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Impact of Coworker Knowledge Sharing on Team Performance with the Mediating Role of Absorptive Capacity & the Moderating Role of Project Complexity

by

Ali Raza

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I dedicate my dissertation work to my supervisor, family and many friends. A special feeling of gratitude to my loving parents whose words of encouragement and push for tenacity ring in my ears.

CERTIFICATE OF APPROVAL

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Abstract

The goal of current research conducted by organizations based on projects was to ascertain the effect that Co-worker Knowledge Sharing has on the Team's Performance. This study examines the effects of knowledge sharing among coworkers on team performance, with a focus in particular on the roles of mediating absorptive capacity and moderating project complexity. It is well acknowledged that information sharing among coworkers is essential to enhancing teamwork and overall performance. The study also examines the significance of absorption capacity in facilitating group learning and utilization of shared knowledge. The implications of this study are manifold. From a theoretical perspective, it contributes to the understanding of the interrelated factors influencing team performance. From a practical standpoint, the findings hold the potential to guide organizations in fostering a culture of knowledge sharing, optimizing absorptive capacity, and tailoring strategies based on project complexity. By shedding light on the complex interplay of these variables, this research strives to provide a comprehensive framework that facilitates the harnessing of coworker knowledge sharing to propel team performance forward. These findings underscore the complexity of the relationships examined. They emphasize the need for organizations to not only encourage coworker knowledge sharing but also to develop their absorptive capacities to fully harness the benefits Analyze how the project's complexity affects the relationship between sharing knowledge and team performance. Information was gathered from 384 respondents who hold various positions in Pakistani Rawalpindi/ Islamabad project-based organizations.

Keywords: Co-worker Knowledge Sharing, Absorptive Capacity, Project Complexity, Team Performance

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Abbreviations

CWKS	Co-worker Knowledge Sharing
TP	Team Performance
AC	Absorptive Capacity
PC	Project Complexity
SET	Social Exchange Theory
SPSS	Statistical Package for Social Sciences

Chapter 1

Introduction

1.1 Background

Researchers always conduct research by relying on the legendary work of their eminent Predecessors in the field. As globalization has changed quickly over the past few decades, companies have experienced dynamic planning-stage modifications to accomplish and improving team performance.

Learning includes absorption, information, connecting concepts, and connecting knowledge from the past with knowledge from the present. It also involves having an independent mind and the capacity to apply knowledge to new situations (Drupsteen and Guldenmund, 2014).

The same project management techniques that work in one organization may not work in another project-based organization. Organizations must be able to perceive how the dynamic environment evolves and take appropriate action to address issues with the support of project management techniques, which are necessary for an organization's success.

Most firms regard "knowledge" as one of their most important and powerful competitive advantages (Alexy et al., 2013). Even though the benefits of Coworker Knowledge support are well known, researchers also found that specific Coworker Knowledge support has a greater impact on team performance related to the task

than does general Coworker engagement (Kim and Yun, 2015). Coworker knowledge Sharing is such an important factor of generating new information, stimulating innovation, and improving company learning, it has recently received a lot of attention. Identifying people who are willing to share what they have learnt is the essential to effective knowledge management (Kipkosgei et al., 2020). There are numerous factors that affect team performance, many of which have been studied in depth by research scholars (Hoegl and Gemuenden, 2001). Companies now understand that good teams can help them accomplish their objectives and meet the requirements of a changing work environment (Schlechter and Strauss, 2008).Success of any projects highly depends on team performance, which is the result of the team's collaboration in terms of viability and productivity (Lindsjørn et al., 2016). According to experts, one strategy for managing with rapid changes is a team performance. As a result, there is a constant need for sharing ideas and ongoing learning due to the changing nature of the workplace and everyday tasks (Tajpour and Razavi, 2023).

Although with skill, a team can be unsuccessful. In other words, even if they are experts in every field, they might not succeed. It is important to distinguish between competence and performance. People are not an passing over. Alots of individuals are seen as skillful as a result of their completed exams, but they could not function well in actual situations. In fact, some people and teams succeed despite not being seen as skilled as others are because they put in more effort, are more dedicated, and are unwilling to give up. It is the responsibility of every team member to raise performance and competence. Team member's first share and compare their ideas about themselves and their group in the beginning (Margerison, 2001). Team performance is significantly affected positively by the standard of the teamwork.

Although absorptive capacity focused on acquiring fresh information, organizational learning concentrates on gaining new knowledge from previous experiences (Zhao et al., 2021). The base of a organization's ambitious benefit is its absorption capacity. Businesses with a high capacity for absorption can successfully manage outside knowledge and develop innovations (Zhao et al., 2021). The project's ability to link and integrate with outside data with its existing database is known to

as its absorptive capacity (Wang et al., 2011). In a while, the possible impact of absorptive capacity in task-based associations is not fully explored (Xie et al., 2018).

The fact that two main subsets of absorptive capacity (Zahra and George, 2002). Potential absorptive capacity includes information absorption and digestion methods, giving businesses sufficient resilience and freedom to accommodate and progress in a situation that is regularly and fast changing.

Recognized absorptive capacity includes learning change and abuse, encompasses the applying new information/knowledge and comes from the absorption of both previously known information and recently obtained information into team performance. The concept of a project manager's absorptive capacity has changed and developed from a static viewpoint that emphasizes prior research to a more effective, a method-based perspective that focuses aggregate capacity (Lane et al., 2006).

Complexity has played an important role in project management literature during the last few years (Shenhar et al., 2007). There is broad acceptance that complexity is an important think about the project management process. Planning, coordination, and control needs are determined in part by the project's complexity. The choice of an optimal project organizational structure takes complexity into consideration (Baccarini, 1996).

The term "complexity" in project management is commonly used, which typically leads to further problems getting the required outcome. Finding a way to control the complexity of the project is necessary to prevent the team will no more have problem operating on it (Rouhanizadeh et al., 2020). Project complexity creates contingency that would affect the project's scope (Liu and Wang, 2014). Project complexity is the a feature of a project that makes it difficult to analyze, even when given instructions, anticipate and control its overall behavior minimal amounts of total knowledge of the project system.

Project size, project variety, project interconnection, are its guiding influences, along with the project environment (Vidal and Marle, 2008). Knowing how to

manage and comprehend the complexities of projects influences people and organizations is important for both researchers and professionals. Daniel and Daniel (2018) stated that project complexity is increasing, which raises the difficulties of projects and their management. According to research on the most prevalent way to define complexity is through project management. is a collection of distinct and interconnected aspects of a project that are carried out with uncertainty.

1.2 Research Gap

Absorptive Capacity is a variable, which talks about how the organizations enhance their ability to absorb knowledge from outside sources and use it for innovate and develop. Based on the existing literature, the combination of the employee's external knowledge with the organization's internal knowledge occurs through the incorporation of the ability to absorb information as a mediator and a better teamwork strategy (Mata et al., 2023).

The existing literature on the relationship between coworker knowledge sharing and team performance has yielded valuable insights into the positive impact of knowledge sharing on various team outcomes (Nahapiet and Ghoshal, 1998). As a result, understanding how to use external information requires knowledge of Absorptive Capacity. It has been studied only in concerning of organizations. Absorptive capacity, in project-based companies, the potential to continuously gather, process, and use outside information has evolved into a significant capability that is essential for employee learning.

The literature still needs empirical support (Limaj and Bernroider, 2019). The concept of absorption asserts that the acquisition of new knowledge aids organisations in increasing the effectiveness of their teams and makes them more flexible and innovative than they would be otherwise gain of knowledge (Mata et al., 2023). For this study by examining to fill the gap by studying the role of absorptive capacity as a team performance and how it might effect on the employee's learning.

The investigation also pinpoints a prospective mediators and moderator to address the gap. This research proposes that absorptive capacity as a mediator between

the relationship of co-worker knowledge sharing and team performance would be a vital distinction in project management's field.

However, this investigation also inculcates that project complexity as one of the rare domains that is still used today is moderator needs to explore while relating to the project management.

The capacity for absorption as a mediator, however, is one of the unique aspects that still need investigation while relating to the project management. One of the most crucial management variables is absorption capacity, and it is suggested companies give careful consideration to managing and controlling the performance of its individual members and their team's results (Soo et al., 2017).

Moreover, it is present still additional space to investigate such variables. As such recently, no study has done on the impact of co-worker knowledge sharing on team performance with the mediating role of absorptive capacity and moderating role of project complexity.

1.3 Problem Statement

According to the current study, coworker knowledge exchange practices show a positive connect with team performance directly, but it also has an effect absorptive capacity, it also has a connection to team performance. As a result, the current study's goal is to find out whether or not and how is co-worker knowledge sharing beneficial for team performance.

Hence, the study's issue is defined by the following problem statement. In organizations knowledge is available but the people hide the knowledge they do not share the knowledge and the result is that performance of the project will not achieve actual potential they have and go downward.

Team and coworker assume that if we share the knowledge and information, they do not have potential to grasp them; they assume their absorptive capacity is very low and the result is that team performance is decreasing.

People are fear to share the knowledge because if they share the knowledge their knowledge will be wasted and other team member want to absorbs it or accept

it. Overall Team performance of the project is go downward. Hence, this study is attempting to fill all the above-discussed gaps by exploring the impact of co-worker knowledge sharing on team performance through absorptive capacity.

1.4 Research Questions

The purpose because of that investigation finding responses to the subsequent research questions, which are summarized below, based on the previous problems.

Research Question 1

Does a connection exist between Co-worker Knowledge Sharing and Team Performance?

Research Question 2

Does the Coworker Knowledge Sharing increases Team Performance due to Absorptive Capacity?

Research Question 3

Does the impact of Project Complexity on the relationship Coworker Knowledge Sharing and Absorptive Capacity?

1.5 Research Objectives

The current study's research goals are to examine how the variables relate to one another in light of the proposed model. The objective of the current research is to determine that each of the variables (Co-worker Knowledge Sharing, Team Performance, Absorptive Capacity and Project Complexity) are connected to one another.

In addition, Project Complexity will be utilized as a potential major moderator to determine the relationship's strength. team performance and absorptive capacity. In addition, absorptive capacity will be used as a mediator to identify the strength of the relationship between co-worker knowledge sharing and interactive team performance.

The following specific research objectives are currently being pursued:

Research objective 1

To find out the impact of co-worker knowledge sharing on team performance.

Research objective 2

To investigate the connection between co-worker knowledge sharing and absorptive capacity.

Research objective 3

To examine the connection between absorptive capacity and team performance.

Research objective 4 To find out the relationship of between co-worker knowledge sharing and team performance through absorptive capacity.

Research objective 5 To find out the relationship of project complexity on co-worker knowledge sharing and absorptive capacity.

1.6 Significance of the Study

The main goal of the research is to determine the impact of co-worker knowledge sharing on team performance. To be able to manage performance appropriately the study aims to examine critical factors that affect it. Therefore using a theoretical perspective this study provides the opportunity to assess the relationship between co-worker knowledge sharing and team performance. The current research also addresses the gap in the literature.

The literature on project management has significantly benefited from current research. Professionals might use the research to evaluate the project's complexity and evaluate its importance of co-worker knowledge sharing among teams, which will affect team performance. As a result of analyzing the significance additionally this investigation will result in a novel direction for the process of refinancing complex projects of co-worker knowledge sharing and absorptive capacity which will affect how well the project as a whole performs.

This study will inspire researchers to identify the procedures that may be applied to enhance performance of team. The team organizations perform better and are more likely to get promoted co-worker knowledge sharing hence increasing the absorptive capacity of an team members within and outside the boundaries of organizations (Howell and Annansingh, 2013).

1.7 Supporting Theory

Alots of opinions and viewpoints have been gathered provided by various researchers to assist with the investigations of co-worker knowledge sharing, absorptive capacity and project complexity that are used worldwide in an organization however all the study's variables are included here in like Social Exchange theory.

1.7.1 Social Exchange Theory

As stated by Cherry et al. (2023) and cited by Homans (1958) The way people interact with one another explains human relationships (Homans, 1958). The theory of social exchange is a widely held concept in psychology. The theory is based on the social exchange of any good or service that has costs and benefits (Richard and Emerson, 1976).

According to the theory of social exchange the effectiveness of the team can be increased through knowledge sharing, communication, absorptive capacity among the team's members (Hackman and Morris, 1975).

When people interact with one another, they assume that they will be given the same level of attention in return, according to the social exchange theory. You might believe that when you initiate a self-introduction to an individual during a networking occasion, they are likely to be simply... as ready to talk to you (Cherry et al., 2023).

This idea claims that interpersonal interpersonal and social interactions are fixed in an interchangeable process. In the perspective of Co-worker Knowledge Sharing and Social Exchange Theory encouraging employee knowledge sharing makes organizational decision-making possible.

Projects require effective decision-making at all times. Coworker knowledge sharing (CKS) enables coworkers to exchange information, expertise and task-related concepts. In the contexts of Team Performance and Social Exchange Theory states that team performance can be improved by exchange of coworker knowledge sharing, coordination, cooperation, communication and interaction among team members (Hackman and Morris, 1975).

