

CAPITAL UNIVERSITY OF SCIENCE AND  
TECHNOLOGY, ISLAMABAD



**Impact of Shared Leadership on  
Virtual Team Effectiveness in  
Project with the Mediating Role  
of Trust Building and Moderating  
Role of Project Culture**

by

**Zainab Saeed**

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

in the

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Department of Management Sciences

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*I dedicate my thesis work to my Parents. A special feeling of gratitude to my husband. This Journey would not have been possible without your loving Support, encouragement and financial support. Thank you for your faith in me.*



## CERTIFICATE OF APPROVAL

**Impact of Shared Leadership on Virtual Team  
Effectiveness in Project with the Mediating Role of Trust  
Building and Moderating Role of Project Culture**

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# *Acknowledgements*

*Then which of the Blessings of your Lord will you deny.*

**(Surah Ar-Rehman)**

The achievement of this milestone is tangible with the blessings of Allah All mighty, who is the most gracious and most loving toward his creation. And incredible support and encouragement by my supervisor **Dr. Saira Ahmed** who always stands as a source of inspiration and motivation throughout this tenure. It was not possible without the support of my friends and fellows. I would specially pay my regard to my family for the support and cooperation while on the way of this journey.

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## *Abstract*

This study evaluates the relationship of shared leadership and virtual team effectiveness with trust as mediator and project culture as moderator in order to understand the effects of variables to enhance project virtual team performance and effectiveness of virtual teams working in Pakistan. The data was collected from 310 respondents working in team environment preferably in project based IT organizations. The results of this study confirmed that shared leadership has a strong positive impact on virtual team performance in project management teams whereas trust enhances and strengthens the relationship by playing a vital role as mediator. Meanwhile project culture moderates the relationship between trust building and virtual team effectiveness. The study contributes to improve the and boost the processes by adopting better work practices in virtual team environment, working within geographical boundaries of Pakistan, to achieve the desired objectives within time and cost constraints in most efficient manner. This study significantly contributes in literature that the effects of sharing leadership in project based IT organizations eventually increases the responsibility in virtual team and it triggers effective working behavior within ethical standards that eventually leads toward improved project team performance. In future research can also be done on the impact of shared leadership on virtual team effectiveness can also be identified by using other variables.

**Keywords: Shared Leadership, Trust Building, Project Culture, Virtual Team Effectiveness.**



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# List of Abbreviations

<b>DV</b>	Dependent Variable
<b>GRPI</b>	Goal, Roles, Processes, Interpersonal skill
<b>IV</b>	Independent variable
<b>LL</b>	Lower Limit
<b>PC</b>	Project Culture
<b>SL</b>	Shared Leadership
<b>TB</b>	Trust Building
<b>UL</b>	Upper Limit
<b>VTE</b>	Virtual team effectiveness

# Chapter 1

## Introduction

### 1.1 Background of the Study

Projects are unique in nature having a unique output in the form of any product or service (Project Management Institute, 2013). Now a days different projects are performed at the same time. Some of them are performed manually but some of them are performed over technology. Technology oriented projects contains local projects as well as global. In order to acquire and complete global projects we need to outsource it to different companies from all over the world according to our requirements.

Maintaining trust in the teams is a most important part of the project. Therefore, building trust is an important part for the team members in order to work efficiently and more effectively. To maintain the trust between members, a leader is required to motivate and guide them. However, in the technology assignments a single leader is not much effective. In order to maintain the activity and progress of the work they need Shared Leadership.

Today numerous organizations are confronted with weakness, rapid developing circumstances, globalization, as well as progressively complex work assignments (Brown and Gioia, 2002). To adjust to such change, organizations are progressively restoring work utilizing group-based structures (Illgen et al., 2005). This has brought about to test with respect to how to best deal with those group

and team-based work structures (Morgeson et al., 2010). Here the concept of the Shared Leadership contended for the significance of shared leadership for being among colleagues of teams. The concept of shared leadership enjoys much more enthusiasm as reflected in ongoing studies (Carson et al., 2007). Researchers recommend that common initiative methodology of shared leadership possibly gives a more reasonable answer for group based management than the traditional, various leveled, or vertical shared leadership, as spoken to by the independent head and leadership approach (Day et al., 2006).

Shared Leadership is considered a a new group of outcomes by the appropriation of shared leadership that affects over various members of team. It speaks to a state of shared impact implanted in the organizations and organizations among colleagues of teams that can fundamentally improve team as well as organization execution (Carson et al., 2007). Further, it depicts the powerful intuitive impact of procedures in people in teams and groups, for which the goal is to guide each other to the accomplishment of team objectives or organization objectives or both (Pearce and Conger, 2003), and it is considered to be as the quality of a group, as a lot of capacities which must be completed through group linkages (Gibb, 1954).

Shared Leadership varies from aggregate choices of decisions, as it additionally incorporates the later stages following the procedures of decision, for example, starting move, making obligation regarding move and duty regarding results, and so on (Hoch, 2013). Shared Leadership suggests to an aggregate social impact process by members of team and pointed toward the accomplishment of at least one shared objective (Hoch, 2013). Shared leadership has appeared to upgrade group and organization executions, well beyond the so called traditional and various leveled vertical shared leadership (Pearce & Sims, 2002). Team atmosphere and climate is the view of the environment of team, relational connections, and for the most part acknowledged practices and techniques of cooperating (Anderson & West, 1998). Teams that take part in shared leadership can have a collective atmosphere where teams colleagues regard value as well as support the involvement of each other (Drescher et al., 2014).



Although, leadership plays an important role in research by changing different patterns such as behavior styles, individual skills, group-based and interpersonal factor of member (Pernille and Smith, 2017). Shared Leadership refers to the terms of team in which power is disseminate between the team members and they do not follow the entitle leader (Danni Wang, 2013). Shared leadership improves the performance of the team by building strong relations between them (Danni Wang, 2013).

The idea of Shared Leadership maintains the balance in the literature. The concept of Shared Leadership exits between team levels, due to which efficient accomplishment and enhanced effectiveness to achieve the goal is made possible (Carson, Tesluk, & Marrone, 2007). A person who is the leader of team members having shared leadership qualities is able to have self-control and makes collective decision for the team (Turner, Scott-Young, & Holds worth, 2019). Shared Leadership is positively linked with the effective performance of the team. Shared Leadership can enhance the effectiveness of team by knowledge skills, aptitude, and social center and also by processing information between team members (Turner et al., 2019).

However, teams are always necessary to execute the project. To execute the projects, the project management field is rapidly growing all over world which gives us different solutions and plans to improve project effectiveness and performance. These functions and practices are varying according to the organization (Aubry, Hobbs, & Thuillier, 2007). In the last few decade project management industries are facing a lot of issues to deliver the output on the give time and budget because managers have to manage multiple projects at the same time. This leads toward the project complexity and become more difficult to take the right decision in less time (Awojide, Hodgkinson, & Ravishankar, 2018). According to this using the new technology and enhanced communication in the project enhances the performance of the project (Aubry, Hobbs, & Thuillier, 2007). In the last few years the information technology industry is growing day by day. There is an increased need of collaborative and adaptable techniques between the organizations to work efficiently. Teams are made from different background and cultures

that combine together to work with each other to fully utilize the resources efficiently. Project management has made remarkable growth in the era of research, professionalism and most of the organizations use project management techniques (Clark & Colling, 2005).

However, the 90s managers main focus on technical skill of the project which is scope, time and budget. The effective project manager guides the manager to complete the task in the given time and decide budget (Mainga, 2017). Teamwork is a necessary part of any project to accomplish scope in given time. Working as a team completes work more quickly than working as an individual. In a team all members participate in the work and fully utilize their combined skills to come up with different ideas and strategies in order to solve a problem (Stockdale & Kuhne, 2007).

Virtual teams are technology referred teams who work independently in time limits, project boundaries and work space (Bell & Kozlowski, 2002). Virtual teams are not new in this era of time. These teams come from different geographical areas and they performing their duties using information technology. These types of teams are more flexible, creative and adopt new approaches as compared to the basic teams which are made in organizations (Berry, 2011). It is very difficult to maintain trust in virtual team because they are not working in a physical environment as they communicated over through virtual technology. Trust building is very important part for virtual team effectiveness. Team members work from different areas all over the world to obtain a common goal and target. Team members feel hesitation to share information due to the lack of trust between them (Brockman, 2014; Siew, 2012).

The need for further research on variables (quantitative/qualitative) acting on the impact of shared leadership over team dynamics and performance has been pointed out by researchers over time. The whole idea of shared leadership is new in organizational structure of Pakistan and it has not gained acceptance or popularity as it is opposed to the traditional concept of hierarchical leadership where single leader has sole autonomous power over team which reflects the basic notion of the prevailing culture. This study will give a positive view of adopting

the shared leadership style in projects to achieve high team performance as trust plays its part to enhance the performance where team commitment is at power to achieve desired goals successfully as it empowers the team members by giving every competent member a chance to prove their own capabilities which provides a source of motivation for increased commitment.

## 1.2 Gap Analysis

According to past research very small amount of research has been done on the shared leadership impacting the performance of virtual team members. Success of team depends on the environment in which they are working and according to the changing situation of the organizations. A main question is that team adjustment in changing environment has impact on effectiveness (Ceri-Booms, Cureu, & Oerlemans, 2017). Han & lee (2018) proposed that there is very strong need to build a research on effective shared leadership and virtual team behaviors that increase team performance effectiveness with constraints on team independence and shared leadership should be recognized in organizations. Moreover, the factors that affect the performance of teams are direct or indirect which are from multicultural and multinational aspects will also be under consideration (Sa, Kaynak, & Sezen, 2016). Further study suggested that team members who are working freelance over the internet groups together for accomplishing a common goal from a different culture are called virtual teams (Alsharo, Gregg, & Ramirez, 2017). It is also suggested that a new path opens for further research that is the use of advance technology in teams and its effect on team performance (Fransen, 2018).

The aim of this study is to cover the gap between shared leadership, trust building between teams and the impact of project culture on virtual teams effectiveness.

## 1.3 Problem Statement

Previous studies have incorporated the concept of leaders who have played a vital role with regards to the team processing and the organizational performance.

