Hunt and Morgan's comparative advantage theory. *Journal of marketing, 60*(4), 102-106.
- Dixon, S. E. & Day, M. (2007). Leadership, administrative heritage and absorptive capacity. *Leadership & Organization Development Journal, 28*(8), 727 – 748.
- Duffield, S., & Whitty, S. J. (2016). How to apply the Systemic Lessons Learned Knowledge model to wire an organisation for the capability of storytelling. *International Journal of Project Management, 34*(3), 429-443.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative science quarterly, 44*(2), 350-383.
- Elmquist, M., Fredberg, T., & Ollila, S. (2009). Exploring the field of open innovation. *European Journal of Innovation Management, 12*(3), 326-345.
- Ferreras-Méndez, J. L., Newell, S., Fernández-Mesa, A., & Alegre, J. (2015). Depth and breadth of external knowledge search and performance: The mediating role of absorptive capacity. *Industrial Marketing Management, 47*, 86-97.
- Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of management review, 10*(4), 803-813.
- Flatten, T. C., Greve, G. I. & Brettel, M. (2011). Absorptive Capacity and Firm Performance in SMEs: The Mediating Influence of Strategic Alliances. *European Management Review, 8*(3), 137–152.

- Fleming, L., & Waguespack, D. M. (2007). Brokerage, boundary spanning, and leadership in open innovation communities. *Organization science*, 18(2), 165-180.
- Fosfuri, A., & Tribó, J. A. (2008). Exploring the antecedents of potential absorptive capacity and its impact on innovation performance. *Omega*, 36(2), 173-187.
- Gambardella, A. (1992). Competitive advantages from in-house scientific research: The US pharmaceutical industry in the 1980s. *Research Policy*, 21(5), 391-407.
- García-Sánchez, E., García-Morales, V. J., & Martín-Rojas, R. (2018). Influence of Technological Assets on Organizational Performance through Absorptive Capacity, Organizational Innovation and Internal Labour Flexibility. *Sustainability*, 10(3), 770.
- Garrido-Moreno, A. & Padilla-Meléndez, A. (2011). Analyzing the impact of knowledge management on CRM success: The mediating effects of organizational factors. *International Journal of Information Management*, 31(5), 437-444.
- Ghobadi, S., & Mathiassen, L. (2016). Perceived barriers to effective knowledge sharing in agile software teams. *Information Systems Journal*, 26(2), 95-125.
- Glomb, T. M., & Liao, H. (2003). Interpersonal aggression in work groups: Social influence, reciprocal, and individual effects. *Academy of Management journal*, 46(4), 486-496.
- González-Loureiro, M., Vila Alonso, M., & Schiuma, G. (2015). Knowledge and sustained competitive advantage: How do services firms compete?. *Investigaciones Europeas de Dirección y Economía de la Empresa (IEDEE)*, 21(2), 55-57.
- Goodman, Jodi (2004), "Feedback Specificity, Exploration, and Learning", *Journal of Applied Psychology*, 89, 248-262.
- Gottschalg, O., & Zollo, M. (2007). Interest alignment and competitive advantage. *Academy of Management Review*, 32(2), 418-437.

- Greco, L. M., Charlier, S. D., & Brown, K. G. (2018). Trading off learning and performance: “Relationship between quality management practices and innovation”, *Journal of Operations Management*, Vol. 30 No. 4, pp. 295-315
- Hahn, M. H., Lee, K. C., & Lee, D. S. (2015). Network structure, organizational learning culture, and employee creativity in system integration companies: the mediating effects of exploitation and exploration. *Computers in Human Behavior*, 42, 167-175.
- Hamel, G. (1991). Competition for competence and interpartner learning within international strategic alliances. *Strategic management journal*, 12(S1), 83-103.
- Hareli, S., & Rafaeli, A. (2008). Emotion cycles: On the social influence of emotion in organizations. *Research in organizational behavior*, 28, 35-59.
- Heckman, J. J., Stixrud, J., & Urzua, S. (2006). The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior. *Journal of Labor economics*, 24(3), 411-482.
- Hogan, J., & Holland, B. (2003). Using theory to evaluate personality and job-performance relations: A socioanalytic perspective. *Journal of applied psychology*, 88(1), 100.
- Hotho, J. J., Becker-Ritterspach, F., & Saka-Helmhout, A. (2012). Enriching absorptive capacity through social interaction. *British Journal of Management*, 23(3), 383-401.
- Holzmann, R. (2013). Global pension systems and their reform: Worldwide drivers, trends and challenges. *International Social Security Review*, 66(2), 1-29.
- Huang, F., & Rice, J. (2009). The role of absorptive capacity in facilitating “open innovation” outcomes: a study of Australian SMEs in the manufacturing sector. *International Journal of Innovation Management*, 13(02), 201-220.
- Hurmelinna-Laukkanen, P., Olander, H., Blomqvist, K., & Panfilii, V. (2012). Orchestrating R&D networks: Absorptive capacity, network stability, and innovation appropriability. *European Management Journal*, 30(6), 552-563.