The theory states that absorbing new knowledge helps organizations to perform at a higher level and also makes them more adaptive and creative than they would be otherwise. The capacity for an a structure for absorbing information opens up the possibility of implementing fresh ideas (Kedia and Bhagat, 1988). In addition, absorptive capacity is essential for the development of employee capabilities and capacities when it comes to performance (Shujahat et al., 2019).

Complex projects frequently ask for strong collaboration and coordination, which requires exchange of things in the form of resources, knowledge, information and necessitates high levels of absorptive capacity and teamwork among the team members (Wang and Wang, 2022). The behaviors of exchange are the main reason of collaboration between the team members, this idea performs excellently in a professional context. In exchange for reward, an employee benefits an organization. Social exchange theory is a topic that is also used in our research. An team member share his expertise and original thoughts with the other project team members. In response, the other members also share their thoughts and opinions. Consequently, providing mutually beneficial effects. In this method, an organization's staff members can have more opportunities to demonstrate their creative talents, which will improve the project's team performance.

Chapter 2

Literature Review

2.1 Coworker Knowledge Sharing

Knowledge is the resource that a corporation values most (Nonaka and Toyama, 2016). According to Kodratoff (1999) defined knowledge as "information with meaning that exists within the individual" that "occurs either as an outcome of experience, or is produced through thinking or reasoning; otherwise, it remains mere data or information". The co-worker knowledge sharing relates to the discussion of ideas, information, and recommendations relevant to tasks among co-workers knowledge sharing (Srivastava et al., 2006).

The gathering of results at the organization level and the effectiveness of teams are both affected by both explicit and implicit knowledge methods (Wang and Noe, 2010). Also pointed out that Co-worker Knowledge Sharing is a type of individual growth that occurs at the micro level. In organizations that train a significant number of contacts at various levels, the knowledge mechanism in combination with Team Performance plays the most neglected function at the level of the employee for evaluating the impact of team's. Earlier researcher about project management in general discussed fulfilment of particular project objectives through the use of reliable methods and tools (Turner, 2010). Numerous studies have been carried out in the past to comprehend the significance of knowledge management in organizational environment, which determines behavior, team performance, attitudes

within a company in a positive way (Omotayo, 2015). Knowledge Sharing is regarded as an cultural and social exchange relations e.g. it involves the interchange of knowledge, abilities, and concepts with teams, departments and organization (Gharakhani and Mousakhani, 2012).

In particular the body of literature concerning the co-worker sharing of knowledge in the field of project management effective knowledge sharing motivates individual and organizational learning, which in results the affects the outcome (Dietrich et al., 2013). Research indicates that in situations of uncertainty the act of sharing knowledge yields a beneficial impact on performance (Salehzadeh et al., 2017). In organizations based on projects, knowledge-sharing mechanisms have been defined as "an informal mechanism to share, integrate, and apply knowledge, knowledge, and the reasoning behind how knowledge in the people will help to improve the team's performance (Boh, 2007). For gaining new information, ideas, and innovations, Project managers need to convince people from other departments to collaborate. To solve problems and operate more productively and efficiently, this knowledge should be implemented, and project managers should implementation (Yang et al., 2012).

Co-worker Knowledge Sharing is about co-worker's information and skills that are transferable to workers. Previous research have acknowledged the benefits of information sharing between co-workers and colleagues. Their study revealed that coworkers have positive relationships and that knowledge sharing enhances performance (Kim and Yun, 2015). The following are the four main areas where the CKS works well among employees (Ipe, 2003).

Nature of the first person's knowledge, including whether it is implicit or explicit knowledge and the value of cooperation. The second crucial factor to take into account is motivation, which can be either internal or external. The third major area is where sharing opportunities exist. avenues for learning with a purpose, such as exchanging information in a formal or structured setting that includes training. The organizational culture, which mirrors the organization's principles, standards, and procedures, comes in at number four.

Employees frequently openly exchange and transmit explicit knowledge, such as scientific explanations of commodities and resources and tool. In the opposite

direction, employees rarely communicate tacit information, such as impressions, ideas, and practice Fong et al. (2011). Workers who are happier using their jobs is going to be more interested in sharing knowledge. Individuals more people engaged with your more information is shared by organizations information (Teh and Sun, 2012). The sharing of knowledge is essential in organizations with a project-based structure Pektaş and Pultar (2006). Without CKS project can be suffer from different concern such as problems with coordination fruitless participation etc (Herbsleb and Moitra, 2001). Knowledge sharing among team. It's possible that this will be a challenging undertaken.

Ipe (2003) discovered that some times members of the team are unwilling to share knowledge, because its a competitive advantage over others and sharing could limit their potential values. According to the literature the project's director has behavior is essential to achieving team performance (Scott-Young and Samson, 2008).Some claim that excellent team's performance depends on building the right platform for knowledge sharing and promoting a culture of sharing knowledge (Almahamid et al., 2010).

Sharing information within the group boosts motivation and assists in problem-solving (Dube and Ngulube, 2012). Knowledge exchange is an important way for representatives in order enhance performance, progress, and finally gain a advantages over competitors (Wasko and Faraj, 2005). According to the literature, knowledge exchange is essential for projects (Lin and Lee, 2005). However, co-worker knowledge sharing positively relates with team performance is also demonstrated by Lee et al. (2014).

The co-worker the connection between support and employee productivity is really strong (Zhou and Hoever, 2014). When the workers received support and assistance, they shown more creativity of co-workers. One-third of a worker's life is spent at work and in some cases employees choose to devote more attention to their co-workers than they do with their family. Encouraging co-workers who help them by lightening their workload can greatly improve the wellbeing of important workers (Halbesleben and Wheeler, 2015).

Encouragement from co-workers helps team's employees use their creativity, especially when faced with challenging tasks and circumstances. The most significant

form of support for workers is the sharing of knowledge among coworkers (CKS), which can aid in the creation and application of fresh concepts. Employees are more willing to provide unique suggestions or solutions in these situations since they are less likely to feel ashamed or let down by the outcome.

Research conducted to identify the variables influencing the sharing of knowledge among employees in organizations (Cummings, 2004). The findings indicated that key predictors for the manner in which employees exchanged knowledge were trust, a shared vision, and favorable social interactions (Liang et al., 1995).

I looked into how interpersonal relationships affected the knowledge sharing amongst employees of a multinational corporation. The study discovered that strong social ties, information sharing and shared rules had a positive influence on employee communication which improved the efficiency of the organization.

With the advancements in digital technology organizations are using a variety of tools and platforms such as internal social networks, collaboration software and knowledge repositories to facilitate the sharing of knowledge among coworkers. These technologies make it simple to transfer, retrieve, and disseminate information across organizational boundaries (Leonardi and Vaast, 2017).

Increased remote work and the use of virtual teams have created new challenges and opportunities for knowledge sharing among coworkers. Organizations must establish efficient virtual communication channels, foster online teamwork, and foster a sense of trust and camaraderie among team members in order to facilitate information exchange (Hertel et al., 2005).

The organizational culture plays a key role in supporting or discouraging information sharing among coworkers. A culture that values openness, collaboration, and learning encourages employees to freely share their knowledge and experiences with their coworkers (Connelly and Kelloway, 2003).

2.2 Absorptive Capacity

One of the oldest and most prominent frameworks of absorptive capacity was proposed (Cohen and Levinthal, 1990). They contended that because of their

current cognitive structures and related processes, businesses with stronger previous knowledge bases are better equipped to recognize, assimilate, and exploit new knowledge.

The capacity of an organization to identify, integrate, acquire, transform, and apply the new knowledge is referred to as its absorptive capacity (Wales et al., 2013). The ability of individuals at a workplace to understand what first new information is then to define its meaning, then integrating this new connection into the company and finally allocating it for usage and application goals is given emphasis by this concept. The ability to assess and use project information is what fosters people's integration (Nieto and Quevedo, 2005).

The ability of individuals at a workplace to understand what first new information is then to define its meaning, then integrating this new connection into the company and finally allocating it for usage and application goals is given emphasis by this concept. The ability to assess and use project information is what fosters people's integration (Zahra and George, 2002).

Recognized absorptive capacity includes learning change and abuse, encompasses the putting fresh information to use and comes from the absorption of both previously known information and recently obtained information into team performance. The concept of a project manager's absorptive capacity has changed and developed from a static viewpoint that emphasizes prior knowledge of a more effective viewpoint based on the perspective that focuses aggregate capacity (Lane et al., 2006).

The ability of companies to recognize the significance of fresh external data and incorporate it with existing internal knowledge for absorption and practical application in the marketplace is the basic idea of organizational learning theory. The base a measure of a firm's competitive advantage absorption capacity. Businesses with a high capacity for absorption can successfully manage outside knowledge and develop innovations (Zhao et al., 2021).

For example, Martinez-Sanchez and Lahoz-Leo (2018) identified four dimensions of new information acquisition, assimilation, transformation, and exploitation which have since been adopted by other scholars more quickly with new or modified

products while also making beneficial organizational and management practices improvements that help to boost team performance (Martinez-Sanchez and Lahoz-Leo, 2018).

A company needs to have the internal capability to recognize process and make use of externally transferred information in order to use and transform the information into tangible benefits (like team performance) (Jeong et al., 2019). An organization can use Absorptive Capacity to recognize and combine new external knowledge with existing knowledge to produce tangible results such as the organization's performance (Jeong et al., 2019).

By increasing their capacity for absorption, companies can recognize and assess the potential for knowledge and similarity within the organization (Chuang et al., 2016). To assist in the efforts to achieve official execution, absorption capacity is a critical aspect (Fosfuri and Tribó, 2008). The potential for absorption emphasizes the method by which an organization obtains and integrates external information (Wu et al., 2021).

Based on findings from previous research, the capacity for absorption plays a unique role in the process of knowledge management. The ability of an organization's members to use external information, create new information and disseminate it through the research and application-based information of their coworkers is known as absorbing capacity (Zhao et al., 2021). The capacity for absorption significantly affects the team's performance in the context of the positive relationship between knowledge sharing among coworkers and team performance.

Nevertheless, the capacity for absorption affects how long-lasting the knowledge exchange behavior will be. The absorb capacity to take in external information can be a source of benefit for an organization looking to increase efficiency (Wang et al., 2011). A distinction between potential and actual absorption capacity (Zahra and George, 2002). Potential capacity for absorption refers to an organization's ability to recognize and take in new knowledge, whereas actual capacity for absorption refers to an organization's ability to transform and use that knowledge for innovation and competitive advantage (Lane et al., 2006). The role of social processes was highlighted in order to broaden the definition of absorptive capacity. They

emphasized how networks, partnerships, and ties between organizations can help in knowledge sharing and assimilation.

2.3 Team Performance

The effectiveness and productivity of a team are employed as metrics of team performance in order to accomplish this research. The effectiveness and efficiency with which a group of individuals completes tasks can be used to define team performance (Lindsjørn et al., 2016). Where The effectiveness of a team is entirely dependent upon whether or not the final product/project meets expectations in terms of quality.

Consumers are an excellent indicator of a project's which includes elements like its efficiency, resilience, dependability, and effectiveness. How successfully the team is capable of finish throughout the project with the specified time and budget serves as a gauge of efficiency.

Similar to individual performance the collective performance of groups serves as a noteworthy and commonly employed measure of organizational results. The teams must carry out multiple tasks simultaneously, sequentially, or cooperatively (Culp and Smith, 2001). As a result under successful management the teams operate as the foundation of the team's and project's capacity which can help the manager to achieve the desired results. The teams can participate in various planning processes to ensure that everything is clear and that contingency plans are developed for any situation (Wallace et al., 2004).

Numerous studies highlight the value of team composition and diversity in raising the effectiveness of the team. Studies have shown that diverse groups made up of individuals with a range of backgrounds, perspectives, and skills, tend to be more innovative, problem-solving, and adaptive (Culp and Smith, 2001). Furthermore, team members with complementary talents and expertise can improve decision-making processes and overall team performance (Katzenbach and Smith, 2015). The effectiveness of communication and teamwork are crucial elements that influence the team's performance. Clear and open channels of communication make

it easier for team members to coordinate and align themselves in the direction of shared goals share knowledge and align themselves.

According to the research groups with good communication have greater satisfaction, commitment, and performance (Katzenbach and Smith, 2015). Furthermore, good cooperation encourages knowledge sharing, idea generating, and creativity within teams, all of which lead to enhanced performance outcomes (Hackman and Wageman, 2005). Processes for efficient procedures and task design are essential to achieving perfect performance. According to the literature, clearly defined goals, interdependence between tasks, and clear roles all improve the team's performance (Hackman and Wageman, 2005).

Additionally, effective task distribution, appropriate task distribution, and team support standards can all improve the performance and overall performance of the team (Salas et al., 2008). The most productive teams demonstrate an orientation towards learning and flexibility in response to changing situations.