Usually nature of projects is temporary which mean that manager and leaders complete the work on time. However, it is more challenging that a single leader has all the skills, abilities and knowledge that are needed to lead all the aspects of knowledge and the work. This has increased the importance of the notion of shared leadership which brings the shift in the organization towards the team based structure and responds to the more complex and rapidly changing environments. There is more theoretical evidence that shared leadership can enhance the performance of the team. Our research aims to address the knowledge overlap with scientific findings of employees and managers/leaders in practice. Although research has shown the benefits of shared leadership and there is also much resistance which can make it difficult to implement shared leadership resistance. However, by thousands of years of cultural conditioning, and most of the people still perceive leadership as singular. A lot of work needs to be done to overcome these traditional notions and boundaries of leadership roles. Without giving the authority of delegation and distribution of leadership within the project the team member feels restrained and that eventually effect the performance of team in a project (Robert, 2016).

Therefore, in this research shared leadership is studied to understand how it can contribute to effectiveness of virtual teams through trust building between team members.

## 1.4 Research Questions

Based upon the problem statement of this study major research question are mentioned below:

### **Question 1:**

What is the role of shared leadership in effectiveness of virtual teams?

### **Question 2:**

Does shared leadership have any impact on trust building?

**Question 3:**

Does trust building enhance the effectiveness of virtual teams?

**Question 4:**

Does trust building mediate the relationship between shared leadership and virtual team effectiveness?

**Question 5:**

Does project culture strengthen the relationship positively between trust building and effectiveness of virtual teams?

## 1.5 Objective of Study

The main objective of this research is that to test the model to find out the impact of shared leadership on virtual teams of project. This study also investigates the mediating effect of trust building between the shared leadership and virtual teams of projects. We also try to assess that project culture is supportive enough to foster trust between virtual teams.

Main objectives of this research are mentioned below:

- To assess the impact of shared leadership on virtual team effectiveness.
- To assess the impact of shared leadership in trust building.
- To assess the impact of trust building in virtual team effectiveness.
- To assess the mediating role of trust building between shared leadership and virtual team effectiveness.
- To assess the moderating role of project culture affecting the relationship of trust building and virtual team effectiveness.

## 1.6 Significance of the Study

This research adds more value in the field of the project management. It helps the project managers clear understanding of the virtual teams which are working for

the project outside to accomplish the main goal of the project. In the IT industry people are working in teams where team members are from different areas of world according to their skill-set.

Our study helps to identify the gap between the trust building in virtual team with ethical and supportive culture. Due to the shared leadership, team members are empowered with decisions making and motivates the other members to work hard to obtain the target of the project. Research demonstrates that building trust among teams and individuals is fundamental in the setting of shared leadership (Wang et al., 2014).

Individuals in groups are happy to share impact plus acknowledge impact on each other (Aime et al., 2013), which may assist building of trust (Bergman et al., 2012). On the other hand, reduced shared leadership can weaken trust by lessening the chances for building a trust. Drescher et al., (2014) analyzed the mediating impact of trust for relation linking the developments in shared leadership after some time and group performance. In either case, the kind of the connections between shared leadership as well as on trust and its contrasting effect on the virtual team effectiveness has however to be analyzed. The organizations that use and oversee virtual teams require a welcoming and supportive culture at corporate level and shared leadership that boost worldwide virtual team effectiveness. The examination is expected to see intuitive dimensions of shared leadership, trust, culture and virtual team effectiveness. This study will be a valuable contribution in the research body of knowledge and for the creation of potential strategies.

The breakup of the current study comprises of five chapters: Chapter 2 gives a literature review of the variables being focused on, for the current study, along with theoretical support as the references to the previous researches and studies along with meta-analysis in the field will build strong foundations for the current study of shared leadership and its moderators and mediators to gain gauge team effectiveness. Chapter 3 comprises of information about research methodology used for data collection, data sampling, data analysis tools and techniques while chapter 4 bears the results with statistical tests and tables calculated using the data analysis tools. In chapter 5, the results are discussed in relation to deduced

hypothesis and recommendations will be made with mention of study limitations along with the suggestions for the future research in the area.

## 1.7 Supporting Theories

Many theoretical perspectives have been present on the leadership behavior but very little amount of evidence is available to support the impact of shared leadership on virtual team effectiveness with the influence of trust building in the teams. However, an important theory such as The GRPI model of team effectiveness covers the model we have created in this research.

### 1.7.1 The GRPI Model of Team Effectiveness Theory

Theories of Participative shared leadership recommended that perfect style of shared leadership is which that reflects others contribution. These leaders boost investment and commitment from group of persons. These persons realize progress related to their investment and focused on the process of decision making. In participative theories, the leaders hold honor to allow others contribution. In this study participative theory of shared leadership was utilized. For this four areas of shared leadership are used as item: Collaboration, Vision, Delegation, and Culture were utilized (Brussow, 2013). Rubin, Plovnick and Fry, (1977) gives GRPI Model of Team effectiveness which utilized in this study; it is else known as GRPI model to represent purposes, jobs, procedures, and relational connections. With a group to be convincing, they need these four parts and sections:

**Goals:** well-defined goals as well as required results, obviously imparted expectations and desires.

**Roles:** distinct obligations, lead acknowledgment.

**Processes:** making of clear decisions forms just as system of work.

**Interpersonal Connections:** clear correspondence, trust, and compliance.

According to our theory model, a goal is set according to which team performs their task. When the goals are set in the teams each team member has a clear

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role and responsibility (Rubin, Plovnick & Fry, 1977). The relation between the team members becomes strong. In virtual teams technology is the main part of it and without technology virtual team does not exist. Technology maintain path between the virtual team to conduct meeting between them and communicate with each other to perform in an effective way (Willison & Buisman-Pijlman, 2016). In virtual teams each member having the full knowledge of use of technology and how to fulfill the requirement of the task. Building trust is very important in the teams because with the help of trust team member collaborate with each other with the modern use of technology. Trust enhance the responsibility which are being given to the team members. Trust leads toward the shared leadership, in this sense they choose their leader from their team and cooperate with leader in order to fulfill the task in an efficient and effective way. The GRPI model enhanced the concept of interpersonal skills, that the team should trust each other in order to take actions. The role of shared leadership is very important in the virtual team effective performance because they pick leader from their team and trust on them. They support each other in work and decision of the project.



# Chapter 2

## Literature Review

### 2.1 Shared Leadership

Previously, the study of leadership types and processes and their relation to team effectiveness and team performance has been revolving around leadership of single leaders (Gronn, 2002) but the concept of leadership, with evolving team structures, has changed. Shared Leadership has been characterized as ‘the way towards impacting others to comprehend and concur about what should be done. How it will be done viably, and the way toward encouraging individual and aggregate actions to achieve targets (Yukl, 2002). Pearce and Congner (2003) characterized shared leadership includes dynamic, intuitive impact among people in groups.

Shared Leadership defines as collective leadership in which multiple members of team take part in team leading functionality or take responsibility to lead. Shared leadership offers leaders from the team members which create more team bonding, improves team performance, improves collaboration and responsibility sharing. Shared leadership give opportunity to team members to take part in collaborative decision making, influence and support team members, take responsibility of outcomes and foster motivation (Hoch & Dulebohn, 2017). Shared leadership enhances team dynamics and performance by strengthening to promote task and promote group collaboration which in turn increase group performance.

## 2.2 Trust Building

The first meaning of trust is dependence on the honesty, quality, leader, surety, and so on of someone or something; certainty. The term trust building also define as the commitment or duty forced on an individual in whom certainty or leadership is put: a place of trust. Deutsch (1962) characterizes trust involving an individuals convictions and assumptions regarding how the trustee will carry on or a person that makes him rely upon words or an action of another person.

In spite of shared leadership, trust likewise seems by all accounts, to be pertinent to overseeing and driving worldwide virtual team and virtual teams generally (Dirks, 2000). Numerous scientists have done research to show that trust prompts successful management (Dirks, K., & Ferrin, D. , 2001). Trust helps to decline correspondence costs and the need for checking representatives, which is basic to deal with the MNCs that work in numerous areas in different nations. Trust among group individuals improves work fulfillment, data sharing, and performance (Creed & Miles, 1996). Despite the fact that impact of trust on face-to-face team effectiveness has got some academic consideration. Slightly realizing in regards to on how confiding impact in virtual team effectiveness (De Jong, A. B., & Elfring, T., 2010).

## 2.3 Virtual Team Effectiveness

The concept of a team is portrayed as some persons with matching abilities. Those who are likewise dedicated to a distinctive cause, objectives, as well as working practice for which they think themselves, they are hardly answerable (Zenun, M. M. Loureiro, N. G, & Araujo, C. S., 2007). It merits referencing that virtual teams are frequently framed to beat land or Shared divisions (Cascio, & Shurygailo, 2003). Virtual teams are included individuals who are situated in greater than ones area physically. This team quality encouraged wide utilization of many computer facilitated message that authorize topographically scattered individuals to organize their individual endeavors and sources of info (Peters, L. M. & Manz, C. C., 2007).

## 2.4 Project Culture

Culture of organization can be considered as an example of qualities and beliefs that assist persons with understanding organizational working and in this way give them the values for behavior in the organization (Deshpande and Webster, 1989). Basically, culture of organization is understood to contain largely and emphatically held qualities. These abilities are mirrored in examples of individual and interpersonal trust and conveyed in the values, images, ceremonies and prescribed frameworks of the organization (Chuang et al., 2004).

## 2.5 Shared Leadership and Virtual Team Effectiveness

Leadership which is shared is comparative however particular from others leadership styles as well as team develops. So, shared leadership capacities are like team forms recognized in model of team effectiveness, for example, the activity and change stages depicted by Marks, Mathieu, and Zaccaro (2001).

Virtual members of team can share thoughts, accomplish project objectives, and work successfully since a team when there is a confiding in connection between them. Building trust is a significant test in virtual teams since members of team dont have direct communication. In this manner, it turns into the obligation of the team heads to strategize approaches to enhance believing connection between members of team from the earliest point of the team gathering (Chen et al., 2011; Chou, Lin, Chang, & Chuang, 2013).

The empirical literature in the selected concept is as: Overseeing staff resources incorporates shared leadership exercises coordinated toward creating and rousing group individuals, including training and enabling (Klein et al., 2006). Overseeing material assets involves getting, allotting, looking after, using, and checking material assets. A typical way to deal with hypothesizing shared leadership is to regard shared leadership as a level of group trait and evaluate the degree to which

conventional shared leadership practices are did altogether by bunch of individuals (Ensley et al., 2006; Hmieleski et al., 2012; Pearce and Sims, 2002).