- Indreicaa, E., Cazanb, A. & Truțac, C. (2011). Effects of learning styles and time management on academic achievement. *Procedia-Social and Behavioral Sciences*, 30(1), 1096 – 1102.
- Jansen, J. J. P., Van Den Bosch, F. A. J. & Volberda, H. W. (2005). Managing Potential and Realized Absorptive Capacity: How Do Organizational Antecedents Matter? *Academy of Management Journal*, 48(6), 999–1015. doi:10.5465/AMJ.2005.19573106
- Jung-Erceg, P., Pandza, K., Armbruster, H. & Dreher, C. (2007). Absorptive capacity in European manufacturing: a Delphi study. *Industrial Management & Data Systems*, 107(1), 37 – 51.
- Kabiri, S.M.(2018) How innovation affects implementation of diversification strategy in soft drinking processing industry in Nairobi city county (Doctoral dissertation, *School of Business, University of Nairobi*)
- Kang, M., & Lee, M. J. (2017). Absorptive capacity, knowledge sharing, and innovative behaviour of R&D employees. *Technology Analysis & Strategic Management*, 29(2), 219-232.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of management journal*, 33(4), 692-724.
- Kao, Y. L., & Chen, C. F. (2016). Antecedents, consequences and moderators of ambidextrous behaviours among frontline employees. *Management Decision*, 54(8), 1846-1860.
- Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of management journal*, 45(6), 1183-1194.
- Kedia, B. L., & Bhagat, R. S. (1988). Cultural constraints on transfer of technology across nations: Implications for research in international and comparative management. *Academy of Management Review*, 13(4), 559-571.
- Klein, Katherine J., Amy Buhl Conn, and D. Brent Smith (2001), "Is Everyone in Agreement? An Exploration of Within-Group Agreement in Employee

- Perceptions of the Work Environment.”, *Journal of Applied Psychology*, 86, 3-16
- Kostopoulos, K., Papalexandris, A., Papachroni, M., & Ioannou, G. (2011). Absorptive capacity, innovation, and financial performance. *Journal of Business Research*, 64(12), 1335-1343.
- Kraimer, M. L., Seibert, S. E., Wayne, S. J., Liden, R. C., & Bravo, J. (2011). Antecedents and outcomes of organizational support for development: The critical role of career opportunities. *Journal of Applied Psychology*, 96(3), 485-500.
- Kratzer, J., Meissner, D., & Roud, V. (2017). Open innovation and company culture: Internal openness makes the difference. *Technological Forecasting and Social Change*, 119, 128-138.
- Krylova, K. O., Vera, D., & Crossan, M. (2016). Knowledge transfer in knowledge-intensive organizations: the crucial role of improvisation in transferring and protecting knowledge. *Journal of Knowledge Management*, 20(5), 1045-1064.
- Kuratko, D. F., Montagno, R. V. & Hornsby, J. S. (1990). Developing an entrepreneurial assessment instrument for an effective corporate entrepreneurship. *Strategic Management Journal*, 11(5), 49-58.
- Larson, E. W., & Gray, C. F. (2017). *Project management: The managerial process*. McGraw Hill Education.
- Lane, P. J., Koka, B. R., & Pathak, S. (2006). The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of management review*, 31(4), 833-863.
- Laukkanen, P. H. (2012). Constituents and outcomes of absorptive capacity – appropriability regime changing the game. *Management Decision*, 50(7), 1178-1199.
- Laursen, K., & Foss, N. J. (2003). New human resource management practices, complementarities and the impact on innovation performance. *Cambridge Journal of economics*, 27(2), 243-263.