2.4 Coworker Knowledge Sharing and Team Performance

Earlier researcher on generally project management discussed achieving the project's particular goals through the use of some solid techniques and tool (Turner, 2010). In the past, studies have been carried out to fully grasp the significance of knowledge management in an organizational environment that has an impact behavior on team performance attitudes within a company in a positive way (Omotayo, 2015). In organizations that train a significant number of contacts at various levels, the knowledge mechanism in combination with team performance plays the most neglected function at the level of the employee for evaluating the impact of team's.

Despite all of the prior studies on the adoption and improvement of knowledge sharing processes in organizations and projects, employees' coworkers' knowledge sharing abilities receive very little attention. Although there are numerous web and mobile applications that can assist in learning and sharing knowledge with

others, the primary element of information sharing and knowledge distribution in an organization is the organization itself among team's because they gave the good performance (Bartol and Srivastava, 2002).

The sharing of various thought processes, knowledge, and information through various channels such as communication and interaction through various sources, such as the internet, books, newspapers, and magazines, etc. Co-worker refers to the sharing of knowledge among groups of individuals with related interests.

Utilized as organizational instruments, teams have the potential to elevate the role of employees to a heightened level of responsibility. Workers Individuals who become part of a team demonstrate a heightened commitment to the overall success of the business as collaboration within a team inherently demands. Allocating additional time to tasks that directly influence the financial performance of the company.

Research has identified that the team's endeavors have yielded positive results through the improvement of decision-making processes the cultivation of consensus and support for actions, and the creation of an environment (Amason et al., 1995). This leads to a cooperative environment centered around shared objectives, with communication being a widely recognized (when taken in sense of knowledge sharing) is fundamentals component of team performance (Griffin and Hauser, 1992).

According to Pinto and Winch (2016) , if teams are unable to communicate with one another effectively, a project may fail. It is common knowledge that a team's productivity and effectiveness are affected by how quickly information can be passed from one team member to another within an organization.

In co-worker knowledge sharing and team performance, In this regard, team participation is crucial for improving team performance because knowledge is an organization's valuable resource and will greatly contribute to individual and organizational success in terms of team performance (Somech, 2006). Coworker knowledge sharing is recognized as a catalyst for improving team performance. Sharing tacit and explicit knowledge among team members creates a culture of collaboration and fosters collective learning.

H1: Coworker Knowledge Sharing have significant positive impact on Team Performance.

FIGURE 2.1: H1

2.5 Coworker Knowledge Sharing and Absorptive Capacity

Knowledge Sharing is advantageous to everyone in terms of increasing collaboration among teams interpersonal skills and pro-social in nature (Collins and Smith, 2006). Knowledge Sharing (KS) is a cyclical process that transfers knowledge from one form to another (Shujahat et al., 2019).

Co-worker knowledge (CKS) is essential because it provides a source of detailed information about the task, creativity and job knowledge with problem-solving skills. When co-workers communicate with subordinates, innovative products result. New concepts based on high quality knowledge (Amabile and Pratt, 2016). Co-worker Knowledge Sharing normally leads to an accommodating work environment therefore as a result of co-workers performance which typically gives individuals the freedom to think. Co-worker Knowledge Sharing assists in encourage an environment of positivity among co-workers and respective employees it removes workers' failure-related anxiety.

Among co-workers and respective employees it removes workers' failure-related anxiety. Absorptive capability is essential for attempts to achieve effective execution (Fosfuri and Tribó, 2008). A company's absorptive capacity is imperative to their advancement exercises Leal-Rodríguez et al. (2014). The role of absorptive capacity in open development achievement has been addressed in a variety of

recent research studies. For example Rangus et al. (2017), indicated observationally how absorptive capacity of an association connected with its ability for open development so as to accomplish the ideal team execution.

Numerous earlier studies have proved whether the ability to absorb directly or indirectly relates to the development of a job and economic performance. Project execution relates to the degree to which projects yields and fulfil spending objectives, plan objectives, operational and specialized determinations, and, eventually, the business needs of the customer (Popaitoon and Siengthai, 2014). Furthermore, the task manager's capacity for absorbing knowledge can be used as a means of communication between different hierarchical levels, which can be helpful in encouraging undertaking development activities (Tsai, 2001).

H2:Coworker Knowledge Sharing have significant positive impact on Absorptive Capacity.

FIGURE 2.2: H2

2.6 Absorptive Capacity and Team Performance

In addition, absorptive capacity of companies can have an impact on the viability of advancement exercises (Cockburn and Henderson, 1998). Absorptive capacity of a task manager can enhance the creative execution of a company or team by performing as a bridge for knowledge exchange for cross-hierarchical development activities (Kostopoulos et al., 2011). The concept of knowledge absorptive capacity as it relates to numerous academic areas, such as association hypothesis, key management (Lewin et al., 2011). Record those companies with strong absorptive capacity would consider it appropriate to classify and effectively distribute knowledge capabilities in order to improve performance (Cepeda-Carrion et al., 2012). Absorptive capacity also plays an important role in coordinating various

types of learning from various sources by assisting organizations in recognizing and effectively adapting beneficial knowledge.

They stated that the ability for absorption has an indirect influence on task performance through advancement and an influence on development results (Fosfuri and Tribó, 2008). The importance of the actions of team leaders as a whole of the elements essential for good team performance has been highlighted by research on effective team management (Lee et al., 2014).

Mindful thinking on Absorptive Capacity has been recommended as a significant strategy for boosting team effectiveness and increasing numerous investigations have revealed a correlation between absorptive capacities and increased the team performance (Schippers et al., 2007). Looking at the results of a team's efforts can help determine how effective they were. A team's performance can be determined by how successfully it performs its responsibilities, produces quality goods, conducts its business, and functions as a team. Expanding absorptive capacity commencing with members request and receiving mutual feedback, the subsequent phase involves reflection and self-explanation (Chen et al., 2018).

During the phase participants are encouraged to draw upon both their personal experiences and the group's collective achievements and shortcomings to elucidate the outcomes of their performance. It has been hypothesized an essential element of teams that exhibit high-performance characteristics is absorptive capacity the intentional evaluation of performance is under scrutiny. Recent research has presented contradictory findings while investigating the connection between absorptive capacity and team performance indicators.

Leading the researchers to the conclusion that absorptive capacity may have beneficial effects on performance, but only in certain contexts (Schippers et al., 2013). It has been established that absorptive capacity effects team performance because it's associated with the creation of new and more efficient working techniques for teams in demanding environments (i.e., those with a high workload), indicating that absorptive capacity affects team performance (De Dreu et al., 2011).

H3: Absorptive Capacity have significant positive impact on Team Performance.

FIGURE 2.3: H3

2.7 Absorptive Capacity Mediate the Relationship between Coworker Knowledge Sharing and Team Performance

According to the context of the issue the study is trying to solve, the absorbing capacity has been examined from both the perspective of the process and the capability. In order to enhance interchange of hidden and explicit knowledge that is a crucial aspect of team performance, knowledge communities should make use of absorptive capacity, which is specified as the capacity to perceive new knowledge absorb it and apply it to team's objectives (Rahim et al., 2021). Identifying, absorbing, integrating, and using important external knowledge that enhances team performance and other organization outputs needs the absorptive capacity of knowledge (AC) (Martínez-Sánchez et al., 2020).

The co-worker knowledge sharing and team performance. Many research in the literature have addressed critical issues. These are two important and interrelated subjects that demand additional thought to understand their dynamics and impacts. Absorptive Capacity of firms strongly affects its knowledge sharing and team performance (Yeşil et al., 2013). When a company has a different area than its knowledge repository it must develop a new perspective on its current knowledge. Sharing information is also beneficial to a business since it allows it to integrate its extensive information across multiple channels field for team performance (Zahra and George, 2002).

According to study, this ability positively affects the output of creativity activities. for enhance team performance (Cockburn and Henderson, 1998). Knowledge is a regarded as the most significant source for viable benefits and the key to enhancing the team performance. To accomplish the goal of organization efficiently

team performance This can be referred to as the augmentation, generation, adoption, and implementation of novel ideas, processes, and strategies (Al-Husseini and Elbeltagi, 2018). Absorptive capacity it's important for companies to have the ability to absorb knowledge from the outside world and use it in a wide range of ways. Organizations can more effectively integrate the knowledge they search for through absorptive capacity. Current study shows that absorptive capacity helps organizations to produce new information ideas and alter their perception because of their difficult circumstances which significantly affects team performance (Wang and Wang, 2022).

H4: Absorptive Capacity mediate the relationship between Coworker Knowledge Sharing and Team Performance.

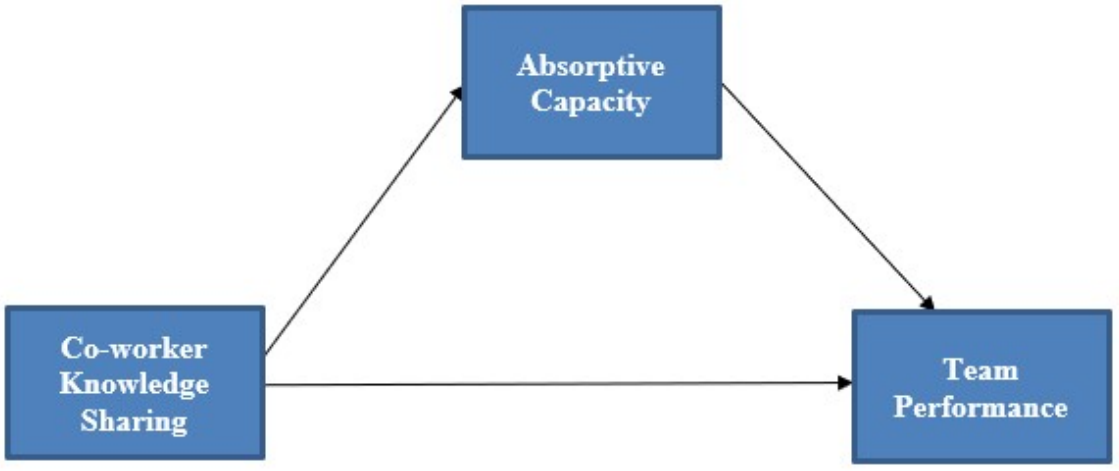

FIGURE 2.4: H4

2.8 Project Complexity Moderates the Relationship between Coworker Knowledge Sharing and Absorptive Capacity

Sharing knowledge to the people who are in organization and outside of the organization can help employees enhance their problem-solving abilities through absorptive capacity (Carmeli et al., 2013). Knowledge sharing is considerably linked based on the extent to which outsourcing benefits are realized the ability of absorbing the knowledge has significant direct effect on benefit achievement (Lee,

2001). As a result of globalization the corporate climate has shifted rapidly and unexpectedly. digitalization and sharing which is increased the project environment's complexity. Performance of the team and absorptive capacity should be emerged as a theme of numerous researchers and experts have been drawn to the management of project management.

Highlighted that project complexity is an important issue to address during the project development process (Kermanshachi et al., 2020). The complexity of industrial projects makes them another category that is more sensitive. Mirza and Ehsan (2017) noted that the constant increase in complexity is the main cause of project failure.

There three categories of complexity are the complexity of the schedule, the complexity of the cost, and the complexity of the scope, and their research suggests that projects with high complexity frequently suffer higher costs or exceed the schedule (Mirza and Ehsan, 2017). Complexity is the most crucial subject in terms of project management but it is also very debatable (Bakhshi et al., 2016). When discussing projects the term 'complexity' has gained popularity a significant and significant feature (Wood and Ashton, 2010). The most important factor to consider while concentrating on project management is complexity (Baccarini, 1996).

Currently researchers are concentrating their efforts on examining workers' abilities and skills in order to take part in the data gathering from the projects. The variable's absorption capacity has yet to be realized as an operational method (Perry et al., 2013). While the project team communicates and shares, absorptive capacity effectively and positively encourages the skills and capacities that increases the team performance. The ability of the decision-making authority to make decisions is positively impacted by interactive coordination because of the following mutual connections the entire team is on a common route to achieve the desired goal (Zackrison et al., 2015).

The a project is a short-term project that is one-of-a-kind in its nature and subject to time and expenses in order to achieve a particular goal (PMI, 2013). The project is complicated since it involves numerous interconnected activities. It is difficult to define complexity because It has a lot diverse associations. The

project's complexity is centered on connected activities or projects that are difficult to handle (Hass, 2009). The complexity of the projects has an impact on their performance, both positively and negatively (Iles, 1997).

H5a: Project Complexity moderate the relationship between Coworker Knowledge Sharing and Absorptive Capacity in such a way that this relationship will be weaker when Project Complexity is high or vice versa.