As opposed to this methodology, an emphasis on the shared leadership capacities doesnt expect that all individuals of group go about as leaders similarly however that individuals from the group embrace different shared leadership capacities (Hoch and Kozlowski, 2012). This research is empirically reliable approach for powerful shared leadership, which recommends that people accept explicit and various shared influential positions as the undertaking requests (Aime et al., 2013; Klein et al., 2006). In this way, though shared leadership is a new feature of a group. Construction of shared leadership is not the requirement to be organization centered (Carson et al., 2007). The group consistently takes part in a similar leader attitude and practices, but instead it is accumulation centered. Where various individuals from group specifically permission diverse shared leadership and works as the assignment requests (Aime et al., 2013).

There is a collection of capacities that leaders do inside a group or in the organization (Morgeson et al., 2010). Four significant capacities are usually referred to shared leadership researchers who search data and organizing, use of data in critical thinking, overseeing work force assets, and overseeing material assets (Burke et al., 2006). Data search and organizing includes the procurement and assessment of data and incorporates limit spreading over as the leader examines the outer condition and makes an interpretation of this data to the group. Data use in critical thinking includes recognizing needs, figuring objectives and strategies, and conveying them to group individuals. This function includes defining objectives, explaining desires, and direct sense making (Morgeson et al., 2010).

These outcomes and rationale backing them depend on a still perspective on shared leadership. Since mentioned earlier, empirical examinations of outcomes of energetic shared leadership are deficient. In any case, there is restricted proof to recommend that affirmative variations in shared leadership are related with increments in development (Aime et al., 2013). In spite of shared leadership, trust

likewise seems, by all accounts, to be pertinent to overseeing and driving world-wide virtual team and virtual teams generally (Dirks, 2000). Numerous scientists have done research to show that trust prompts successful management (Dirks, K., & Ferrin, D., 2001). Trust helps decline correspondence costs and the need for checking representative, which is basic to dealing with the MNCs that work numerous areas in different nations. Trust among group individuals improves work fulfillment, data sharing, and performance result (Creed & Miles, 1996). Despite the fact that impact of trust on face-to-face team effectiveness has gotten some academic consideration, slight realized in regards to how confide in impact virtual team effectiveness (De Jong, A. B., & Elfring, T., 2010).

Team that is virtual work across limits of existence by using present day PC driven enhances. The expression Virtual Team is utilized to protect a great scope of exercises and types of technologies depended working (Anderson, et al., 2007). Rezgui (2007) researched that the effectiveness of virtual teams, and some other appropriate type of virtual cooperation, in the development part and investigated the elements that impact their fruitful selection. Virtual teams are included individuals who are situated in greater than ones area physically. This team quality encouraged wide utilization of many computers facilitated message that authorize topographically scattered individuals to organize their individual endeavors and sources of info (Peters, L. M. & Manz, C. C., 2007).

The researcher characterized virtual team as a team of individuals as well as sub-teams who connect through related projects leaded by regular reason and work across joins reinforced by data, correspondence, as well as transport enhancements (Gassmann, O. & Von zedtwitz, M., 2003b). Other definition recommends that virtual teams are disseminated work teams whose individuals are geologically scattered as well as organize their work prevalently with electronic data then correspondence enhances email, video conferencing, phone, and so forth (Hertel et al., 2005).

An effective way to deal with shared leadership proposed that, by doing these types of capacities, leaders of group are center-team form drivers (Morgeson et al., 2010).

At the point when shared leadership is, these capacities are sanctioned by group individuals as well as are the methods by which individuals brief team procedures, for example, change and activity stage forms (Hoch and Kozlowski, 2012). Another connected construct is engaging shared leadership that is characterized since it is the degree to which leaders improve self-rule, control, self-administration, and trust in their teams (Chen et al., 2011).

Though engaging leaders give individuals power over their very own projects as well as improve their certainty, shared leadership includes individuals contained impact over one another. Subsequently, shared leadership is tied in with tolerating each other as leaders instead of being self-authorized by a solitary leader. In this manner, a team leader might be very engaging however hold a large portion of the initiative and impact (Carson et al., 2007). All things considered, engaging shared leadership and shared leadership may in shared manner impact one another. Enabling leaders, in trying to upgrade the significance of team individuals jobs, may empower them to take part in shared leadership capacities, in this way cultivating shared leadership. So also, shared leadership may prompt strengthening as team individuals utilize positive impact systems (e.g., empowering, offering guidance) that enhance group individuals certainty.

Leadership which is shared has potential advantages to aggregate working that ought to convert into better. Delegating shared leadership capacities among members can upgrade the teams psychological assets (Burke et al., 2003; Day, Gronn, & Salas, 2004) and its leader to use its aptitude (Burke et al., 2003), empowering them to arrange their endeavors all the more adequately. Also, researchers have set that shared leadership affected positively effect on attitudes of group members. The researchers (Hoch and Dulebohn, 2013) and connections (Bergman et al., 2012), which empowers them to work all the more helpfully and viably. So, shared leadership should encourage both job-linked and social components of team working, which thus should cultivate group effectiveness. Reliable with this thinking, in an ongoing g main examination of studies, shared leadership was seen as positively linked with team or effectiveness or organization (Wang et al., 2014).

Further, a few investigations have shown that mutual management includes pre-scient incentive past usual ranked shared leadership (Ensley et al., 2006; Pearce and Sims, 2002; Alavi, 2004). It was commonly concurred that shared leadership influences output of teams, then it is possibly progressively useful to management of the team when contrasted with the conventional and various leveled shared style of leadership (Avolio et al, 1996; Pearce et al, 2004; Carson et al., 2007; Pearce, 2008).

At the point where shared leadership is, assets could be completely animated and used (Burke, Stagl, Klein, & Salas, 2006). Scientists have likewise discovered that Leadership which is shared improves team elements and team effectiveness. (Pearce et al, 2004). Shared leadership likewise fortified skill of team to play out a project and enhance team union; which thus improves group effectiveness (Mathieu et al., 2015; Drescher et al. 2014). The connection between shared leadership and team effectiveness has been found in a couple of worldwide business researches. Team effectiveness is characterized as the level a team meets or surpasses the presentation measures of the individuals who study the output (Hackman, 1987). Shared Leadership are most important to virtual teams, because team members are separated from one another and their leader. So their basic need is distribution of leadership functions in the group (Schoper et al., 2018). Project teams are located with each other closely and some of them work virtually and are distributed over time and geographical zones, providing the additional challenges for coordination between them (Scott-Young, 2019). Shared leaders can study the external and internal information that is received from the outside and share this information with their group member (Wua and Cheng, 2018). Now a day, work place become a project center environment where projects are become more complex and they need to requiring the different type of teams, including multidisciplinary team and virtual team (Schoper et al., 2018).

Additionally, project management researchers are cited for the investigation of other forms of leadership that can be a particular alternative to the outdated project management structure (Muller et al., 2017, 2018a, b). Research answers

the current demand to explore the different type of project leadership by concentration on shared leadership (Keegan et al., 2018). Another author also says that the benefits of shared leadership are viable in globally distributed project teams (Aub et al., 2018). It has also been argued that knowledge of team, their expertise, competence and virtuality have an important influence on the relationship between the shared leadership and multi-level outcomes in projects (Bond-Barnard et al., 2018). Effectiveness has consistently been a basic portion for organization as well as it is viewed as define objective. These finding, thus, give way to our next hypothesis stating:

**Hypothesis 1: Shared leadership is positively associated with virtual team effectiveness.**

## 2.6 Shared Leadership and Trust Building

The trust that people have in their leaders has been a significant idea in applied research of Psychology and related orders. For example, it is a key idea in a few theories of shared leadership: Transformational as well as charismatic leaders enhance trust in their devotees (Kirkpatrick, S. A., & Locke, E. A., 1996); perceptions of employees that leaders have characteristics that enhance trust might be significant for leader effectiveness (Hogan, R., Curphy, G., & Hogan, J., 1994).

Trust can be viewed as the basic resource and ability of shared leadership. Leaders empower the production of trustful working environment atmosphere. In the information period, trust building is perceived as one of a leaders key assignments. Imperativeness and ingenuity in organizations are encouraged through shared leadership by trust. Trust is regularly underestimated seeing someone until it is broken (Ikonen, M. & Savolainen, T., 2011).

Empirical study has established a positive connection among shared leadership and trust (Bergman et al., 2012), however these examinations analyzed static connections. They kept up that as shared leadership builds that may be, as more individuals expect progressively shared leadership capacities people have more



chances to collaborate with each other and in this way make trustable bond that brief the effort and participation vital for performance of high level. This recommendation proposes that trust is a powerful quality of the team that can possibly create and develop whenever shared leadership is (Wang et al., 2014).

The behavior of shared leadership is a group ability that comes from the distribution of leadership influences through different team members. Shared Leadership includes three dimension i.e. shared purpose, social support, and voice of the group member that are committed to the group activity. Leadership plays an important role of collective interaction, through which they influence the trend of the group, they encourage and support each other (Wua and Cheng, 2018).

Though theory recommended that shared leadership can impact various parts of team working, we concentrated on trust, since it is a significant indicator of team effectiveness (Colquitt et al., 2007). Trust is probably going to build the general effort people apply to enhance assignments and how much they participate in the quest for aggregate objectives (McEvily et al., 2003). Research demonstrates that trust is related with effort of member effort past proper job prerequisites to support associates and the organization accomplish aggregate objectives (Colquitt et al., 2007). Trust is basic to allow leadership and impact for others and a significant element in effectiveness of group (De Jong et al., 2012), it is a conceivably basic component in the connection between shared leadership and team effectiveness. We keep up that, by enhancement of trust, change in shared leadership guide to positive change in effectiveness of group. Moreover, the nature of shared leadership is generally changes over time. Different team members lead the team at different stages or times that results in shifts or changes to the shared leadership paradigm (Wau and Cheng, 2018).