- Laursen, K., & Salter, A. (2006). Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strategic management journal*, 27(2), 131-150.
- Leal-Rodríguez, A. L., Ariza-Montes, J. A., Roldán, J. L., & Leal-Millán, A. G. (2014). Absorptive capacity, innovation and cultural barriers: A conditional mediation model. *Journal of Business Research*, 67(5), 763-768.
- Leiponen, A., & Helfat, C. E. (2011). Location, decentralization, and knowledge sources for innovation. *Organization Science*, 22(3), 641-658.
- Limaj, E., & Bernroider, E. W. (2019). The roles of absorptive capacity and cultural balance for exploratory and exploitative innovation in SMEs *Journal of Business Research*, 94, 137-153
- Lewin, A. Y., Massini, S., & Peeters, C. (2011). Microfoundations of internal and external absorptive capacity routines. *Organization Science*, 22(1), 81-98.
- Li, Q., Maggitti, P. G., Smith, K. G., Tesluk, P. E., & Katila, R. (2013). Top management attention to innovation: The role of search selection and intensity in new product introductions. *Academy of Management Journal*, 56(3), 893-916.
- Liao, K., Tu, Q. & Marsillac, E. (2010). The role of modularity and integration in enhancing manufacturing performance: An absorptive capacity perspective. *Journal of Manufacturing Technology Management*, 21(7), 818 – 838.
- Lounsbury, J. W., Foster, N., Patel, H., Carmody, P., Gibson, L. W., & Stairs, D. R. (2012). An investigation of the personality traits of scientists versus nonscientists and their relationship with career satisfaction. *R&D Management*, 42(1), 47-59.
- Lund Vinding, A. (2006). Absorptive capacity and innovative performance: A human capital approach. *Economics of innovation and New Technology*, 15(4-5), 507-517.
- Martín-de Castro, G. (2015). Knowledge management and innovation in knowledge-based and high-tech industrial markets: The role of openness and absorptive capacity. *Industrial Marketing Management*, 47, 143-146.

- Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *academy of management journal*, 45(4), 757-767.
- Martinkenaite, I. (2012). Antecedents of knowledge transfer in acquisitions. *Baltic Journal of Management*, 7(2), 167 – 184.
- Maurer, T. J., Mitchell, D. R., & Barbeite, F. G. (2002). Predictors of attitudes toward a 360-degree feedback system and involvement in post-feedback management development activity. *Journal of Occupational and Organizational Psychology*, 75(1), 87-107.
- McFadyen, M. A., Semadeni, M., & Cannella Jr, A. A. (2009). Value of strong ties to disconnected others: Examining knowledge creation in biomedicine. *Organization science*, 20(3), 552-564.
- Minbaeva, D., Pedersen, T., Björkman, I., Fey, C. F., & Park, H. J. (2003). MNC knowledge transfer, subsidiary absorptive capacity, and HRM. *Journal of international business studies*, 34(6), 586-599.
- Minguela-Rata, B., Benavides, M. C. & López-Sánchez, J. I. (2012). Knowledge complexity, absorptive capacity and weak ties: An empirical analysis of its effects on franchise systems uniformity. *Journal of Manufacturing Technology Management*, 23(5), 578 – 592.
- Moreno, A. G. & Meléndez, A. P. (2011). Analyzing the impact of knowledge management on CRM success: The mediating effects of organizational factors. *International Journal of Information Management*, 31(5), 437– 444.
- Morrison, E. W., & Bies, R. J. (1991). Impression management in the feedback-seeking process: A literaturereview and research agenda. *Academy of management review*, 16(3), 522-541.
- Naqshbandi, M. M., & Kamel, Y. (2017). Intervening role of realized absorptive capacity in organizational culture–open innovation relationship: Evidence from an emerging market. *Journal of General Management*, 42(3), 5-20.
- Nieto, M., & Quevedo, P. (2005). Absorptive capacity, technological opportunity, knowledge spillovers, and innovative effort. *Technovation*, 25(10), 1141-1157.