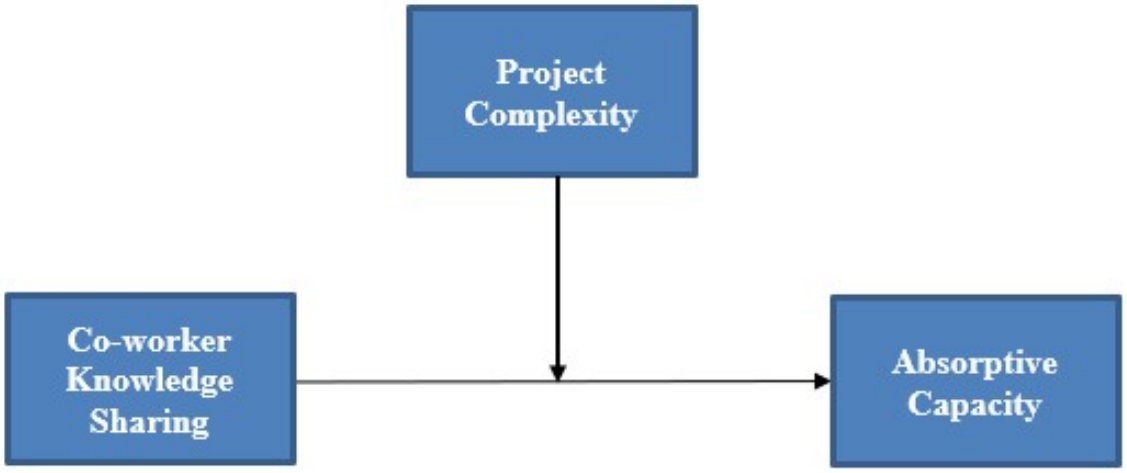

FIGURE 2.5: H5a

2.9 Moderated Mediation

Finally, we anticipate that the previously mentioned the previously suggested variable will be moderated. connection although we also anticipate that this variable will only be used if its affect the indirect effect concurrently between coworker knowledge sharing and team performance. To determine whether the values of a moderator variable are responsible for an indirect effect, use the moderated analysis technique. We examine the fundamentals of mediation and talks, as well as their integration into a combined model of moderate mediation within a regression framework.

According to the hypothetical model, we predict a moderated mediation pattern, through which the indirect effect of co-worker knowledge sharing on team performance that happen via absorptive capacity will be dependent on the assigned moderator. Therefore, my sixth hypothesis would be

H5b: The indirect effect of Co-worker Knowledge Sharing on Team Performance through Absorptive Capacity is expected to be higher when low project complexity and lower when higher project complexity.

2.10 Research Model

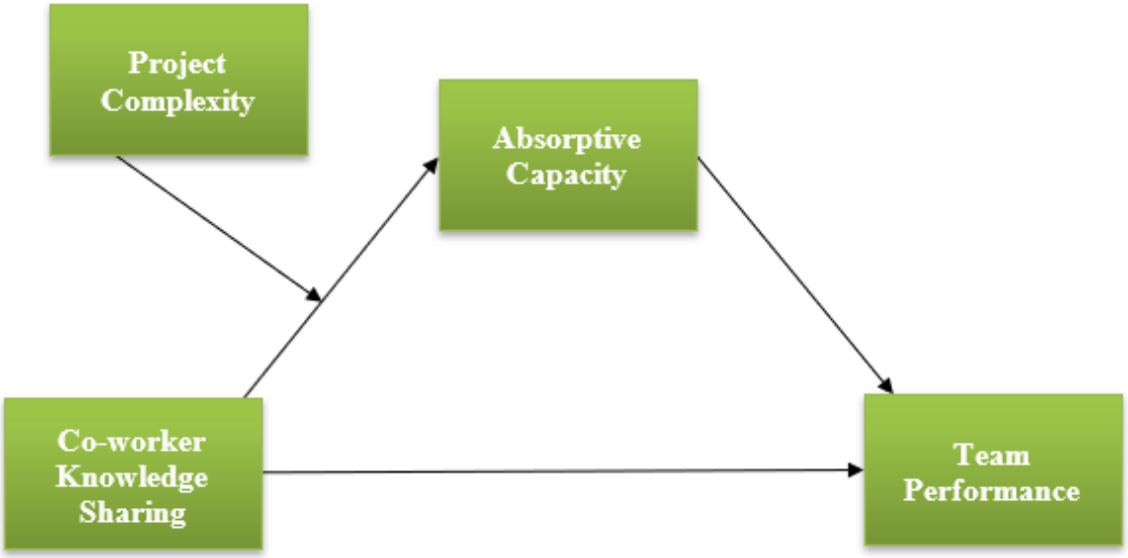

FIGURE 2.6: **Theoretical Framework**

2.11 Hypothesis of the Study

H1: Co-worker Knowledge Sharing have significant impact on Team Performance.

H2: Co-worker Knowledge Sharing have significant impact on Absorptive Capacity.

H3: Absorptive Capacity have significant impact on Team Performance.

H4: Absorptive Capacity mediate the relationship between Co-worker Knowledge Sharing and Team Performance.

H5a: Project Complexity moderate the relationship between Co-worker Knowledge Sharing and Absorptive Capacity in such a way that this relationship is weaker when Project Complexity is high.

H5b: The indirect effect of Co-worker Knowledge Sharing on Team Performance

through Absorptive Capacity is expected to be higher when low project complexity and lower when higher project complexity. (Moderated Mediation)

Chapter 3

Research Methodology

The process of gathering data and information to carry out an investigation is known as an research methodology. The chapter was discuss the steps required for the data analysis process, which is a step that is essential to achieving the desired results. The entire information pertaining to the procedure for gathering data for data analysis is contained in the chapter. This procedure enables us to obtain the findings of our investigation.

3.1 Research Design

The plan of the study reconnoiters unique method for acquiring and analysing data.

3.1.1 Research Philosophy

Research philosophy is the body of work that encompasses all research perspectives elements things are present in the knowledge circle. As a philosophy, positivism prefer to due to their high dependability, quantitative techniques like social surveys, structured questionnaires, and official statistics are preferred and representativeness.

A philosophical framework that only accepts evidence that can be proven using logic or mathematics or through the use of science. In positivism studies the researcher's only responsibility is to gather data and analyse it properly.

3.1.2 Research Method

The scientific method, which is founded on the idea of discovering reality through evidence is predicted and described by the hypothetical deductive research approach employed in this study. The proposed hypothesis was established and justified by previous research and accepted ideas and it will next be empirically examined for confirmation.

The studies begin with the development of a hypothesis based on current literature using this hypothetical deductive theory technique. This hypothesis can then be accepted or rejected by applying various statistical tests to the data relating to each component that are used to measure the corresponding statements. The proposed hypothesis is said to be accepted or rejected depending on the supporting theory if the findings are consistent with it.

After that, it is suggested to determine various hypotheses' descriptive effectiveness by testing the correctness of their predictions. In general, quantitative techniques are preferred to reach a large population. In order to gather data for the variable that depicts the relationship between the variables used in this study, a quantitative approach was used in this investigation.

3.1.3 Research Approach

Researchers make a choice between qualitative or quantitative research based on the specific questions they aim to address. For the present study, data was gathered from participants through questionnaires, rendering it quantitative in nature. Analytical tools such as SPSS, among others, have been employed to analyze the collected data.

3.1.4 Type of the Study

This study adopts a cross-sectional research design, implying that it does not track a particular group over an extended duration. Instead, data is collected from participants at a specific point in time and subsequently subjected to quantitative analysis within the cross-sectional research framework.

3.1.5 Unit of Analysis

Every member who works on behalf of the organization is regarded as an independent unit. It is possible to think about a culture, organization, group, or person independently. Our analysis unit will join the staff of an organization based on the project because our research is at the microscale.

Members of the team who work for a company based on projects in Islamabad and Rawalpindi were chosen for the current research unit. Because they directly affect the performance of the project, its execution, as well as by the organization and industry of the IT/Software-based project, the specific subordinates who are the core team members are the unit of analysis for this study.

3.1.6 Time Horizon

The data collection was finished in a period of two months. Data collection was be done using the cross-sectional methodology and the data analysis take half of the month. After the analysis 1 month take for the results compilation and analysis and also for 1 month for discussion, practical implications and limitations. Saunders and Lewis (2012) analyse the methods of carrying out research that is cross-sectional. Cross-sectional has a set time frame. Due to a lack of time, we adopted the cross sectional approach.

The data were gathered in one and a half month for this study. The data used in this study was obtained from the IT industry in various places of Pakistan. The cross-sectional method of data collecting was adopted, and it took about 1 months. Because the research study was time-limited, the cross-sectional method

was adopted. The data is gathered or collected from the respondents for only one time and there are no repeated measurements taken for any variables.

FIGURE 3.1: **Time Line**

3.2 Population and Sample of Study

The technique of data collection and population characteristics is frequently used. In the present research study, we draw a sample from project team members of the IT industry. Population of IT industry is large. Because of this, convenience sampling is the most appropriate method for data gathering technique is used to randomly collect data from IT industry.

The present study was select a sample size of 384 project team members of IT industry. And 384 sample size is select through sample size calculator. The respondents were specifically the subordinates who are working on projects and team members.

This is the smallest sample size which is determined by using the (Techniques, 1977) formula is given further in the equation 3.2.1 whenever the population size is unknown and at 5% error of margin and 95% Confidence level.

$$n = \frac{z^2}{4e^2}$$

$$n = \frac{(1.96)}{4(0.05)^2}$$

$$n = 384.16$$

TABLE 3.1: IT Companies

Names	**Location**
Codistan	Islamabad
Cplus Soft Pvt. Ltd	Islamabad
F3 Technologies	Islamabad
TeReSol Pvt. Ltd	Islamabad
Viral Webbs	Islamabad
10 Pearls	Islamabad
AKSA-SDS	Islamabad
Afiniti	Islamabad
SignUp Solution	Rawalpindi
A J Developerz	Rawalpindi
MTBC	Rawalpindi
Panacea Logics	Rawalpindi
Friends IT Solutions	Rawalpindi

3.3 Sampling Technique

Since the population is practically infinite, it is impossible to collect data on the entire population. An appropriate sampling approach is taken to gather the data and analyze it for this purpose. There are various types of non-probability sampling. The convenience sampling technique was be applied to sampling in this study. A non-probability sampling technique called convenience sampling involves using participants who are simple to reach and engage. Participants are located by researchers at the most convenient locations. Its is a good sampling technique because data is collected quickly, easily.

3.4 Data Collection Procedure

Data were collected from project organizations based on recommendations from instructors, families, and friends. Currently, gathering data without connections is quite difficult, particularly in Pakistan. The Google form was used to create auto-generated surveys that were distributed to project team members working at a IT organization in Islamabad and Rawalpindi using online communication tools like email and WhatsApp and printed questionnaires. Respondents were informed that their information would be used mainly for the purposes of the study and would be kept strictly confidential. There were five aspects; the first included demographics, and the final four were intended to gather information concerning co-worker knowledge sharing, absorptive capacity, team performance and project complexity. Around 510 questionnaires shared among the possible respondents through link.

3.5 Research Instrument

In this quantitative investigation, data collection methods, close-ended questionnaires were used for each variable. Each questionnaire was created on a 5-point scale, with 1 being the lowest possible score. The first demographical questions are included in the section, and the following questions are included in the following four sections.

- Demographics Variables (Gender, Age, Education and Experience)
- Co-worker Knowledge Sharing
- Team Performance
- Absorptive Capacity
- Project Complexity

On a 5-point Likert scale, close-ended questionnaires are used to measure four factors from "Strongly Disagree to Strongly Agree". The scale ranges from 1 (Strongly disagree) to 5 (Strongly agree), with 2 representing disagreement, 3 indicating neutrality, and 4 signifying agreement. The survey encompasses four

demographic factors: Gender, Age, Qualification, and Experience within the organization.

3.5.1 Co-worker Knowledge Sharing

Co-worker Knowledge Sharing will be captured with 7 items scale taken from previous studies (Kim and Yun, 2015). The responses will be obtained 5 point Likert scale ranging from 1= Strongly disagree to 5= Strongly agree. The sample items are "Co-workers in our team shares their special knowledge and expertise with one another".

3.5.2 Team Performance

A scale consisting of 15 items will be employed to assess the concept of a team performance. These 15 items have been drawn from a prior study and a research paper authored by (Lindsjørn et al., 2016). Once more, this study will gather responses using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).The sample items are "The team is satisfied with the teamwork result".

3.5.3 Absorptive Capacity

The survey is customized for the construct of Absorptive Capacity, as developed by Zahra and George (2002) was embraced. Total items are 10. Once more, this study will gather responses using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This enables us to effectively leverage both internal and external information and knowledge for practical implementations. The sample items are "We are successful in learning new things within this group".

3.5.4 Project Complexity

The scale utilized to assess project complexity was developed by Xia and Lee (2005). Total items are 15. Responses are obtained through five point Likert scale

TABLE 3.2: Summary of Scale

Variables	**Scale**	**Items**
Co-worker Knowledge Sharing	Kim and Yun (2015)	7
Team Performance	Lindsjørn et al. (2016)	15
Absorptive Capacity	Zahra and George (2002)	10
Project Complexity	Xia and Lee (2005)	15

from 1 = Strongly disagree to 5 = Strongly agree. The sample items are "The end-users' information needs changed rapidly".

3.6 Data Collection Technique

In June 2023, close-ended surveys form were dispersed. Approximately 510 survey form were delivered via Google Docs and hardcopy questionnaires. Only 384 of the 510 missing values or incomplete responses were fully covered and taken into consideration for the purposes of the analysis.