Shared leadership and trust are two pertinent components to clarify the distinction in effectiveness between organizations that are regularly comparable (Hasel, Markus, C., Grover, & Steven, L., 2017). They Robert, L. P. & You, S., 2017 affirmed a positive connection between shared leadership sharing as well as trust

in the leader, and many Drescher, Marcus, A. et al., 2014 affirmed a positive connection between shared leadership and trust in the leader as well as in the team. Researchers affirmed that trust in the leader is direct and there is a positive link with shared leadership style of counsel, sharing of choices, inner communication of quality, and sharing of normal values (Gillespie, N., & Mann, L., 2004). They affirmed that trust in shared leadership is positively linked with the leaders help and directly linked with the subordinate (Holland et al., 2017).

**Hypothesis 2: Shared Leadership in teams is positively associated with trust building.**

## 2.7 Trust Building and Virtual Team Effectiveness

Virtual members of team can work more efficiently when offered time to enhance trust. The member of organizations can commit time to creating leaders plus imparted initiative obligations to teams. When members of team set aside cultural and expert contrasts. The spotlight on team objectives (Zemliansky, 2012). In spite of the broad utilization of virtual teams and their advantages to organizations, virtual teams are laden with a plenty of difficulties, including existence detachment, language obstructions, cultural contrasts, and shifted cultures of shared leadership (Barnwell et al., 2014). The scattered geographic area of virtual members of team, contrasts in cultures, just is the nonappearance of nonstop direct cooperation; irritate the difficulties in virtual teams (Collins et al., 2017). Building trust inside virtual teams is a remarkable test team leaders experience due to the absence of a cultural setting (Fan et al., 2014).

Trust is significant for both virtual and enhanced teams since members of team are required to trust in one another to team up, convey, share data, and perform (Boies et al., 2015). With virtual teams where members of team live and work from different areas, the test for building trust is considerably more prominent (De Paoli et al., 2015). The trouble in building trust in virtual teams is absence

of a cultural setting in this sort of teams (Fan et al., 2014). The absence of trust between virtual members of team adversely impacts team effectiveness (Derven, 2016). Given the significance of trust in virtual teams, understanding powerful methodologies leaders need to enhance trust among virtual members of team is fundamental for success of virtual teams, effectiveness, and performance (Morita et al., 2014).

Making an organizational atmosphere of interpersonal trust among workers improves positive job-linked results and connections, open correspondence, prosperity of employees, and data sharing among members from teams (Hakanen, M., & Hakkinen, M., 2015). These finding, thus, give way to our next hypothesis stating:

**Hypothesis 3: Trust building is positively associated with virtual team effectiveness.**

## 2.8 Mediating Role of Trust Building

They assumed that leaders could cultivate team effectiveness by upgrading trust among members of team (Vohra et al., 2015). Building a significant level of trust inside virtual teams is one-way. Project supervisors can effectively lead virtual teams (Barnwell et al., 2014). Trust causes members of team to determine clashes in the phases of team improvement (Pelegriani et al., 2014). Trust is the key factor restricting team leaders and members of team together for expanded effectiveness and profitability (Hakanen, M., & Hakkinen, M., 2015). As trustable bonds create inside the team, people are more excited to take part in additional effort toward helping their confided in associates and the team. As trust is spread in the group, the behavior of team members is helpful to multiply or adding increments in effectiveness. Further, people who trust each other invest less energy observing one another (Langfred, 2004). Opening up consideration and exertion for related work exercises (McEvily et al., 2003; Serva et al., 2005).

Since a great number of people assume responsibility and show their honesty, individuals in group are allowed to concentrate on exercises that can upgrade job

procedures and increase effectiveness. Dependable with this possibility, Aime et al. (2013) founded that positive changes in shared leadership prompted more significant levels of enhancement. These contentions recommended that by its effect on trust, development in shared leadership is clearly identified with effectiveness promotions. This reason suggested a connection between the extension of shared leadership and effectiveness improvement. As per recommendation of the theory that shared leadership may impact a variety of components adding to the cultural and project-based working of teams, trust is nevertheless one aspect by which shared leadership may impact effectiveness. The study concentrated on trust since it is basic to collaboration and work improvement inside groups (Colquitt et al., 2007; De Jong and Dirks, 2012). It has a solid hypothetical and empirically connection with shared leadership (Bergman et al., 2012; Bligh et al., 2006).

The idea of participatory and empowered leadership, where role of leader is shared between team members still gaining large amount of attention from both scholars and practitioners in multiple fields where teamwork is a common goal like management, health and education (Scott-Young, 2019). Talented members from the team are able to take the responsibility for leadership function and when they need shared leadership is a respected method for managing complex environment (Sweeney et al., 2019).

Although interpersonal trust and correspondence recurrence are significant variables for virtual teams effectiveness in the financial business (Kage, 2012). Building trust guarantees successful correspondence and exists as a test for virtual team leaders (Benetyte et al., 2014). The answer for this problem is non-traditional types of shared leadership, for example, e-shared leadership, emergent shared leadership, as well as shared leadership (Charlier et al., 2016). Utilizing 873 virtual members of team in the United States to comprehend the connections between team trust, team leader characters, and team apparent effectiveness (Pierce, E., & Hansen, S. W., 2013). They finished up psychological and character-based trust mediates the impact of team leaders character and team effectiveness (Soderberg et al., 2013).

The perception of trust is that the beginning of connection between members of teams on ground and the individuals without having direct links between them from virtual team (McAllister, 1995). Visit organizations, corresponding help and significant connections are important parts of building trust among employees working in different topographical areas (Lai et al., 2014).

Although many factors may be playing their part in enhancing team effectiveness in shared leadership processes, trust is one of the facets through which virtual team effectiveness can be affected through shared leadership. Drescher et al., (2014) found that trust fully mediates the shared leadership impact resulting in improved group performance while shared leadership alone does not have that strong an impact thus emphasizing the critical role of building trust in order to gain optimum performance. These arguments suggest that growth in shared leadership is positively related to improved virtual team effectiveness through its influence on trust, based on which is our hypothesis:

**Hypothesis 4: Trust building plays a mediating role between shared leadership and virtual team effectiveness.**

## 2.9 Moderating Role of Project Culture

The analyst has created both a restricted and wide (parochial and pragmatic) meaning of culture of project. A thin meaning of the idea project culture is that it is manner in which the project team makes in their setting of project. This meaning may just mirror the inward, project explicit atmosphere and doesn't underscore the pith of conduct, character of project or components that are descriptive. A wide meaning of the idea of project culture management is progressively adaptable in its application. It reflects substance of activities and management of project in the culture of the organization (Du Plessis, 2001). Research outcomes confirmed that organizational culture affects the achievements of virtual project teams. The study recognized the accompanying to be significant factors in organizational culture that lead to the accomplishment of virtual project teams: team

correspondence, the powerful utilization of ICT devices, shared leadership and team direction. The outcomes further settled that there is a connection between project management development and project effectiveness. Studies broadly presented communication as one of the most significant factors in achievement of virtual project team (Ludden, & Ledwith, 2014). Teams of virtual project are needed to have trust among them for better communication (Dube, S. & Marnewick, C. A., 2016). In any case, improvement of product is postponed when there is an absence of trust in the virtual team and the ability of an organization to meet its objectives is diminished when there is a restricted quantity of trust in the virtual team (Dinsmore, P. C. & Cabanis, B. J., 2014).

The key outcomes affirmed that the project and board development assumed a significant job in the accomplishment of virtual project team. The organizational culture and factors, for example, great shared leadership, trust, correspondence and team duty are assumed a greater job in the accomplishment of the virtual project teams. In any case, the total removal of project influences the achievement of the virtual project team. Outcomes showed that organizational culture positively influences virtual project effectiveness (Dube, S. & Katane, J., 2017). In the course of recent decades, there has been a touchy development in organizations, utilization of virtual teams to sort out work and this pattern is relied upon to just proceed later on. For instance, an ongoing survey of 1372 business responses from 80 states founded that 85% of responses dealt with virtual teams and 48% detailed that over a large portion of their virtual members of team were individuals from different cultures (Wizard, 2016).

Culture of achievement has a direct, solid relationship between values and beliefs. It also has a positive relationship with organizational effectiveness and nature of organization and effectiveness. While humanistic culture has indirect positive effect on the organizational effectiveness (Xenikou, A. & Simosi, M., 2006). The examination conducted on research the connections between various kinds of team culture and team effectiveness. Level of team examinations was done on the leaders and individuals from 104 teams uncovered an important link between interior procedure team culture and team project effectiveness. Besides, team avoidance

center mediated the connections between interior procedure and culture of human relations team with team project effectiveness. Promotion of team center mediated the connection between team culture of open system and team visionary effectiveness. These outcomes offered new bits of knowledge with respect to team culture, aggregate administrative center, and team effectiveness (Shin et al., 2016).

The study objective was to recognize the effect of practices of knowledge on effectiveness of the organization and at the same time thinking about the interactional impacts of organizational culture on this association. Self-managed questionnaire was conveyed to gather the answers from employees in various organizations providing services while moderation analysis and descriptive statistics were utilized to see the data and got the results. The outcomes of information investigation obviously demonstrated that practices of knowledge management have a solid positive link with Organizational effectiveness and this relationship is emphatically altered by the organizational culture. It indicated that the solid positive changes in organizational knowledge management moderating role of culture on the association of presents; practices organizational knowledge management as well as organizational effectiveness. It was revealed that practices organizational knowledge management has a solid positive link with Organizational effectiveness while this relationship is emphatically directed by the favorable organizational culture (Danish et al., 2012).