- Nembhard, I. M., & Tucker, A. L. (2011). Deliberate learning to improve performance in dynamic service settings: Evidence from hospital intensive care units. *Organization Science*, *22*(4), 907-922.
- Newey, L. R., & Zahra, S. A. (2009). The evolving firm: how dynamic and operating capabilities interact to enable entrepreneurship. *British Journal of Management*, *20*, S81-S100.
- Nieto, M. J., & Santamaría, L. (2007). The importance of diverse collaborative networks for the novelty of product innovation. *Technovation*, *27*(6-7), 367-377.
- Nyhus, E. K., & Pons, E. (2005). The effects of personality on earnings. *Journal of Economic Psychology*, *26*(3), 363-384.
- Ozkan-Canbolat, E., & Beraha, A. (2016). A configurational approach to network topology design for product innovation. *Journal of Business Research*, *69*(11), 5216-5221.
- Pedler, M., & Aspinwall, K. (1999). Learning Company. In *The Experience of Managing* (pp. 141-154). Palgrave Macmillan, London.
- Pemsel, S., & Müller, R. (2012). The governance of knowledge in project-based organizations. *International Journal of Project Management*, *30*(8), 865-876.
- Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of adolescent research*, *7*(2), 156-176.
- Ployhart, R. E., & Moliterno, T. P. (2011). Emergence of the human capital resource: A multilevel model. *Academy of management review*, *36*(1), 127-150.
- Popadiuk, S., & Choo, C. W. (2006). Innovation and knowledge creation: How are these concepts related?. *International journal of information management*, *26*(4), 302-312.
- Popaitoon, S., & Siengthai, S. (2014). The moderating effect of human resource management practices on the relationship between knowledge absorptive capacity and project performance in project-oriented companies. *International Journal of Project Management*, *32*(6), 908-920.

- Rafique, M., Hameed, S., & Agha, M. H. (2018). Commonality, conflict, and absorptive capacity: Clarifying middle manager roles in the pharmaceutical industry. *Management Decision*, *56*(9), 1904-1916.
- Rangus, K., Drnovšek, M., Di Minin, A., & Spithoven, A. (2017). The role of open innovation and absorptive capacity in innovation performance: Empirical evidence from Slovenia. *JEEMS Journal of East European Management Studies*, *22*(1), 39-62.
- Rogers, B. (2015). *Classroom behaviour: A practical guide to effective teaching, behaviour management and colleague support*. Sage.
- Rowley, T., Behrens, D., & Krackhardt, D. (2000). Redundant governance structures: An analysis of structural and relational embeddedness in the steel and semiconductor industries. *Strategic management journal*, *21*(3), 369-386.
- Salampasis, D. G., Mention, A. L., & Torkkeli, M. (2015). Trust embeddedness within an open innovation mindset. *International Journal of Business and Globalisation*, *14*(1), 32-57.
- Santoro, G. (2017, September). The role of human resources for inbound open innovation: implications for high-tech firms. In *10th Annual Conference of the EuroMed Academy of Business*.
- Schwab, K. (Ed.). (2009). *The global competitiveness report 2009-2010*. World Economic Forum.
- Scuotto, V., Del Giudice, M., & Carayannis, E. G. (2017). The effect of social networking sites and absorptive capacity on SMES'innovation performance. *The Journal of Technology Transfer*, *42*(2), 409-424.
- Scott-Young, C., & Samson, D. (2008). Project success and project team management: Evidence from capital projects in the process industries. *Journal of Operations Management*, *26*(6), 749-766.
- Senge, P. M. (1990). *The art and practice of the learning organization*.
- Siggelkow, N. (2001). Change in the presence of fit: The rise, the fall, and the renaissance of Liz Claiborne. *Academy of Management journal*, *44*(4), 838-857.

- Sinkula, J. M. (1994). Market information processing and organizational learning. *Journal of marketing*, 58(1), 35-45.
- Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. *Journal of marketing*, 59(3), 63-74.
- Sok, P., & O'Cass, A. (2015). Examining the new product innovation–performance relationship: Optimizing the role of individual-level creativity and attention-to-detail. *Industrial Marketing Management*, 47, 156-165.
- Sparrow, J., Tarkowski, K., Lancaster, N. & Mooney, M. (2009). Evolving knowledge integration and absorptive capacity perspectives upon university-industry interaction within a university. *Education and Training*, 51(8), 648 – 664.
- Tiwana, Amrit, and Ephraim R. McLean (2005), "Expertise Integration and Creativity in Information Systems Development", *Journal of management Information Systems*, 22, 13-43.
- Tortoriello, M. (2015). The social underpinnings of absorptive capacity: The moderating effects of structural holes on innovation generation based on external knowledge. *Strategic Management Journal*, 36(4), 586-597.
- Thompson, E. P. P. (1978). *Poverty of theory*. nyu Press.
- Tippins, M. J., & Sohi, R. S. (2003). IT competency and firm performance: is organizational learning a missing link?. *Strategic management journal*, 24(8), 745-761.
- Tsai, L. (2001). Knowledge Transfer in Intraorganizational Networks : Effects of Network Position and Absorptive Capacity on Business Unit Innovation and Performance. *Academy of Management Journal*, 44(5), 996–1004.
- Tsai, W. (2002). Social structure of “coopetition” within a multiunit organization: Coordination, competition, and intraorganizational
- Tseng, C. Y., Pai, D. C. & Hung, C. H. (2011). Knowledge absorptive capacity and innovation performance in KIBS. *Journal of Knowledge Management*, 15(6), 971–983.