3.7 Method of Analysis

After data collection, the Software Package for for Social sciences (SPSS-26) was used to import the survey made based on the scales used in data collected prior to the literature. Data was codified before being imported into SPSS because SPSS only processes and analyses data in numerical form.

While data pertaining to the variables was imported into the data view, variables are specified in the variable view. Several tests were carried out, include statistical analysis for population demographics, descriptive statistics for determining mean and standard deviation, reliability analysis, and correlation analysis as well as regression. The following are the tests that were run with SPSS:

- A descriptive statistical test to determine the frequency of a variable related to demographics.
- A descriptive statistical test for finding the mean, and standard deviation.
- A descriptive statistical test for calculating skewness and kurtosis.

• Correlation Analysis

• Reliability Analysis

• Model 7 was chosen to conduct tests for both mediation and moderation, as our analysis indicates the presence of moderated mediation.

3.8 Sample Characteristics

3.8.1 Gender

The key element of demographics is gender, which divides the population's sample into men and women. In this study, it was shown that a greater proportion of male participants were accused than female participants.

TABLE 3.3: Gender

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Male	277	70.7	70.7	70.7
Female	107	29.3	29.3	100.0
Total	384	100.0	100.0	

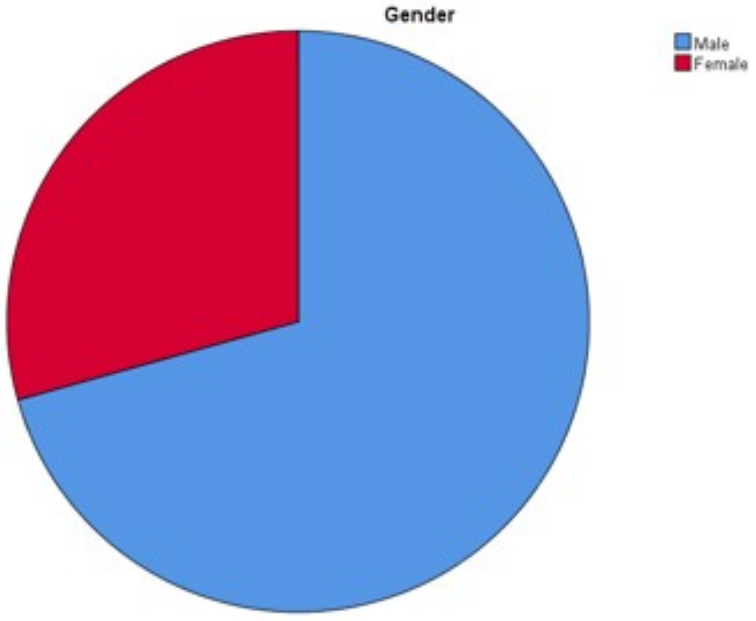

FIGURE 3.2: Gender

3.8.2 Age

Although age is a significant demographic component, some respondents are afraid of sharing their age. Therefore, various age ranges were used in the questionnaire to gather information on the respondents' ages in order to facilitate their responses.

TABLE 3.4: Age

	Frequency	Percent	Valid Percent	Cumulative Percent
20-25	148	38.4	38.5	38.5
26-30	102	26.5	26.6	65.1
31-35	73	19.0	19.0	84.1
36 and Above	61	15.8	15.9	100.0
Total	384	100.0	100.0	

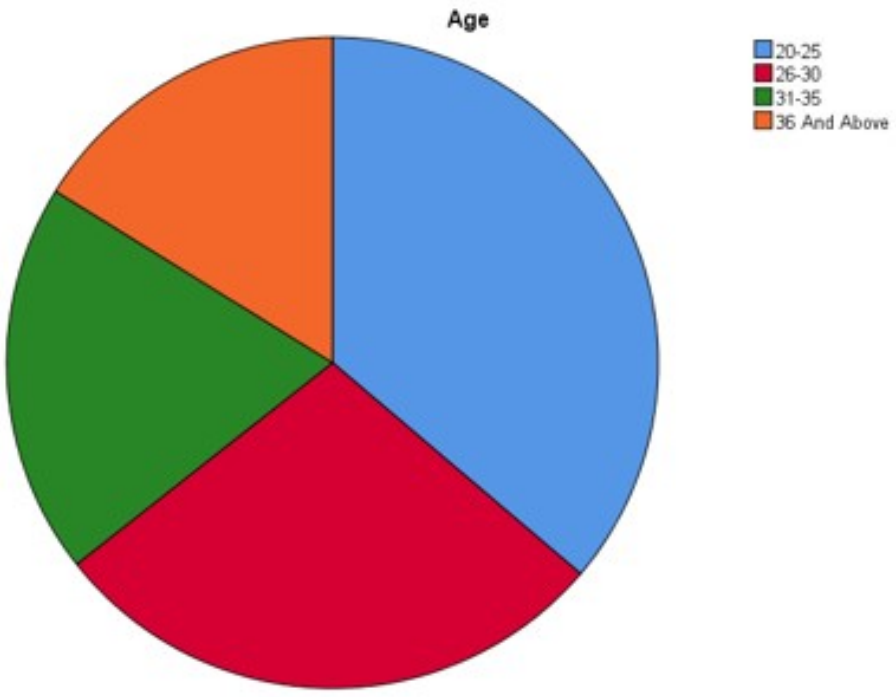

FIGURE 3.3: Age

3.8.3 Education

The transmission of knowledge from one generation's societies and nations to the next requires education.

TABLE 3.5: Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Matric	24	6.2	6.3	6.3
Inter	25	6.5	6.5	12.8
Bachelors	164	42.6	42.7	55.5
Masters	141	36.6	36.7	92.2
Phd	30	7.8	7.8	100.0
Total	384	100.0	100.0	

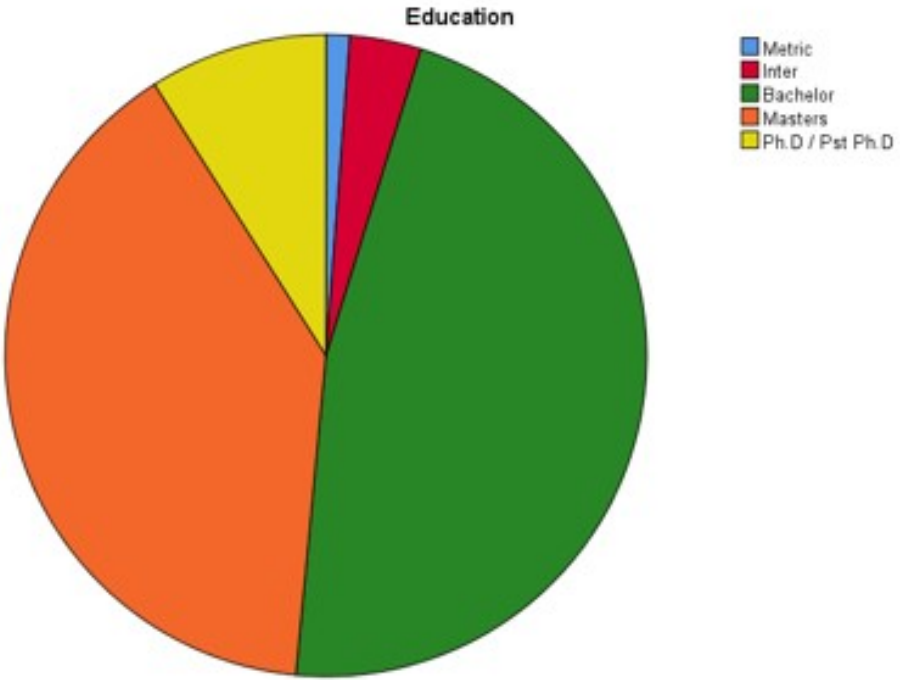

FIGURE 3.4: Education

3.8.4 Experience

To learn more about the respondents' professional experiences in a given field, experience is an important component of demographics.

TABLE 3.6: Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
0-5	204	53.0	53.1	53.1
6-10	91	22.9	22.9	76.0
11-15	50	13.0	13.0	89.1
16 and Above	39	10.1	10.2	100.0
Total	334	100.0	100.0	

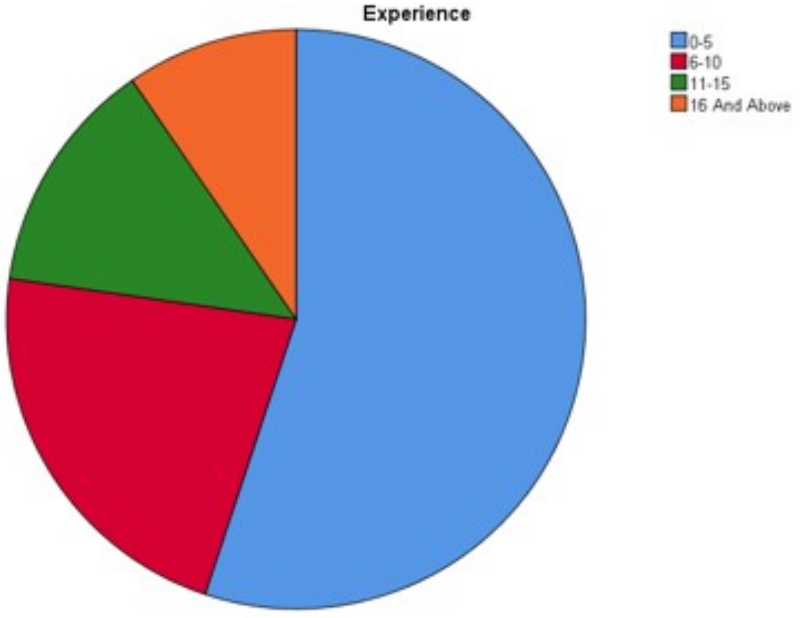

FIGURE 3.5: Experience

3.9 Pilot Testing

A pilot study is a limited initial investigation carried out to assess a planned investigation before carrying out a full investigation. In it, information is acquired

by giving out questionnaires to groups of volunteers who share the same characteristics as those who are being targeted. A pilot test helps a researcher identify the practical issues that will arise when collecting data. As a result, due to the significance of the pilot test, a smaller study was completed before a larger one. To determine whether the variables are valid, use pilot research (Van Teijlingen and Hundley, 2001). According to earlier research, a pilot test is conducted in the area of 10-20% of the primary sample size to conduct the pilot testing. In general, it is advised that 40 to 50 participants take part in the pilot test. The acceptable standard for scale reliability is Cronbach alpha of 0.7 or higher (Herbsleb and Moitra, 2001). After conducting the pilot study, it was possible to determine that the scales' level of reliability was acceptable. This shows that the scale's reliability was good hence allowing the investigation to be expanded to a higher scale.

TABLE 3.7: Reliability of Pilot Testing

Variables	**No. of Items**	**Cronbach Alpha**	**Valid Percent**	**Cumulative Percent**
Co-Worker Knowledge Sharing	7	0.81	53.1	53.1
Team Performance	15	0.94	22.9	76.0
Absorptive Capacity	10	0.89	13.0	89.1
Project Complexity	15	0.92	10.2	100.0

3.10 Reliability Analysis

The Reliability Analysis verifies the characteristics of the scale that are used to measure the variables and scale's components. Internal consistency (Cronbach's Alpha) data are reported in the majority of research to evaluate the scale's reliability (Schlosser and McNaughton, 2009). To generate accurate estimations and

keep the items the Cronbach alpha coefficient, or the minimum limit of 0.70, must be higher than the minimum limit (Hulin, 2001). The term "reliability test" describes the extent to which stability and consistency are used to examine what can be inferred from measurement. In order to assess the reliability of the scale that was used in the research, reliability tests are frequently used. Its measures the value from 0 to 1 for the scale measure known as Cronbach Alpha. The value of Cronbach Alpha increases the scale's reliability and if the value of Cronbach Alpha is low then decreases the scale's reliability.

TABLE 3.8: Reliability Analysis

Variables	**No. of Items**	**Cronbach Alpha**
Co-worker Knowledge Sharing	7	0.81
Team Performance	15	0.94
Absorptive Capacity	10	0.89
Project Complexity	15	0.92

As seen in the table, the value of Cronbach's Alpha for the Co-worker Knowledge Sharing is 0.81 with 7 scale items. The value of Cronbach's Alpha for the Team Performance is 0.94 with 15 scale items. The value of Cronbach's Alpha for the Absorptive Capacity is 0.89 with 10 scale items. The value of Cronbach's Alpha for the Project Complexity is 0.92 with 15 scale items. As a result, the data was processed for further analysis.

3.11 Data Analysis Techniques

Following data collection, the relevant and fully completed data were taken into consideration for analysis. 384 responds were discovered to be entirely full, with no duplicate or missing values. SPSS 26 were used for the data analysis. The

following steps were followed when analyzing the data. Following steps are as follows:

1. Simply choose the appropriate question set for analysis as a first step.

2. The collected data were codified, and those codified variables were used to analyse the data.

3. The frequency table was developed to describe the characteristics of the sample.

4. To measure descriptive statistics, numerical values were used.

5. Cronbach alpha was be calculated for each variable to ensure its reliability.

6. To assess and determine whether there is a significant relationship between them or not, a Correlation analysis was conducted.