Culture has been characterized as the aggregate programming of the mindfulness which chooses the members of one team from another. Consequently, culture is founded and may appear in different courses as showed by nationality, ethnicity, or even classified settings (Hofstede, 1980). Culture has significant impact on effectiveness and is strongly linked with success of project. Late studies recommend that organization which actualizes such practices of management that incorporate planning, management of risk and culture fit have strong culture of organization which positively influences plan of project management (Ahmad, 2012). These finding, thus, give way to our next hypothesis stating:

**Hypothesis 5: Project culture moderates the relationship between trust building and virtual team effectiveness.**

## 2.10 Theoretical Framework

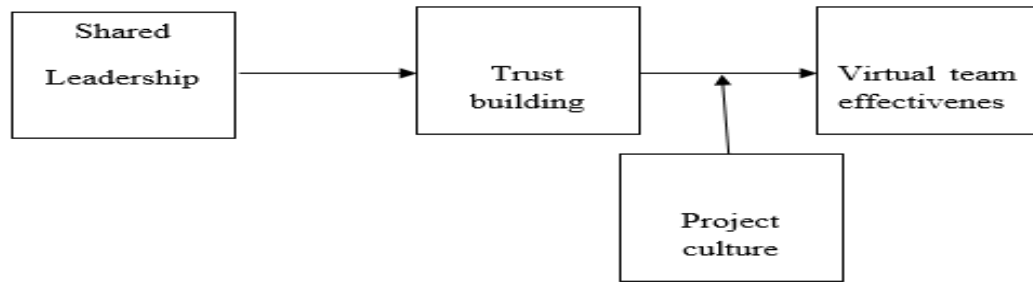


FIGURE 2.1: Research Conceptual Model of impact of shared leadership on virtual team effectiveness with trust building as mediator and project culture as moderator

## 2.11 Research Hypotheses

**H<sub>1</sub>:** Shared leadership is positively associated with virtual team effectiveness.

**H<sub>2</sub>:** Shared leadership in teams is positively associated with trust building.

**H<sub>3</sub>:** Trust building is positively associated with virtual team effectiveness.

**H<sub>4</sub>:** Trust building plays a mediating role between shared leadership and virtual team effectiveness.

**H<sub>5</sub>:** Project culture moderates the relationship between trust building and virtual team effectiveness.



# Chapter 3

## Research Methodology

The following section embraces of the specifics almost all the methods and procedures applied in this research to acquire consistent results. This discussion includes particulars regarding type of study, research philosophy, unit of analysis, population, sample, sampling technique, sample characteristics, instrumentation, statistical tools, reliability scales analysis and data analysis of all the variables and items incorporated in this research.

### 3.1 Research Design

The design of research is a context of research plan for action; it describes the procedure for group data and to analyze according to this data.

#### 3.1.1 Type of Study

This study is used to highlight implication of Shared leadership on virtual team effectiveness, for that matter inter-relational study has been accompanied. The target population for this research is IT industry of project centered organizations of Pakistan in order to obtain the required data and required to get realistic outcomes. Initially 350 questionnaires were distributed among the target respondents but 310 genuine responses were collected. The sample for this research mostly

made up of managerial and different it industry of project-based at operational level organizations of the Rawalpindi and Islamabad of Pakistan. This data was together through a paper and pencil analysis that is self-administered. This present study will contribute in generalization of the results from the sample statistics that will possibly revealed by the realistic result on the entire population of Pakistan.

### **3.1.2 Research Philosophy and Research Design**

Diverse types of philosophical approaches are there characterized as paradigm for social sciences that reinforce and backing scientific investigation. Data collection instrument is the one, which influence the adaptation of the particular philosophy related to research (Bazeley, 2003). This research will survey on the hypothetical deductive research method, which is exclusively based on the determinism viewpoint of finding the reality utilizing data, in which aforementioned research, and prevailing theories were utilized to validate and support predicted hypothesis that will then be verified empirically for authentication of the projected hypothesis.

The hypothetical deductive method is a predicted illustration of scientific method. This research paradigm is best suitable for this research study as it takes on critical focus on findings, which is yet to be explored. There are two parts of the hypothetical deductive scientific method i.e., hypothesis, which is proposed for testing, and the other one is deductive part that explains the test outcomes inferred from hypothesis. The results predicted from the hypothesis are associated with investigational data to fail or pass the decision. Conferring to this method, scientific investigation pledges by enclosing a hypothesis in an approach that could reliably be fabricated by a test on observable statistics. A result that runs antagonistic to projections of the hypothesis is inferred as a falsification of the hypothesis. A test that does not run antagonistic to the hypothesis substantiates the theory. It is then projected to associate the descriptive value of opposing hypotheses by testing how strongly they are genuine by their forecasts.

Quantitative methods are used and valued to scope a large scale of population generally in research. For that reason, this research will also exploit quantitative

research method to accumulate quality data for the purpose of correlating variables to each other and for signifying the nature of relationship between the variables used in the research.

### **3.1.3 Study Setting**

The present work of this study is a field study rather than artificial setting. Variables involved in this research were neither manipulated nor controlled. The study was held between the employees and project managers of private project based it industry by approaching to them in their job setting and to make them able to fill questionnaire in ordinary work environment.

### **3.1.4 Unit of Analysis**

Unit of analysis of current study is the most vital feature. The unit of analysis explains that which characteristics are to be analyzed in the study. In a research study, unit of analysis can array from individual to different groups, cultures, countries and to organizations etc. from where the researcher collect the data. The present study is intended to see the impact of Shared leadership on virtual team effectiveness, therefore; the unit of analysis was dyad i.e., the project managers who act as leaders and as well as its effect on organization which will be analyzed by employees of it industry explicitly companies having project culture in the workforce.

In order to evaluate the effect of Shared leadership through team flexibility needed to approach specific sector of project-based organizations, which specifically bring about virtual team effectiveness in workforce.

### **3.1.5 Time Horizon**

The collection of data was completed in 2 months. Cross sectional study, method was adopted for the collection of data for this research. Due to the short time span

for completion of thesis is required that is why cross-sectional study was adopted to complete the research on time.

## **3.2 Population and Sampling**

### **3.2.1 Population**

As project-based IT industry are the emerging source of competitive advantage for Pakistan, in this way this sector is contributing in a massive way to attract other foreigners to invest in Pakistan, which in return is increasing the cultural diversity in the workforce and global recognition of Pakistan as a new emerging and developing country. Every project is unique irrespective of the industry and has some specific deadlines, objectives and budgets whether its construction projects, NGOs project or IT projects etc. It is the key obligation of the project manager to complete the project within definite budget, time and scope. These basic characteristics of projects hustle the project manager to because he or she has no other option but to complete the project under the requirements.

The population exploited in this study was embrace project managers/supervisors and employees working under IT sector in different Islamabad and Rawalpindi project based organizations. The present research was pursued to deliberate on different Private IT sector of project-based organizations whose names are kept confidential. These include both National level and international level project based organizations in working virtual team environment, running various projects in the areas of IT of healthcare programs, education, energy, hydropower, social services etc. These projects include applications and software building of personnel, reforming of technical and vocational education and establishment records of hospitals and centers of excellence. The data is collected from the project managers and project teams including the relevant stakeholders of the projects. Almost 350 questionnaires were targets to be distributed. Data was collected for measuring these four variables of concern i.e. shared leadership, virtual team effectiveness, trust building and project culture.

### **3.2.2 Sample and Sampling Technique**

Sample is usually utilized procedure for data collection, the representative of population. Sampling has two types. One is probability sampling and another is nonprobability sampling. In probability sampling, every opinion has equal possibility to be picked as sample and in nonprobability sampling, it is pre-decided that which observation would represent as sample of population. Both have their advantages as well as disadvantages. For the present research, convenience sampling was used and it comes under the nonprobability sampling. As there are different arguments about the population of project-based organizations in Pakistan but exact is still unknown. Therefore, convenience sampling is the most appropriate procedure to be used in this research because through this technique randomly data can be collected from project base organizations of Pakistan, which will effectively represent the true picture of entire population in explaining the influence of shared leadership on virtual team effectiveness through trust building and project culture.

For the present study, generally, only project based organizations of Rawalpindi and Islamabad of Pakistan were approached. Seven project based organizations were being approached and the data was collected. The projects core team members reported the data on independent variable (i.e., shared leadership) and moderator (i.e., project culture) whereas the data on the dependent variable (i.e., virtual team effectiveness) and mediating variable (i.e., trust building) were reported by project manager which includes the project leaders, team leaders, and advisors/-experts. However, support staff was excluded from this group. Self-administered questionnaires were distributed among the chosen organizations of Rawalpindi and Islamabad. Respondents were informed that their information will be personal and will be only used for academic purposes through cover letter. They were asked to answer the survey questions as accurately as possible by ensuring the privacy of their reactions and namelessness so the respondents dont hesitate to fill in the survey decisively. Almost 350 questionnaires were distributed to project managers and teams for data collection; however, 310 complete responses were actually received.

### 3.3 Sample Characteristics

For the current research, questionnaire was designed. Project managers and supervisors and employees working under IT sector in different Islamabad and Rawalpindi filled questionnaire. The demographics measured in this study are; project managers experience and age of the employee in the project based organizations and information linked to gender, age, experience and qualification.

#### 3.3.1 Gender

Gender is a component, which remains in highlights for the purpose to sustain gender equivalence, so it is also contemplated as important element of demographics. The reason is that it distinguishes between male and female in an assumed sample of population. In this study, it has been tried to make sure the privilege of gender equality but still it has been observed that ratio of male managers and employees is considerably greater than the ratio of female managers.

Table 3.1, denotes the gender arrangement ratio of the sample in which 63.9% were male and 36.1 % were female. The percentage of male respondents was high.

TABLE 3.1: Gender Distribution

	Categories	Frequency	Percentage
<b>Gender</b>	Male	198	63.9
	Female	112	36.1
	<b>Total</b>	310	100

The table 3.1 shows that 63.9% (total of 198) respondents were male whereas 26% (112) participants were females.

#### 3.3.2 Age

Age is considered as one of the demographics, to which respondents occasionally feel uncomfortable to disclose openly. So, for the convenience of respondents, scale/range was used to collect information regarding their age.

TABLE 3.2: Age Distribution

	Categories	Frequency	Percentage
<b>Age</b>	26-33	96	31
	34-41	86	27.7
	42-49	46	14.8
	50 and Above	15	4.8
	<b>Total</b>	310	100

**Table 3.2**, showed the sample composition regarding age groups. The total mean of Age is 1.3612. The next demographic variable is age which range from 1 to 5 containing 1 as 18 to 25 years old people, 2 as 26 to 33 years old, 3 as 34 to 41 years old, 4 as 34 to 41 years old whereas 5 is 50 and above. The results show that 21.6% respondent belongs to the age limit of 18 to 25, 31% were 26 to 33 years old, 27.7% were those respondents who are 34 to 41 years old, 14.8% respondents were belong to the age limit of 42 to 49 whereas people who fall in the range of 50 and above is 4.8%.

### 3.3.3 Qualification

Education is the major element which contributes towards the prosperity of the whole Nation and it is also the basic need of the hour to compete globally. Hence, after gender, qualification/education is another vital dimension of the demographics.