- Tucker, A. L., & Edmondson, A. C. (2003). Why hospitals don't learn from failures: Organizational and psychological dynamics that inhibit system change. *California management review*, 45(2), 55-72.
- Turner, J. C. (1988). Comments on Doise's individual and social identities in intergroup relations. *European Journal of Social Psychology*, 18(2), 113-116.
- Ussahawanitchakit, P. (2008). Impacts of organizational learning on innovation orientation and firm efficiency: an empirical assessment of accounting firms in Thailand. *International Journal of Business Research*, 8(4), 1-12.
- Volberda, H. W., Foss, N. J., & Lyles, M. A. (2010). Perspective—Absorbing the concept of absorptive capacity: How to realize its potential in the organization field. *Organization science*, 21(4), 931-951.
- Vrontis, D., Thrassou, A., Santoro, G., & Papa, A. (2017). Ambidexterity, external knowledge and performance in knowledge-intensive firms. *The Journal of Technology Transfer*, 42(2), 374-388.
- Wang, C. & Han, Y. (2011). Linking properties of knowledge with innovation performance: the moderate role of absorptive capacity. *Journal of Knowledge Management*, 15(5), 802–819.
- Wang, Y., & Byrd, T. A. (2017). Business analytics-enabled decision-making effectiveness through knowledge absorptive capacity in health care. *Journal of Knowledge Management*, 21(3), 517-539.
- Weigelt, C. & Sarkar, M. B. (2012). Performance Implication of Outsourcing for Technological Innovation: Managing the Efficiency and Adaptability trade-Off. *Strategic Management Journal*, 216, 189–216. doi:10.1002/smj
- West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. *Journal of Product Innovation Management*, 31(4), 814- 831.
- West, J., & Bogers, M. (2017). Open innovation: current status and research opportunities. *Innovation*, 19(1), 43-50.
- Wiengarten, F., Humphreys, P., Cao, G. & McHugh, M. (2013). Exploring the Important Role of Organizational Factors in IT Business Value: Taking a

- Contingency Perspective on the Resource-Based View. *International Journal of Management Reviews*, 15(1), 30–46.
- Wignaraja, G. (2016). Understanding Innovation in Production Networks in Firms in the People's Republic of China, Thailand, and the Philippines. In *Production Networks and Enterprises in East Asia* (pp. 185-205). Springer, Tokyo.
- Wu, S. & Fang, W. (2010). The effect of consumer-to-consumer interactions on idea generation in virtual brand community relationships. *Technovation*, 30(11/12), 570–581.
- Xia, T., & Roper, S. (2016). Unpacking open innovation: absorptive capacity, exploratory and exploitative openness, and the growth of entrepreneurial biopharmaceutical firms. *Journal of Small Business Management*, 54(3), 931-952.
- Yakhlef, A. (2010). The corporeality of practice-based learning. *Organization Studies*, 31(4), 409-430.
- Yao, F. K., & Chang, S. (2017). Do Individual Employees' Learning Goal Orientation and Civic Virtue Matter? A Micro-Foundations Perspective on Firm Absorptive Capacity. *Strategic Management Journal*, 38(10), 2041-2060.
- Yee, R. W., Lee, P. K., Yeung, A. C., & Cheng, T. C. E. (2018). Employee learning in high-contact service industries. *Management Decision*, 56(4), 793-807.
- Yli-Renko, H., Autio, E., & Sapienza, H. J. (2001). Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic management journal*, 22(6-7), 587-613.
- Zahra, S. A. & George, G., (2002). Absorptive Capacity: A review, Reconceptualization, and Extension. *Academy of Management Review*, 27(2), 185-203.
- Zahra, S. A. & Hayton, J. C. (2008). The effect of international venturing on firm performance: The moderating influence of absorptive capacity. *Journal of Business Venturing*, 23(2),195–220.
- Zhao, Z. J., & Chadwick, C. (2014). What we will do versus what we can do: The relative effects of unit-level NPD motivation and capability. *Strategic management journal*, 35(12), 1867-1880.

-
- Zhu, W. Y., & Yin, Q. (2016). The influence of TMT characteristics on technological innovation: Evidence from it public listed companies in China. In *Proceedings of the 6th International Asia Conference on Industrial Engineering and Management Innovation* (pp. 963-970). Atlantis Press, Paris.
- Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization science*, *13*(3), 339-351.
- Zobel, A. K. (2017). Benefiting from open innovation: A multidimensional model of absorptive capacity. *Journal of Product Innovation Management*, *34*(3), 269-288.