7. The Correlation analysis was conducted to determine whether there is a significant relationship between those variables.

8. To show the suggested relationship between the independent and dependent variables, a simple linear regression analysis was conducted.

9. Preacher and Hayes' (2008) technique was used to conduct mediation between independent and dependent variables.

10. A moderator's existence between an independent variable and a mediating variable and then it is determined using the macro process methodology.

11. The Preacher and Hayes method and correlation was be evaluated in order to validate and analyze the acceptance and rejection of the assuaged hypothesis.

3.12 Research Ethics

Good ethics and standards were upheld throughout the completion of this research thesis, particularly when gathering data. The participants were first informed of the purpose of the study, and after getting their input, their responses were gathered and included in the data analysis. The respondents were assured of the anonymity of their responses since subordinates filled out a project team members incivility questionnaire, which could cause problems for subordinates.

Additionally, data were gathered in realistic settings, and participants were not required to immediately respond to comments. The appropriate time was provided for convenience, and the respondents were not felt to be under any obligation to provide an appropriate response.

However, despite the fact that the researcher encountered inappropriate behavior in the majority of cases, such as the fact that some respondents lost the questionnaires and others did not return them, all of the questions were answered with appropriate behavior and no bad words.

Chapter 4

Data Analysis and Results

The entire result information is contained in the chapter. Whether the hypotheses are accepted or rejected. It was provide information on the mean values and the standard deviation. For the outcomes, correlation analysis, mediation, and moderation analysis and moderated mediation analysis tests was be run on the entire set of data that was collected using SPSS. Results was be compared to each hypothesis and presented with the appropriate justification.

The execution is the main focus of this chapter. The methodology used to carry out all of this in SPSS. The whole research findings are presented in this chapter.

4.1 Descriptive Statistics

Finding descriptive statistics is very vital for a study because a complete analysis includes descriptive statistics for other processes. The primary component of descriptive statistics is the statistical analysis of the data that are collected is to be analyze such as sample data, standard deviation, mean value.

The main advantage of descriptive research is that it offers a high level of objectivity and highlights various informational characteristics, which helps the researcher make meaningful interpretations and lowers the likelihood of mistakes that lead to further research. Descriptive analysis aids in usefully explaining and resolving data points, enabling the formation of principles that support each data condition.

The table has three columns in total; the first column lists the variable names, while the mean and the standard deviation are found in columns, respectively. Five preference scales are used for each of the four variables, ranging from one to indicate strong disagreement to five to indicate strong agreement.

TABLE 4.1: Descriptive Statistics

Variables	Mean	Std. Deviation
CWKS	3.4420	0.95368
AC	3.7643	0.83912
PC	3.7174	0.76931
TP	3.6995	0.87786

N=384

The mean value of independent variable that is Co-worker Knowledge Sharing which have mean value is 3.4420 with standard deviation of 0.95368. The dependent variable that is Team Performance which shows the mean value of 3.6995 and standard deviation of 0.87786. The mediating variable is Absorptive Capacity which mean value is 3.7643 and standard deviation is 0.83912. Project Complexity is the moderating variable in our research model which has the mean value is 3.7174 and standard deviation is 0.76931. The evaluation was based on the thorough response that was compiled and chosen for evaluation 384 responses were chosen in order to conduct the analysis.

4.2 Correlation Analysis

The main objective of doing a correlation analysis is to determine the relationship between the variables chosen for the purpose of the research. The hypothesized hypothesis was supported by correlation analysis. It was discovered that there is a correlation between co-worker knowledge sharing and team performance with the mediating role of absorptive capacity and moderating role of project complexity, a

study of correlation is conducted to determine the degree of variation between two variables and to determine whether or not the variables change at the same time. Due to the absence of relationships between two or more variables, correlational analysis differs from regression research.

I used the Pearson correlation test, which primarily describes the correlation between the two variables. The relationship is described by a single value, and I can demonstrate how tightly related the variables are to one another using this test. The coefficient of correlations is represented by the symbol which is "r". The value of the correlation coefficient varies between -1 and +1. The relationship between the variables becomes stronger as "r" approaches 1. The relationship becomes worse the less value it has. The number 0 indicates that there is no connection between the two variables. Although 1 denotes that the two are perfectly correlated. The strength and direction of the relationship between the two variables can be determined by correlation analysis.

According to Cohen et al. (2013) a weak relationship between the variables is represented by the correlation coefficient, which ranges from 0.10 to 0.29. The value between 0.30 and 0.49 indicates a moderate relationship, whereas if the value falls between 0.5 and 0.8, a stronger relationship was indicated. The positive symbol indicates a direct relationship between the two, meaning that increasing one variable was also increase the other. However, a negative sign denotes an inverse relationship. According to the given table below the value of coefficient correlation is between Co-worker Knowledge Sharing and Absorptive Capacity is 0.176 which indicates there is a weak correlation between these variables.

Whereas the value ranges from 0.10 to 0.29. The value of correlation coefficient is between Co-worker Knowledge Sharing and Project Complexity is 0.212 which means there is weak correlation between these variables. The value of coefficient correlation is Co-worker Knowledge Sharing and Team Performance is 0.180 which indicates there is weak correlation hence the range of value lies between 0.10 to 0.29. Similar to this, there was a moderate correlation between absorptive capacity and project complexity, with a correlation coefficient of 0.415. Given that the coefficient's value is 0.407 there was also a significant correlation between the absorptive capacity and its team performance was also significant there value

range lies between 0.5 to 0.8 which indicates the strong relationship. Also the strong relationship also found between project complexity and team performance, value of coefficient correlation is 0.319. The value P demonstrates the significance as well as the possibility of potential data errors. There is a 1% chance that the data will contain an error if P is less than 0.01. In the below table less value than 1% error are denoted by "**" other than the values with 5% error of chances is denoted by "*". These numbers also indicate that the correlation is significant in 99% of cases when it is less than 0.01 and in 95% of cases when it is less than 0.05.

TABLE 4.2: Correlation Analysis

Variables	**CWKS**	**AC**	**PC**	**TP**
CWKS	1			
AC	0.176**	1		
PC	0.212**	0.415**	1	
TP	0.180**	0.407**	0.319**	1

N = 384

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

CWKS = Co-worker Knowledge Sharing

AC = Absorptive Capacity

PC = Project Complexity

TP = Team Performance

4.3 Regression Analysis

In this study, correlation analysis was used to determine whether there was a relationship between the variables. However, because the correlation is insufficient for our results, we cannot rely just on it only demonstrates the existence of a

relationship between the variables; it does not demonstrate the degree to which one variable depends on another.

To accomplish this we conduct a regression analysis to determine the degree of dependence of one variable on another. Values that typically have significant significance in correlation analysis turn out to be insignificant in regression analysis.

Preacher and Hayes (2004) is used for this regression analysis. The first hypothesis of this research is that regression analysis was be used to examine the direct impact of knowledge sharing among coworkers on the team's performance. In this study, the mediating variable was hypothesized to have two further direct relationships of effect is that regression analysis is used for this purposes. The first one is Co-worker Knowledge Sharing is direct effect on Absorptive Capacity and other one is direct effect of Absorptive Capacity on Team Performance.

The regression analysis also examines both relationships. And the mediating variable is Absorptive Capacity is test between the Co-worker Knowledge Sharing and Team Performance Process Macro's model No. 4 is used for this analysis. Moderating Effect of Project Complexity is also test on the relationship between Co-worker Knowledge Sharing and Absorptive Capacity. For the purpose of evaluating the moderated mediation hypothesis, PROCESS Macro's model 7 was used.

4.3.1 Direct Effect of Co-worker Knowledge Sharing on Team Performance

The relationship between Coworker Knowledge Sharing and Team Performance was the first hypothesis tested using regression analysis. The independent variable is Co-worker Knowledge Sharing, whereas the Team Performance is a dependent variable. The tests above demonstrate the direct impact of co-worker knowledge sharing on team performance which is denoted by the symbol "C".

Table 4.3 lists the conclusions. Referring to Table 4.3, the p-value is found to be less than 0.001. Additionally, since there are no values between the lower confidence limit (0.016) and the upper confidence interval (0.179), this strongly suggests a significant influence of co-worker knowledge sharing on team performance. The

TABLE 4.3: Direct Effect of Co-worker Knowledge Sharing on Team Performance

Predictors	β	**SE**	**T**	**P**	**LLCI**	**ULCI**
CWKS to TP	0.097	0.041	2.362	0.018	0.016	0.179

N = 384, CI = Confidence Interval, LL = Lower Limit, UL = Upper Limit

data from the table illustrates that a variation of 1 unit in co-worker knowledge sharing corresponds to a 0.097 unit change in team performance. These outcomes support the assertion made in hypothesis 1 affirming that "Co-worker Knowledge Sharing significantly affects Team Performance". The first hypothesis, "Coworker Knowledge Sharing Has a Significant Impact on Team Performance," is supported in light of the findings.

H1: Co-worker Knowledge Sharing has significant relationship with Team Performance.

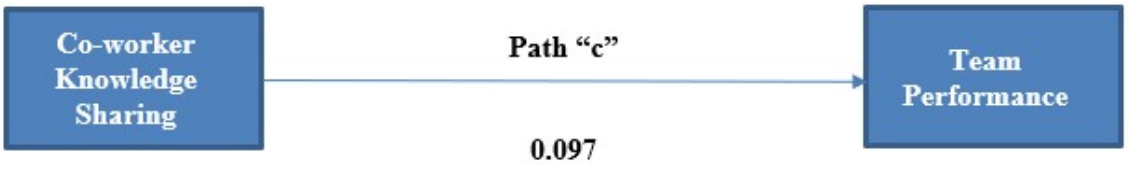

FIGURE 4.1: Direct Effect of X on Y

4.4 Mediation Analysis

The relationship between Co-worker Knowledge Sharing and Absorptive Capacity is regarded as the path "a" in the second step. According to the below table 4.4 there is no zero between the values of the lower level confidence interval i.e. 0.090 and upper level confidence interval is 0.322, shows that significant relationship between these variables i.e. Co-worker Knowledge Sharing on the mediator i.e. Absorptive Capacity.

Confirming the findings of this follow-up-study of this regression analysis. The Co-worker Knowledge Sharing demonstrates a significant and positive connection with the Absorptive Capacity (β = 0.206, t = 3.500, p = 0.000), supporting the hypothesis H2.

TABLE 4.4: Direct Effect of X on M

Predictors	β	**SE**	**T**	**P**	**LLCI**	**ULCI**
CWKS(X) to AC (M)	0.206	0.059	3.500	0.000	0.090	0.322

N = 384, LL = Lower Limit; UL =Upper Limit; Cl = Confidence Interval.

The coefficient mentioned in Table 4.4 is 0.206. This means that 1 unit change in Co-worker Knowledge Sharing was bring 0.206 unit changing in Absorptive Capacity.

H2: Co-worker Knowledge Sharing and Absorptive Capacity are supported/connected with each other.

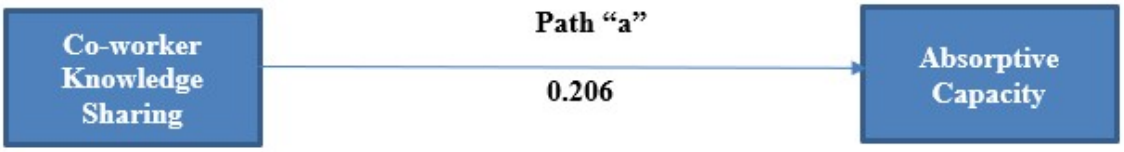

FIGURE 4.2: Direct Effect of X on M

The third directly examined the relationship between Absorptive Capacity and Team Performance here symbol is denoted by b. According to the table 4.5 there is no zero values between the lower level of confidence interval i.e. 0.2205 and upper level confidence interval is 0.3597 shows that significant relationship between these variables. Absorptive Capacity denoted by M and Team Performance is denoted by Y. According to the table 1 unit change in Absorptive Capacity was increase the 0.290 unit change in Team Performance. The statistically significant findings show that the association has described the findings in detail (β = 0.290, t = 8.194, p = 0.000).

H3: Absorptive Capacity have supported with the Team Performance.

The value of coefficient and value of P describes that Absorptive Capacity have a significant impact on Team Performance since hypothesis third is supported.

The fourth relationship was the indirect effect relationship between Co-worker Knowledge Sharing and Team Performance with the mediator of Absorptive Capacity. The path "c" is for mediating path.

TABLE 4.5: Direct Effect of M on Y

Predictors	β	**SE**	**T**	**P**	**LLCI**	**ULCI**
AC (M) to TP (Y)	0.290	0.035	8.194	0.000	0.2205	0.3597

N = 384, LL = Lower Limit; UL =Upper Limit; Cl = Confidence Interval.