TABLE 3.3: Qualification Distribution

	Categories	Frequency	Percentage
<b>Qualification</b>	Inter	30	9.7
	Bachelor	112	36.1
	Master	102	32.9
	Ph.d	49	15.8
	<b>Total</b>	310	100

**Table 3.3** denotes the qualification of the respondents. The next demographic is qualification which is divided into five classes such as matric, inter, bachelor, master and PhD. We noticed that majority 36% of our respondents are having

bachelor degree. 5.5% of our respondents were having matriculation, 9.7% were having bachelor degree, 32.9% respondent possessing master degree and 15.8% participant were PhDs.

### 3.3.4 Experience

Knowledge of work and expertise of an individual is shown as experience. The job experience is also categorized as 1 represents 1 to 5 years of experience, 2 represents 6 to 10 years of experience, 3 represent 11 to 15 years of experience, class 4 represent 16 to 20 year of experience and the 5th class mean above 20 year of experience.

TABLE 3.4: Experience Distribution

	Categories	Frequency	Percentage
<b>Experience</b>	1-5	15	4.8
	6-10	2	.6
	11-15	54	17.4
	16-20	173	55.8
	Above 20	66	21.3
	<b>Total</b>	310	100

Table 3.4 denotes the qualification of the respondents. The last demographic variable is Experience which is again classified into five groups years of experience. We observed that 4.8% participants were 1 to 5 years experience, 0.6% were 6 to 10 years, 17.4% were having 11 to 15 years of experience, 55.8% respondents were having 16 to 20 years experience whereas 21.3% were having more than 20.

## 3.4 Instrumentation

### 3.4.1 Measures

This study consists of closed ended questionnaire adopted from different sources, which were used for measuring four variables. Questionnaires were administered



to the various groups of employees & managers of the project based organizations that have been visited during questionnaire distribution period. Questionnaires were also distributed to project-based it organizations. Employees/managers as respondents filled the questionnaires with five sections in this study: demographics variables (gender, age, experience and qualification), shared leadership, virtual team effectiveness, trust building and project culture. The responses were tapped using a 5 point Likert scale where 1 denotes strongly disagree and 5 denotes strongly agree, unless otherwise stated. Questionnaires also covered demographic variables like Gender, Age, Experience and Qualification. 350 questionnaires were distributed in total but only 310 were received.

#### **3.4.1.1 Shared Leadership**

Questionnaire for Shared leadership is constructed by (Brussow, 2013). Total items are 20. Item responses were coded using 5point Likert scale 1= Strongly Disagree, 5= Strongly Agree. Some of items of scale are e.g. I collaborate regularly with my team members to achieve goals and My team has a vision with agreed upon goals our group undertakes.

#### **3.4.1.2 Trust Building**

Questionnaire for trust building is constructed by (Robert, L. P. & You, S., 2018). Total items are 4. Item responses were coded using 5point Likert scale 1= Strongly Disagree, 5= Strongly Agree. Some of items of scale are e.g. If I had my way, I wouldnt let the other team members have any influence over issues that are important to the project. and I would be comfortable giving the other team members complete responsibility for the completion of this project.

#### **3.4.1.3 Project Culture**

The questionnaire for Project Culture is constructed by (Dube, S. & Katane, J., 2017). Total items are 9. Item responses were coded using 5point Likert scale 1= Strongly Disagree, 5= Strongly Agree. Some of items of scale are e.g. My

organization has a good understanding in project management principles and My organization is compliant with project management standards.

#### 3.4.1.4 Virtual Team Effectiveness

Questionnaire for Virtual Team effectiveness is constructed by (Thomas, 2014). Total items are 12. The responses will be tapped using a 5 point Likert scale where 1 denotes strongly disagree and 5 denotes strongly agree. Some of items of scale are: In the past, my team has been effective in reaching its goals., There was willingness to share responsibility for failure. and My team is currently meeting its business objectives.

TABLE 3.5: Instruments

Variable	Source	Item
Shared leadership(IV)	(Brussow, 2013)	20
Trust Building (Med)	(Robert, L. P. \& You, S., 2018).	4
Project Culture (Mod)	(Dube, S. \& Katane, J., 2017)	9
Virtual Team Effectiveness (DV)	(Thomas, 2014)	12

**Table 3.5** explains the variables, their status in the current study, their source and total items or questions dedicated to collect data to analyze each variable. Shared leadership is the independent variable with 20 items, Virtual Team effectiveness is the dependent variable with 12 items, Trust Building is studied as mediator with 4 items and Project Culture has 09 items.

## 3.5 Statistical Tools

For statistical analysis different tools are used to summarize, describe and compare data. Many data tools are available for statistical analysis starting from simple to advanced computations of complex methods for studying, understanding and analyzing the data. Descriptive analysis is used to describe data by using specific tools. Tools for descriptive analysis are Frequency, percentages and measures of central tendency (mean, mode, median). Moderate analysis emphasizes on variable

relationships and explains the nature and significance of these relationships by checking correlation and regression.

In this study, we use all three statistical analysis tools to study and interpret data. The relationship between shared leadership independent variable and virtual team effectiveness dependent variable is studied through regression analysis while impact of various factors over dependent variable is checked by multiple regression analysis. The relationship between Shared Leadership (IV) & Trust Building (mediator) and between Virtual Team Effectiveness (DV) & Project Culture is also studied. Moderation, mediation and their impact is also checked by multiple regression while to check mediated moderation, Hayes model 14 (Preacher and Hayes, 2004) is employed to analyze conditional effect.

### 3.6 Reliability Analysis of Scales

Reliability is known as a process of getting same consistent outcomes again and again when the definite item is being established many time, reliability is for the same scales. Scale reliability shows the capability of the given scale to provide reliable outcomes when tested again and again. Study have conducted test of reliability by Cronbach alpha, it tells about the internal reliability of the variables and tells about if those variables have a connection between them or nor along with that it too measures single construct. Significant range for Cronbach alpha is 0 to 1 (Cronbach, 1951). Higher the value of Cronbach alpha, the scale reliability to calculate the construct it is meant to calculate is also higher.

Table 3.6 showed Cronbach alpha for given scales utilized in data gathering are presented. The purpose of conducting Cronbachs Alpha test is to measure the internal consistency and reliability to the scale that have been used in the study. According to Hair et al. (1998) the minimum acceptable point of Cronbachs Alpha is 0.7 which mean that instruments is said to be consistent if the Cronbachs alpha is greater than 0.7.

TABLE 3.6: Scale Reliability and Validity Analysis

Variables	Number of Items	Cronbachs Alpha
Shared Leadership	20	0.795
Trust building	4	0.512
Virtual Team Effectiveness	9	0.821
Project Culture	12	0.827

In this particular study we can say that all the instrument highly consistent and reliable as table 3.6 suggested that in all cases the Cronbachs Alpha is more than 0.7. In case of Share Leadership, the Cronbachs Alpha is .795, in case of Trust building it is .512, in case of Virtual Team Effectiveness it is .821 and Project culture the Cronbachs Alpha is .821.

### 3.7 Data Analysis Techniques

For generating statistical results, different statistical tools and techniques have been utilized in social sciences. These tools and techniques have some merits de merits, but the choice of accurate tests and tools is strongly link with research model, research purpose, research type and nature of data. To check the links among variables researchers, utilize correlation, to investigate effect of independent variables on dependent variables. Regression is use and process macros or structural equation modeling to test the links between multiple independent, dependent variables. After gathering of data that is related to this study from 310 respondents, data was then analyzed on SPSS software version 24. A number of procedures while analyzing the data are used, such procedures are as following:

1. First of all, only the questionnaires which were filled appropriately were selected for the analysis.
2. Every questionnaire variable was coded as well as each coded variable was used for the analysis of data.
3. Table of frequencies were utilized in reference to define the features of samples.

4. Descriptive statistics was done by the use of numerical values.
5. All variables reliability was tested through Cronbach coefficient alpha.
6. Correlation examination and analysis was done so as to know whether there is an important association existed or not between the variables under reach.
7. For the analysis of Independent and Dependent variable single linear regression was done to decide the estimated association.
8. For conducting moderation and mediation effect of variables on the Independent and dependent variables Preacher and Hayes Process were used.
9. By correlation and method of Preacher and Hayes, the proposed hypotheses were verified to see the proposed hypothesis rejection and acceptance.

# Chapter 4

## Results

### 4.1 Data Analysis

The prime objective of present study is to investigate the impact of shared Leadership (SL) on Virtual Team Effectiveness (VTE) considering the mediating influence of Trust Building (TB) with moderating Role of Project Culture (PC). For the purpose of this particular study, we focused IT Firms which are operating their Businesses in Twin cities i.e. Rawalpindi and Islamabad. Our target populations of this particular study are owners and top managers who are supervising different project in these firms. A self-reported questionnaire has been developed and total sample sizes of 350 questionnaires were distributed among owners and top managers of these firms. Usually we preferred to physically visit these firms and fill the questionnaires however we also used online survey approach in this study. Out of 350 questionnaires that were distributed, we found that 310 responses were completely filled and useable for our study. Thus, the respondent rate we observed in this study is 88.57%

$$\text{Respondent rate} = 310/350*100 = 88.57\%$$

## 4.2 Descriptive Statistics

All variables descriptive statistics such as shared leadership, Virtual team effectiveness, Project Culture and trust building comprehends the important points of evidence about data and their standard values. It includes the total number of respondents, the minimum and maximum values of each variable, moreover standard deviations as well as means and of every variable. The mean values demonstrate average of responses while the standard deviation values indicate the variation of responses from their means. All the variables understudied were measured at 5 point Likert scale. Descriptive statistics is the information summary of whole data because it highlights the significant statistic points. The given table presents some significant figures that are representing the whole data. The descriptive statistic comprises basic particulars like the size of the population, minimum maximum, mean, and standard deviation values of given data and its descriptive statistics Table 4.1 is given below for complete explanation.