Appendices

Questionnaire

Dear respondent,

I am students of MS Management Sciences at Capital University of Science and Technology Islamabad. I am conducting a research on **Impact of Absorptive Capacity of Project Manager on Project Innovation Performance Mediating Role of Employee Learning moderating role Social Interaction**. You can help me by completing the attached questionnaire; you will find it quite interesting. I appreciate your participation in my study and I assure that your responses will be held confidential and will only be used for education purposes.

Sincerely,

Syeda Pyam Zenib Naqvi

Demographics Profile	
Gender:	1- Male 2- Female
Age Group:	1. (18-27) 2. (28-37) 3. (38-47) 4. (48-57)
Education:	1. Bachelors, 2. Master 3. M.Phil & PhD
Experience:	1. (1-5) 2. (5-10) 3. (10-15) 4. (More than 15)

Part-B

Please tick the relevant choices;

SN	Absorptive Capacity of Project Manager	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	We are successful in learning new things within this group.	1	2	3	4	5
2	We are effective in developing new knowledge or insights that have the potential to influence product development.	1	2	3	4	5
3	We have effective routines to identify, value, and import new information and knowledge.	1	2	3	4	5
4	We have adequate routines to analyze the information and knowledge obtain.	1	2	3	4	5
5	We have adequate routines to assimilate new information and knowledge.	1	2	3	4	5
6	We are effective in transforming existing information into new knowledge.	1	2	3	4	5

7	We can successfully exploit internal and external information and knowledge into concrete applications.	1	2	3	4	5
8	We are effective in utilizing knowledge into new products.	1	2	3	4	5
9	We are able to identify and acquire internal (e.g., within the group) and external (e.g., market) knowledge.	1	2	3	4	5
10	Prior to the project, did your project team have the expertise required to assimilate the knowledge that came from the other subsidiaries?.	1	2	3	4	5

SN	Employee Learning	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	My employer emphasizes employee learning to its employees.	1	2	3	4	5
2	My peers are supportive of learning activities.	1	2	3	4	5
3	My supervisor encourages me to participate in career-relevant learning activities.	1	2	3	4	5
4	There are learning and skill development resources available to me through my employer that can help me improve my career skills.	1	2	3	4	5
5	The sense around here is that employee learning is an investment, not an expense in the supply chain.	1	2	3	4	5
6	Once we quit learning in the supply chain we endanger our future.	1	2	3	4	5

7	We agree that our ability to learn is the key to improvement in the supply chain process.	1	2	3	4	5
8	The sense around here is that employee learning is an investment, not an expense in the supply chain.	1	2	3	4	5
9	The basic values of this supply chain process include learning as a key to improvement.	1	2	3	4	5
10	Once we quit learning in the supply chain we endanger our future.	1	2	3	4	5

SN	Project Innovation Performance	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Creativity is encouraged here.	1	2	3	4	5
2	Around here, people are allowed to try to solve the same problems in different ways.	1	2	3	4	5
3	The main function of members in this organization is to follow orders which come down through channels.	1	2	3	4	5
4	Around here, a person can get in a lot of trouble being different.	1	2	3	4	5
5	This organization can be described as flexible and continually adapting to change.	1	2	3	4	5
6	A person cant do things that are too different around here without provoking anger.	1	2	3	4	5
7	The best way to get along in this organization is to think the way the rest of the group does.	1	2	3	4	5
8	People around here are expected to deal with problems in the same way.	1	2	3	4	5

9	This organization is open and responsive to change.	1	2	3	4	5
10	The people in charge around here usually get credit for others ideas.	1	2	3	4	5
11	In this organization, we tend to stick to tried and true ways.	1	2	3	4	5
12	This place seems to be more concerned with the status quo than with changes.	1	2	3	4	5

SN	Social Interaction	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I like meeting and getting to know people from ethnic groups other than my own.	1	2	3	4	5
2	I sometimes feel it would be better if different ethnic groups didnt try to mix together.	1	2	3	4	5
3	I often spend time with people from ethnic groups other than my own.	1	2	3	4	5
4	I dont try to become friends with people from other ethnic groups.	1	2	3	4	5
5	I am involved in activities with people from other ethnic groups.	1	2	3	4	5
6	I enjoy being around people from ethnic groups other than my own.	1	2	3	4	5