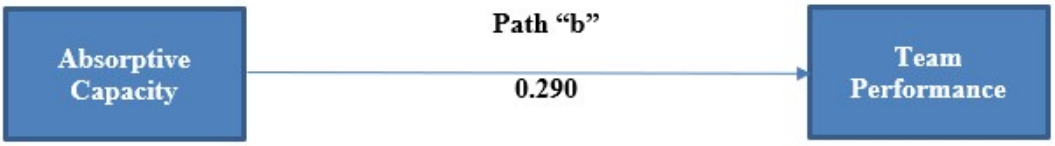

FIGURE 4.3: Direct Effect of M on Y

According to the table 4.6, there is no zero between the values of Boot LLCI and Boot ULCI, which have the values of 0.0255 and 0.0992 proving that the important role of mediating effect of Absorptive Capacity between Co-worker Knowledge Sharing and Team Performance.

H4: Absorptive Capacity mediates the significant relationship between Co-worker Knowledge Sharing and Team Performance

TABLE 4.6: Indirect Effect of Mediator

Predictors	β	**Boot SE**	**Boot LLCI**	**Boot ULCI**
X to M to Y	0.0599	0.0186	0.0255	0.0992

N = 384, LL = Lower Limit; UL =Upper Limit; Cl = Confidence Interval.

The total impact is calculated by adding the direct and indirect impacts. In my case, the indirect impact value is positive (0.0599), indicating that the total impact value will increase with the presence of the mediator.

According to Table 4.6 and Figure 4.3, shows that values is significant so that my fourth hypothesis is "Absorptive Capacity mediates the significant relationship between Co-worker Knowledge Sharing and Team Performance" us supported.

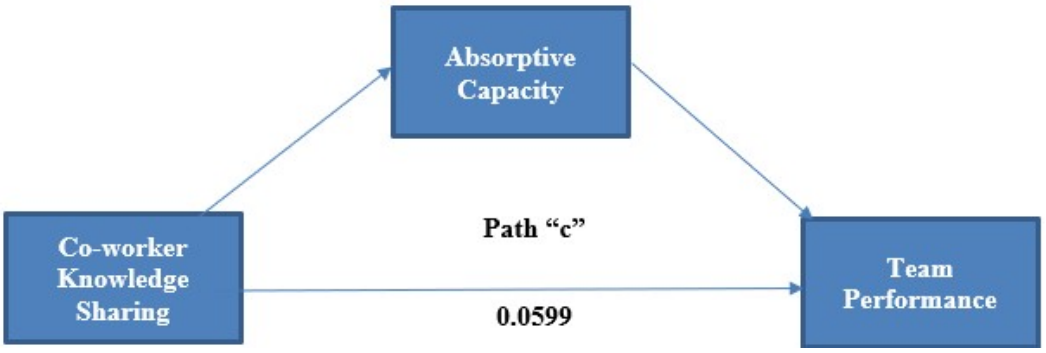

FIGURE 4.4: Mediation Analysis

4.4.1 Moderation Analysis

The moderator acts as a catalyst in the research model. To test the Project Complexity as a moderator. To analyze the moderation test which and they indicates that the relationship between Co-worker Knowledge Sharing and team performance is moderated by the project's complexity. Moderator increasing or decreasing the relationship between the predictor and creator variables.

H5a: Project Complexity moderate the significant relationship between Co-worker Knowledge Sharing and Absorptive Capacity in such a way that this relationship is weaker when Project Complexity is high.

TABLE 4.7: Moderation Analysis

	β	SE	T	P	LLCI	ULCI
Constant	-0.248	0.953	-0.260	0.794	-2.122	1.625
Co-worker Knowledge Sharing	0.648	0.252	2.565	0.010	0.151	1.144
Project Complexity	0.976	0.254	3.841	0.000	0.476	1.476
Int-1	-0.144	0.066	-2.189	0.029	-0.275	-0.014

N = 384, LL = Lower Limit; UL =Upper Limit; Cl = Confidence Interval.

According to the table, moderation hypothesis is supported. As shows in the table value of interaction Term and the value of β = -0.144, the value of p = 0.029 which indicates negative significant influence. For checking the effect of moderation lets check the LLCI and ULCI, if there is zero lies or not between the both the limits. Here the value of LLCI = -0.275 and ULCI = -0.014, so there is no zero lies between the both the limits. So we conclude that moderation effect is exist.

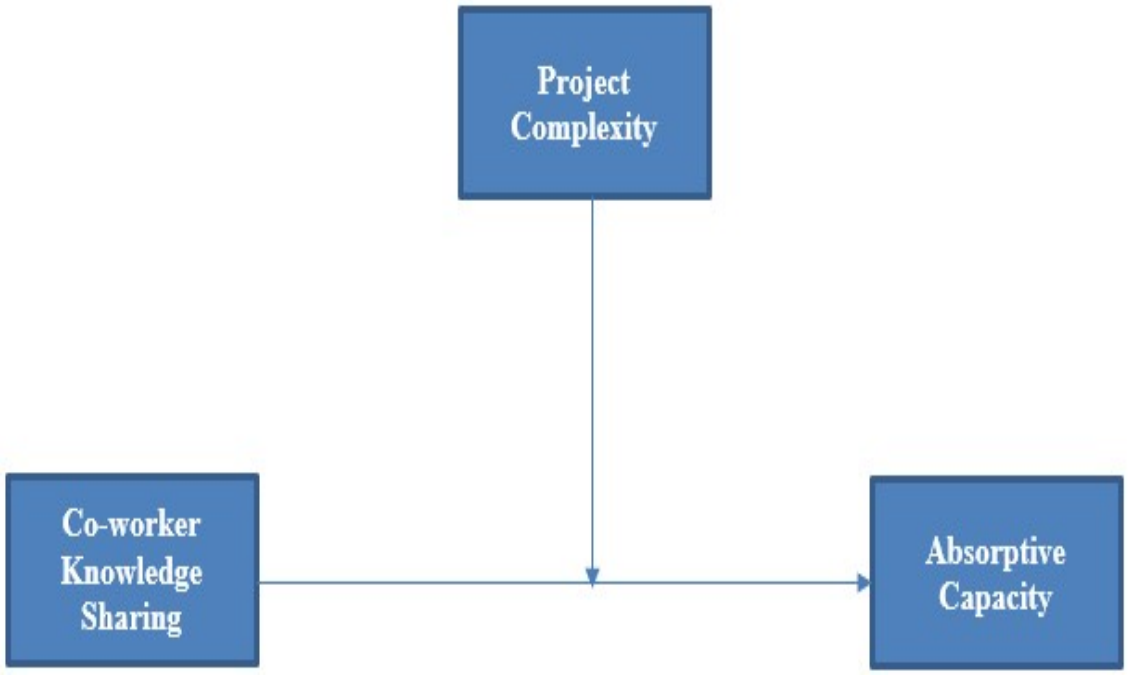

FIGURE 4.5: Moderation Analysis

4.4.2 Moderated Mediation

In order to test the moderated mediation to check the effect of project complexity on team performance by enhancing the absorptive capacity as a mediator, PROCESS macro Model 7 was run. As below table 4.7, the BootLLCI and BootULCI and there value is -0.1003 and 0.0128. Index of moderated mediation effect the project complexity -0.0420.

After testing the moderated mediation the results get form analysis shown that the moderator i.e. project complexity enhance the impact of the absorptive capacity mediator on the team's performance.

TABLE 4.8: Moderation Mediation

Predictors	Index	Boot SE	Boot LLCI	Boot ULCI
Project Complexity	-0.0420	0.0289	-0.1003	0.0128

N = 384, LL = Lower Limit; UL =Upper Limit; Cl = Confidence Interval.

So the zero is between lower and upper confidence interval which indicates that Moderated mediating effect of project complexity is insignificant. Hence the hypothesis H5b is not supported.

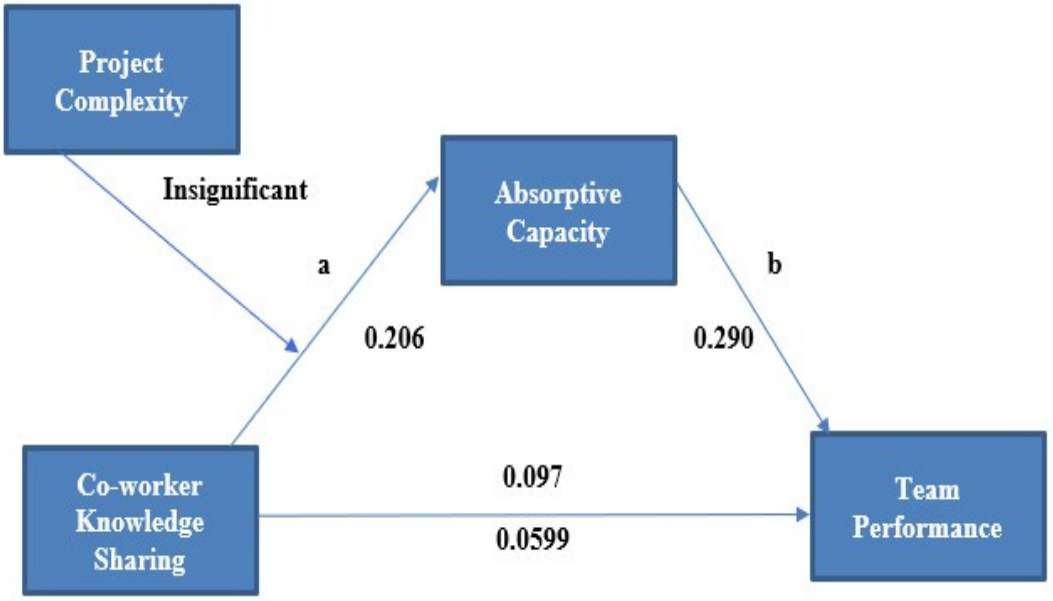

FIGURE 4.6: Moderated Mediation Impact of Project Complexity

4.5 Hypothesis Results

TABLE 4.9: Results of Hypothesis Summary

Hypothesis	Statement	Results
H1	Co-worker Knowledge Sharing has significant relationship with Team Performance.	**Supported**
H2	There is significant relationship between Co-worker Knowledge Sharing and Absorptive Capacity.	**Supported**
H3	There is a significant relationship between Absorptive Capacity and Team Performance.	**Supported**
H4	Absorptive Capacity mediates the significant relationship between Co-worker Knowledge Sharing and Team Performance.	**Supported**
H5a	Project Complexity moderates the significant relationship between Co-worker Knowledge Sharing and Absorptive Capacity	**Supported**
H5b	The indirect effect of Co-worker Knowledge Sharing on Team Performance through Absorptive Capacity is expected to be higher when low project complexity and lower when higher project complexity is Insignificant.	**Not Supported**

Chapter 5

Discussion and Conclusion

5.1 Introduction

Discussion of the research's findings is included in this chapter. Discussions of the hypotheses, their acceptance and rejection, their theoretical and practical implications, their strength and weaknesses, their limitations, and their future directions are also included. This chapter presents the study's overall conclusion.

5.2 Discussion

The study is useful in the literature on the Co-worker Knowledge Sharing and has practical implications for the association between Co-worker Knowledge Sharing and Team Performance. The act of managing involves assigning the right task to the right person, and project managers constantly need innovative and creative ideas that offer potential solutions to challenging problems.

According to the research findings, Co-worker Knowledge Sharing has a significant impact on TP. The variable mediating Absorptive Capacity (AC) and its mediating function with the Co-worker Knowledge Sharing (CWKS), an independent variable were established in order to predict the Team Performance (TP).

Results demonstrate that Absorptive Capacity (AC) can operate as a mediating agent between Co-worker Knowledge Sharing and Team Performance, increasing

the effects of Co-worker Knowledge Sharing on Team Performance. Coworkers are a valuable resource for sharing information and helping the organization carry out its objectives. Co-Workers used their maximum effort to maintain a high-quality, reliable product that adhered to standards, which ultimately led to the creation of Team Performance.

The assumption was accepted. Analysis and the results of the current research shows that the significant relationship.

$$\beta = 0.097, t = 2.362, p = 0.018 \tag{5.1}$$

The h1 hypothesis of the current research was that co-worker knowledge sharing has a significant effect on the team performance. The first hypothesis of the study is based on the analysis performed on the data gathered from the respondents working in project-based IT organizations being supported.

It turns out that co-worker knowledge sharing has a significantly impact on the team performance. The second hypothesis developed for the current study established that the co-worker knowledge sharing has a significant impact on absorptive capacity.

$$\beta = 0.206, t = 3.500, p = 0.000 \tag{5.2}$$

Furthermore, these findings are consistent with earlier studies. Previous studies have shown that team leaders that encourage group discussion and group decision-making or the co-worker knowledge sharing increase the ability of employees to absorb information.

According to Kremer et al. (2019) by adhering to some information-exchange protocols organizations can effectively foster their employees' creativity. In some circumstances the lack of information exchange may also be known as desconexion rather than accumulation. A bad interaction and inadequate information protection are to blame for the information exchange's disintegration: the person does not exert greater pressure or attempt to retain their knowledge and skills (Ford and Staples, 2010).