TABLE 4.1: Descriptive Statistics

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Standard Deviation</b>
Shared leadership	310	1	5	3.341	0.479
Trust Building	310	1	5	3.043	0.713
Project Culture	310	1	5	3.368	0.680
Virtual Team Effectiveness	310	1	5	3.279	0.613

Table 4.1 displays that sample size was 310 for all the four variables. All variables (Shared leadership, Trust Building, Project Culture and Virtual team effectiveness) were valued on a Likert scale of 5 points, for example Strongly Disagree and 5 demonstrating Strongly Agree. The complete pictures of responses are shown from standard deviation as well as mean values and its shows observation of any respondent to specific variable. The mean value of the Shared leadership (SL) was 3.341 whereas value of standard deviation was 0.479. The mean value of Trust Building (TB) was 3.043 whereas value of standard deviation was 0.713. The mean value of Project culture (PC) was 3.368 whereas value of standard deviation was

0.680. Finally, the mean value of Virtual Team Effectiveness (VTE) was 3.279 whereas value of standard deviation was 0.613.

### 4.3 Control Variables

To obtain unbiased results, we also investigated the impact of our demographic variables on our dependent variable by using One-way ANOVA. If these demographic variables are found significant it means, we have to control their effects in our main regression model so that the results are unbiased and more valid. However, the output of one-way ANOVA suggested that no demographic is significant and have influence on our dependent variable as the P-value in each case is more than 0.05. Thus, we did not consider these demographic variables as control variables in our main regression model.

TABLE 4.2: Detail of One-way ANOVA

Demographic variables	F-value	Sig. Value
Gender	.203	.463
Age	2.513	.153
Qualification	2.132	.225
Experience	1.536	.296

### 4.4 Correlation

Correlation is conducted to examine the interrelation among the variables that are used in a particular study. In this particular study we proposed one independent variable that is shared leadership, a mediator that is trust building, a moderator such as project culture and one dependent variable that is virtual team effectiveness. Table 4.3 demonstrates the correlation results between the variables we used in this study. The results show that SL (Share leadership) is positively correlated with VTE (Virtual Team Effective) at significance level of .01 as the correlation coefficient is 0.599 whereas the P-value is 0.000. We cannot accept



a hypothesis solely on the basis of correlation output however, correlation provide primary support for acceptance or rejection of any hypothesis. Thus based on correlation output we can that our first hypothesis is support. Our next hypothesis is that there is significant relationship between TB (Trust Building) and VTE (Virtual Team Effective) which is again supported by our correlation table 4.3 at significance level of 0.01 as the correlation coefficient is .341 and P-value is 0.000. Our third hypothesis is that there is significant relationship between PC (Project culture) and VTE (Virtual Team Effectiveness). The results show that is Correlation coefficient is .150 and the P-value is 0.000 which means that this hypothesis is again supported by our correlation. We further notices that SL (Shared Leadership) has significant positive association with TB (Trust Building) as the correlation coefficient is .427 and P-value is 0.000 showing that this hypothesis is also supported by our results.

Correlation table not only help us to examine the interrelation between the variables but also help us to discover the potential multicollinearity problem. According to Gujarati (2009) two variables is said to be multicollinear if the they are perfectly linear association to each other. the potential problem of multicollinearity exists when the correlation coefficient is .8 or more than .8 (Gujarati, 2009). In this particular study if you look at correlation table, we can find that highest coefficient point is .599 which is in the relationship between VTE and SL. Thus we can say that no multicollinearity exists in present study.

TABLE 4.3: Correlation Matrix

	<b>VTE</b>	<b>SL</b>	<b>TB</b>	<b>PC</b>
<b>VTE</b>	1			
<b>SL</b>	.599**	1		
<b>TB</b>	.341**	.427**	1	
<b>PC</b>	.150**	.212**	.304**	1

*Note:*  $N = 310$ ;

\*\* . Correlation is significant at the 0.01 level (2-tailed). VTE= Virtual Team effectiveness, SL= Shared Leadership, TB= Trust Building, PC= Project Culture

\* \*  $p < .01$ ., \* $p < 05$ .

Summing up this portion we conducted descriptive statistics to find the demographic characteristics of the respondents and then correlation matrix has been used to find out the interrelationship and multicollinearity among the variables. Based on correlation results we further concluded that no multicollinearity problem exists in this study.

## 4.5 Regression Analysis

Correlation matrix helps us to find the relationship between the variables that have been proposed in this particular study. However, it does not tell us the effect of one variable on another variable thus on bases of correlation matrix we cannot accept or reject any hypothesis. Thus, in order to examine the impact of our independent variable and Mediator on dependent variable we further conducted regression test. In this particular study we used one Independent variable i.e. Shared Leadership and a Mediator i.e. Trust Building, a Dependent variable i.e. Virtual Team Effectiveness and one moderator i.e. Project culture. Regression output is classified into two stages. In stage 1 we tried to examine the direct impact of Independent variable (SL) and Mediator (TB) on Dependent variable (VTE) or Impact of Independent variable (SL) on Mediator (TB). In the next stage we then examined the mediation, moderation and mediation moderation impact by using Process Macro Proposed by Preacher and Hayes (2004).

In this study, Preacher and Hayes methods Preacher and Hayes (2004) have been used for both mediation and moderation regression analysis. Model 1 for moderation and Model 4 for mediation is used in Preacher and Hayes process; both for mediation and moderation are conducted separately. The Below table 4.4, 4.5 and 4.6 demonstrates output of stage 1 of regression analysis.

**H<sub>1</sub>:** *Shared leadership and Virtual Team Effectiveness.*

Table 4.4 indicates the results of hypotheses testing. First, we tested H1 that shared leadership is positively associated with Virtual Team Effectiveness. Results of regression analysis revealed that there is positive and significant relationship existing between shared leadership and Virtual Team Effectiveness. Our first

hypothesis is that SL (Shared Leadership) is significant positive impact on VTE (Virtual Team Effectiveness) which is supported by our regression results as the  $\beta = .768$  and P-value is 0.000 ( $P < .05$ ). Statistically it can explain that 1% change in SL (Shared Leadership) resulted a positive change in 76.8% in VTE (Virtual Team Effectiveness).

TABLE 4.4: Results of Regression Analysis H1

Dependent variable VTE			
Independent variables	B	T	Sig
SL	.768	13.135	.000
R2	.599		

Note: n = 310,  
VTE= Virtual Team effectiveness, SL= Shared Leadership, TB= Trust Building, PC= Project Culture  
 $P < .05$ .  $**p < .01$ .  $***p < .001$ .

### H2: Shared Leadership and Trust building.

Our next hypothesis is that SL (Shared Leadership) has positive and significant impact on TB (Trust Building). The output of regression analysis suggested that this hypothesis is also supported. Table 4.5 show that the  $\beta$  value in case of SL (Shared Leadership) and TB (Trust Building) is .637 and P value is 0.000 ( $P < .05$ ) whereas the R2 is .427. These figures can be statistically explained as a change in 1% in SL (Shared Leadership) will cause a positive change of 63.7% in TB (Trust Building).

TABLE 4.5: Results of Regression Analysis H2

Dependent variable TB			
Independent variables	B	T	Sig
SL	.637	8.291	.000
R2	.427		

Note: n = 310,  
VTE= Virtual Team effectiveness, SL= Shared Leadership, TB= Trust Building, PC= Project Culture  
 $P < .05$ .  $**p < .01$ .  $***p < .001$ .

### H3: Trust Building and Virtual Team Effectiveness.

Our third hypothesis is that there is significant positive influence of TB (Trust Building) on VTE (Virtual Team Effectiveness).

The regression output shows that this hypothesis is also supported as the regression coefficient value is .293 and P-value is 0.000 which is less than 0.05 whereas the R2 is .341.

It can be described that a percent change in TB (Trust Building) brought 29.3% increase in VTE (Virtual Team Building).

TABLE 4.6: Results of Regression Analysis H3

<b>Dependent variable VTE</b>			
<b>Independent variables</b>	<b>B</b>	<b>T</b>	<b>Sig</b>
TB	.293	6.367	.000
R2	.341		

Note: n = 310,  
VTE= Virtual Team effectiveness, SL= Shared Leadership, TB= Trust Building, PC= Project Culture  
 $P < .05$ .  $**p < .01$ .  $***p < .001$ .

## 4.6 Mediation Analysis Results

Our fourth hypothesis is that TB (Trust Building) mediates the relationship between SL (Shared Leadership) and VTE (Virtual Team Effectiveness).

In order to check this mediation effect, we conducted Process Macro Model 4 which is originally proposed by Preacher and Hayes (2004). According to this approach different path i.e. a, b, c and c have to check for mediation.

These paths are checked by three effect for model 4 of mediation suggested by Hayes (2004) i.e. Direct Effect, indirect effect and Total effect.

These three effects are further explained with the help of below table and diagram.

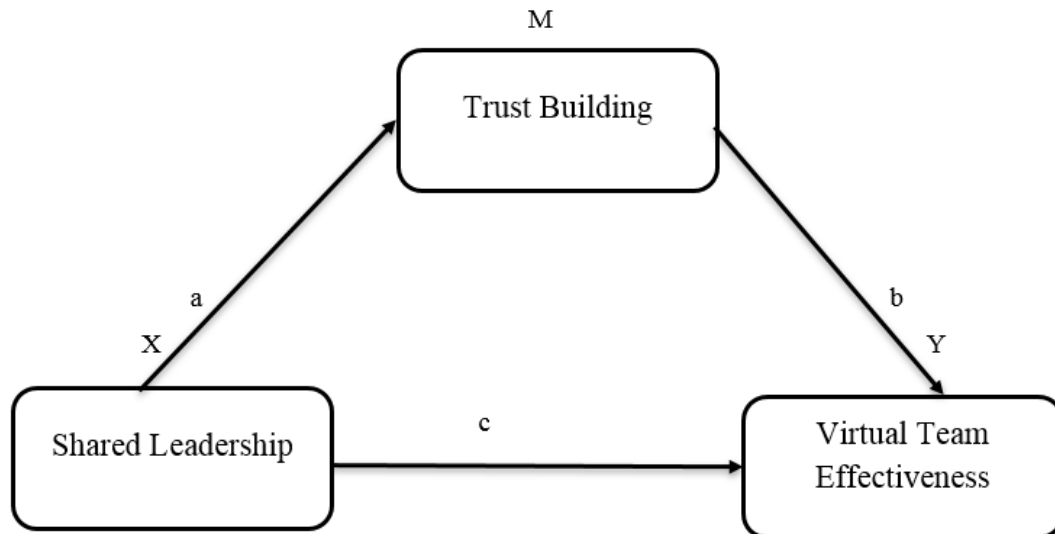


FIGURE 4.1: Mediation Analysis

TABLE 4.7: Mediation Analysis

DV	Effect on IV on M (a path)		Effect of M on DV (b path)		Total effect of IV on DV (c path)		Direct Effect of IV on DV (c' path)		Bootstrap results for indirect effects	
	B	T	B	T	B	T	B	T	LL 95% CI	UL 95% CI
<b>VTE</b>	.637***	8.03	0.293***	6.36	0.768***	8.29	0.7110**	11.0537	.0035	0.1177

N = 310, \* p < .05; \*\* p < .01; \*\*\*p < .00  
 Un-standardized regression coefficient reported. Bootstrap sample size was 5000. Confidence Interval = 95%.  
 N = 310, \* p < .05; \*\* p < .01; \*\*\*p < .001  
 LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval.