The information must be accurately recorded and stored in a location where all organization members may easily access it and use it. The team members must use their existing knowledge and provide new insights and ideas to ensure the success of multiple projects. All members of the organization should be able to easily access the information. They ought to be able to impart this expertise to their coworkers and endeavor to advance projects and boost their success.

According to the third hypothesis developed based on existing research and literature, the ability to absorptive capacity has a very significant positive impact on the team's performance. The findings of this study are consistent with earlier research that showed the impact of absorption capacity on team performance to be similar. The assumption was accepted. Analysis and the results of the current research indicates that the significant relationship

$$\beta = 0.290, t = 8.194, p = 0.000 \tag{5.3}$$

The coefficient of β value is to be 0.290 which tells that the one unit change in absorptive capacity here is significant chances of team performance to be increased by 29%. demonstrates how CWKS offers fresh opportunities to improve an organization's capacity for advancement. It gives project-based organizations a significant competitive edge by raising the efficiency of workers on a project (Wang and Wang, 2012). As a result, the third hypothesis, which claimed that the absorptive capacity has a significantly impact on the team's performance, is also supported on the basis of statistical significance and the β coefficient. According to the fourth hypothesis developed for the study the co-worker knowledge sharing has significantly improves the team performance by acting as a mediator of absorptive capacity. The results obtained based on the SPSS analysis have demonstrated the positive mediating impact of Absorptive Capacity between Co-worker Knowledge Sharing and Team Performance. The findings supported those of related earlier research studies. There bootstrapping values is (i.e BootLLCI = 0.0255 and BootULCI = 0.0992) there is no zero between, so the mediation is exist. According to Hayes and Rockwood (2017) Even if there is little direct interaction between these factors, there may be mediation between the independent

and dependent variables among these variables of direct effect is significant.

According to the 5a hypothesis derived from the earlier studies, the relationship between co-worker knowledge sharing and absorptive capacity is moderated by the project's complexity. The results obtained after doing the evaluation for the present study differ from the body of existing literature. The results obtained based on the SPSS analysis have demonstrated the moderating impact of Project Complexity on the relationship between Co-worker Knowledge Sharing and Absorptive Capacity. This hypothesis is supported. Negative Significant relationship is established and there values are (β = -0.144, t = -2.189, p = 0.02). However the findings of this study differ from those of other studies since there was significant moderator function found due to the project complexity of the project between the co-worker knowledge sharing and absorptive capacity. As a result, the hypothesis number 5a out for this study is supported.

Similar to the previous hypothesis, the 5b hypothesis that was chosen for this study is that the Project complexity of the project moderate the effect of mediating absorptive capacity for meaning that if a high level of complexity of the project increases the impact of mediating absorptive capacity on the team performance this effect won't be supported by the data result obtained following the regression evaluation in SPSS. The results contradict the hypothesis since there is evidence that the project's complexity has little bearing on how well the absorptive capacity is affected by its team performance. The results contradict the hypothesis since there is evidence that the project's complexity has little bearing on how well the team's performance is affected by its capacity for absorption. Cero is located between the lower and upper limits since the moderated mediating is not supported.

5.3 Research Implications

5.3.1 Practical and Theoretical Implications

The management of projects including co-worker knowledge sharing and team performance have benefited greatly from current research. There are no concrete

data on how knowledge sharing among coworkers affects the effectiveness of the team. The current research has confirmed that there is positive correlation between co-worker knowledge sharing and team performance. Also considered was the role of the absorptive capacity in mediating the relationship between the co-worker knowledge and the team's performance. This revealed that the absorptive capacity mediates this relationship completely. The results of the current research also indicate that the project complexity moderates the amount of co-worker knowledge sharing and the absorptive capacity.

The project management process has been significantly impacted by this investigation. Numerous top scholars have extensively discussed the field of knowledge exchange between colleagues. Nevertheless, this study makes a significant contribution to the literature because, up until now, no research had been done on the effect of co-worker knowledge sharing on the team performance via the use of absorption capacity in Pakistan.

The research has highlighted certain essential characteristics of the absorptive capacity to absorb prior research as well as its role as a mediator between the co-worker knowledge sharing and the team's performance. The absorptive capacity plays a significant role in the connection with the co-worker knowledge sharing among working partners on a project. To improve employee learning and the effectiveness of the project, an organization should create an environment that is capable of absorption.

Organizations must arrange training sessions where their employees can effectively express, discuss, and share their thoughts, ideas, and skills. They should schedule official meetings, workshops, and discussion sessions so that the staff can get along with one another and make the process more efficient due to the absorptive capacity because of co-worker knowledge sharing is pointless if it isn't shared. In the field of project management huge intercontribution.

As it has been highlighted, the importance of co-worker knowledge sharing on projects and how it may be applied in various organizations based on projects.

5.4 Limitations of Research

While carrying out this study, efforts are made to overcome any limitations, yet some still exist. Every study has some limitations because it is impossible to overcome all limitations in one study. Some of the breaks have been recorded. In this study, Additionally, this research has some limitations and reservations.

Time and the resources is one of the main limitations of the this research. I collected the data from the Pakistan specify Islamabad and Rawalpindi, the employees working in Project-Based Organizations. The results should be better if the data is obtained from other Pakistani locations.

Another restriction is the use of convenient sampling techniques, which collect data from a large population in random way. Because of his busy schedule, the employee was distracted throughout the survey's response. It is much harder to persuade them to respond. As a result, the results not came up to the expectations and the literature that was previously available, primarily because of the culture that developed after the high power, and as a result, they may not be applicable to people who are not from Pakistan. Other nations across the world cannot map the results.

5.5 Strengths of the Research Outcome

The benefits of studying are listed below:

1. In order to report and gather data, 384 significant individuals who work for Islamabad and Rawalpindi-based software companies were contacted.

2. The tool SPSS is used for data analysis.

3. Collected the data from the team members for the variables i.e., CWKS, TP, AC, PC.

4. Absorptive Capacity is the mediating variable of the research and it mediating between CWKS and TP.

5. It is the responsibility of the managers and participants to assign the appropriate task to the appropriate individual to manage the projects on a daily basis.

5.6 Future Direction of Research

The goal of this study is to determine how Co-worker Knowledge Sharing affects Team Performance, with Absorptive Capacity acting as a variable mediator and Project Complexity acting to safeguard the relationship as a moderator factor.

Conduct research specific to various industries to understand how the dynamics of coworker knowledge sharing, absorptive capacity, and project complexity vary across sectors. Different industries may have unique challenges and opportunities in this regard.

The future research scholars can conduct the research study on different variables to check the effect of Co-worker Knowledge Sharing and Team Performance. The future research scholars can uses the 2 mediators i.e. Potential Absorptive Capacity and Realized Absorptive Capacity instead of 1 because I used one mediator. The future research scholars uses the longitudinal study. Furthermore, to check the why the impact of moderated mediation is insignificant.

5.7 Conclusion

In a knowledge-intensive landscape, understanding the intricate relationships between coworker knowledge sharing, team performance, absorptive capacity, and project complexity is essential. This study contributes to both theoretical understanding and practical implications, offering guidance for organizations to harness the potential of knowledge sharing in diverse team environments.

The software industry in Pakistan is expanding quickly. The project management is growing quickly in Pakistan. The study's primary objective is to learn more about the relationship between Co-worker Knowledge Sharing and Team Performance in Pakistan, particularly in the software development industry. For this purpose, data is gathered from software companies and the IT sector in Islamabad and Rawalpindi.

The aim of this research is still to ascertain how Co-worker Knowledge Sharing affects Team Performance, along with the role of mediating Absorptive Capacity

moderating and role of Project Complexity. Social Exchange Theory is used for this supporting the relationships. The survey form were distributed throughout the information technology industries, out of 510 and 462 were received with 384 being taken into consideration for evaluation and analysis purpose because some of the questionnaire did not contain all the information required to perform the analysis.

Our findings substantiate the pivotal role of coworker knowledge sharing in influencing team performance. The positive impact of knowledge sharing resonates with prior research reaffirming its significance as a driver of enhanced team outcomes. Importantly, our study extends this understanding by elucidating the mediating role of absorptive capacity. We have demonstrated that the assimilation and utilization of shared knowledge, facilitated by absorptive capacity, serve as key mechanisms through which knowledge sharing positively influences team performance.

Moreover, the awareness of project complexity as a moderating factor empowers organizations to adapt their approaches, ensuring the relevance and effectiveness of knowledge-sharing initiatives across diverse projects.

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Appendix A

Research Questionnaire

Dear respondent,

My name is Ali Raza student of MS Project Management. My topic for research is "Impact of Co-worker Knowledge Sharing on Team Performance with the Mediating Role of Absorptive Capacity and Moderating Role of Project Complexity". As a MS research scholar at Capital University of Science & Technology (CUST), Islamabad, you can help me in filling the attached questionnaire you will feel quite interesting or also help me in collecting data for my research thesis, I will appreciate your participation. I assure you that data collected from you will be strictly kept confidential and will only be used for academic purposes only. Please keep in mind the data will be collected a general basis not on an individual basis. Please read the instructions before filling the questionnaire. Thanks a lot for your help and support!

Sincerely,

Ali Raza
MS (Project Management) Research Scholar
Faculty of Management & Social Sciences
Capital University of Science & Technology (CUST),
Islamabad

Table 1: Section-1: Demographics

Gender	**Male**	**Female**					
		26-33	**34-41**	**42-49**	**50-above**		
Qualification	**Matric**	**Intermediate**	**Bachelor**	**Master**	**MS/ M.Phil.**	**PhD**	**Post PhD**
Experience	0-5	6-10	11-16	17-22	23-28	29 and above	

Table 2: Section-2: Co-worker Knowledge Sharing

Co-worker Knowledge Sharing		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
01	Co-workers in our team shares their special knowledge and expertise with one another.	1	2	3	4	5
02	If co-workers in our team have some special knowledge about how to perform the task, they are likely to tell one another about it	1	2	3	4	5
03	Co-workers in our team exchange information, knowledge, and sharing of skills with one another;	1	2	3	4	5
04	Co-workers in our team freely provide one another with hard to-find knowledge or specialized skills;	1	2	3	4	5
05	Co-workers in our team help one another in developing relevant strategies.	1	2	3	4	5
06	Co-workers in our team share lot of information with one another;	1	2	3	4	5
07	Co-workers in our team offer lots of suggestions to one another.	1	2	3	4	5

Table 3: Section-3: Team Performance

Team Performance		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
01	Going by the results, this teamwork can be regarded as successful.	1	2	3	4	5
02	All demands of the customers are satisfied.	1	2	3	4	5
03	From the company's perspective, all team goals are achieved	1	2	3	4	5
04	The performance of the team advances our image to the customer	1	2	3	4	5
05	The teamwork result is of high quality	1	2	3	4	5
06	The customer is satisfied with the quality of the teamwork result	1	2	3	4	5
07	The team is satisfied with the teamwork result	1	2	3	4	5
08	The product produced in the team, requires little rework	1	2	3	4	5
09	The product proves to be stable in operation	1	2	3	4	5
10	The product proves to be robust in operation	1	2	3	4	5
11	The company is satisfied with how the team work progresses	1	2	3	4	5
12	Overall, the team works in a cost-efficient way	1	2	3	4	5
13	Overall, the team works in a time-efficient way	1	2	3	4	5
14	The team is within schedule	1	2	3	4	5
15	The team is within budget	1	2	3	4	5

TABLE 4: Section-4: Absorptive Capacity

	Absorptive Capacity	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
01	We are successful in learning new things within this group.	1	2	3	4	5
02	We are effective in developing new knowledge or insights that have the potential to influence product development.	1	2	3	4	5
03	We have effective routines to identify, value, and import new information and knowledge.	1	2	3	4	5
04	We have adequate routines to analyze the information and knowledge obtain.	1	2	3	4	5
05	We have adequate routines to assimilate new information and knowledge.	1	2	3	4	5
06	We are effective in transforming existing information into new knowledge.	1	2	3	4	5
07	We can successfully exploit internal and external information and knowledge into concrete applications.	1	2	3	4	5
08	We are effective in utilizing knowledge into new products.	1	2	3	4	5
09	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

Table 5: Section-5: Project Complexity

	Project Complexity	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
01	The project team was cross-functional	1	2	3	4	5
02	The project involved multiple external contractors and vendors	1	2	3	4	5
03	The project involved coordinating multiple user units	1	2	3	4	5
04	The system involved real-time data processing	1	2	3	4	5
05	The project involved multiple software environments	1	2	3	4	5
06	The project involved multiple technologies platforms	1	2	3	4	5
07	The project involved multiple technology platforms	1	2	3	4	5
08	The end-users' organizational structure changed rapidly	1	2	3	4	5
09	The end-users' business processes changed rapidly	1	2	3	4	5
10	Implementing the project caused changes in the users' business processes	1	2	3	4	5
11	Implementing the project caused changes in the users' organizational structure	1	2	3	4	5
12	The end-users' information needs changed rapidly	1	2	3	4	5
13	Architecture that the project depended on changed rapidly	1	2	3	4	5
14	Infrastructure that the project depended on changed rapidly	1	2	3	4	5
15	Software development tools that the project	1	2	3	4	5

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