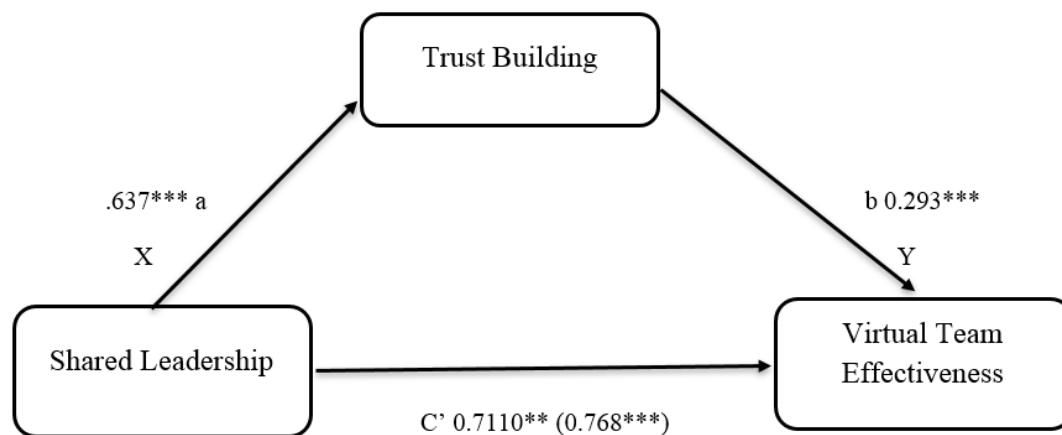


FIGURE 4.2: Mediation Analysis

### 4.6.1 Total Effect

Total effect defines the influence of independent variable which is Shared Leadership on Dependent variable that is Virtual Leadership effectiveness. The results show that this hypothesis is accepted by study results as the 0.768 and P value is 0.00. Indicating that 1% change in Shared Leadership brought 76.8% positive change in Virtual Team Effectiveness. Additionally, the lower and upper limit of bootstrap is .4860 and .7884 respectively, which mean that no zero occurrence between these limits and thus another evidence of acceptance of this hypothesis. Thus, considering these figures, we can conclude and say that there is significant and positive impact of Shared Leadership on Virtual Team Effectiveness.

### 4.6.2 Direct Effect

Direct Effect depicts the Impact of Independent variable on our Mediator. In this particular study, direct effect means examine the impact of Shared Leadership on Trust Building. The regression results revealed that this hypothesis is also supported because the  $\beta$  is 0.7110 and P-value is 0.000 explaining that a percent change in Shared Leadership will bring 72.45% increase in Trust Building. We further confirm this significant relationship by observing the bootstrap values as the lower limit and upper limit is .5844 and .8375 respectively which mean no zero falls in these two limits and hypothesis is accepted.

### 4.6.3 Indirect Effect

Indirect effect demonstrates the relationship between Independent variable i.e. Shared Leadership on Dependent Variable Virtual Team Effectiveness in presence of mediation role of Trust Building. This hypothesis is said to be accepted when the Lower limit and Upper limit value of Bootstrap are in such a way that no zero lies between these limits. considering the Process Macro Model 4 results we can say that this hypothesis is also supported by our results as the lower limit is .0035 and the upper limit is .1177 and concluded that Trust Building mediate the relationship between Shared leadership and Virtual Team Effectiveness.

## 4.7 Moderation Analysis

Our 5th hypothesis is that Project culture moderate the relationship between Trust Building and Virtual Team Effectiveness in such a way that relationship between Trust building and Virtual Team Effectiveness is stronger when the Project culture is high. We tested our Moderation effect by running Process Macro Model 1 proposed by Preacher and Hayes (2004). Table 4.8 display results of model 1 of this particular study. The result shows that of interaction term (TB x PC) and Virtual Team Effectiveness is .1202 whereas the P-value is .0419 and  $R^2 = 0.1306$  which show that our hypothesis is again supported by our results and concluded that Project culture Moderate the relationship between Trust Building and Virtual Team Effectiveness. Furthermore, this relationship is also supported from Lower limit and Upper limit values as no zero fall in the range of lower limit and Upper limits is .0044 and .2361 respectively.

TABLE 4.8: Moderation Analysis

DV	Effect of TB on VTE		Effect of PC on VTE		Effect of TB x PC on VTE		Bootstrap results for indirect effects	
	B	T	B	T	B	T	LL 95 % SL	UL 95% SL
<b>VTE</b>	.0984	.515	.3169	1.714	.1202	2.04	.0044	.2361

Un-standardized regression coefficient reported. Bootstrap sample size was 5000. Confidence Interval = 95%.  
 N = 310, \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

## 4.8 Summary of Accepted/Rejected Hypothesis

All the hypothesis i.e.; from Shared leadership to virtual team effectiveness, mediator as trust building and project culture as moderator are fulfilling the requirements of approved hypothesis which impact positively on each other to enhance their effect. Table 4.9, illustrates the precise summary of results for the proposed hypotheses under this study.

TABLE 4.9: Hypotheses Summarized Results

<b>Hypotheses</b>	<b>Statement</b>	<b>Status</b>
Hypothesis 1	Shared leadership is positively associated with virtual team effectiveness.	Supported
Hypothesis 2	Shared leadership in teams is positively associated with trust building.	Supported
Hypothesis 3	There is positive relationship between trust building and virtual team effectiveness.	Supported
Hypothesis 4	Trust Building plays a mediating role between shared Leadership and Virtual Team Effectiveness.	Supported
Hypothesis 5	Project culture moderates the relationship between trust building and virtual team effectiveness.	Supported

Considering all the results such as correlation, regression and Process Macro Model 1 and 4 of this particular study, we can conclude this chapter that all my proposed hypotheses were supported by my results.



# Chapter 5

## Discussion, Conclusion, Limitations and Recommendations

This section comprises of details of relationship of hypothesis as well as also their reasoning of acceptance as well as rejection and also discusses theoretical as well as practical implication, strengths and weaknesses of study and future research directions.

### 5.1 Discussion

Utilizing participative shared leadership theories by (Brussow, 2013), the objective of present study was to propose and test a model of Shared Leadership on Virtual Team Effectiveness in project-based organizations. For this purpose, data from project-based it industries of Pakistan was collected. As projected, the findings of the study were in congruent with hypothesized model. The research also studied the mediating effect of trust building between Shared Leadership and Virtual Team Effectiveness. The moderating effect of Project culture between Shared leadership and team flexibility is also studied in the research so as to know its relative impact combined with Shared leadership on Virtual team effectiveness.

The preceding researches in the domain of Shared leadership and Virtual team effectiveness are comprehensive in nature encapsulating relevant aspects of the constructs. Empirical researches on the literature of virtual team effectiveness suggested that variables such as Shared leadership, trust building, project culture is important variables to study further and have significant influence on shared problem.

The results of the study propose that Shared Leadership has a positive effect on Virtual Team Effectiveness which clears that Shared leadership of project manager enhances the effectiveness and performance of the team and project organization overall. Therefore, H1, H2, H3, H4 and H5 are accepted developing a relationship between Shared Leadership and Virtual Team Effectiveness through mediator of trust building. This implies that Shared leadership positively enhances trust in team which enhances the Virtual Team Effectiveness.

The study inculcated variable of project culture as a moderator. The data analysis on the variable in the contextual settings of Pakistan proves that shared leadership climate positively influences the association between shared leadership of project manager as well as team trust. The role of Shared Leadership climate was established to be significant and positively affecting association between shared leadership and trust building of teams.

## **5.2 Practical and Theoretical Implication**

This study did good contributions in the past literature in both ways, theoretically and practically. The study has contributed to the literature of variables like Shared Leadership, Trust Building, Project Culture and Virtual Team Effectiveness. There is very limited literature available on Shared Leadership highlighting the project issues emphasizing its role in the domain of project management. Our findings indicate that with the help of strong Shared Leadership we can see a major improvement in projects and in their teams. This is very significant contribution to literature since previously there is less research available that is highlighting it in organizational perspective within the contextual settings of Pakistan in the

domain of project management. The study illustrates very significant actualities by identifying the influence of Shared leadership on Virtual Team Effectiveness in the context of Pakistan, where shared leadership is considered an important yet sensitive instrument in streamlining efforts to enhance Virtual Team Effectiveness. In the collectivist societies like that of Pakistan culture is an important element of individual life and organizational and project setup.

Additional very significant theoretical contribution is the role of trust building as a mediator between Shared Leadership and Virtual Team Effectiveness, which is not acknowledged in the literature before. Previous literature available on trust is not in the project management context and also Shared Leadership and Virtual Team Effectiveness have identified other mediators in the relationship but trust has never been introduced not in the relationship or as a mediator before. The outcomes of study showed that shared leadership increases trust environment of project team that leads to enhanced organizational and team effectiveness and performance.

Moreover, this research also studied the moderating role of project culture on the association of Shared Leadership and Trust Building of teams. The results of the study suggested that project culture conditionally moderate the association between Shared leadership and trust building in the contextual settings of Pakistan. This too is a significant theoretical contribution in the literature. Organizations along with project managers should inculcate proper mechanisms to develop effects of culture as it significantly influences the potential future and long-term viability of the organization in context of performance and success.

This study is equally important in the practical business world. In this age of modernization where world is moving rapidly towards globalization, shared leadership along with trust building is considered one of significant aspects in defining potential future and long term viability of project based organizations in the context of team work and success. This research is helpful for project based organizations in a way that it provides insights on how Shared Leadership enhances Virtual Team Effectiveness through trust building in teams and for a system to be adopted in

a way that it ensures success and good performance on both organizational and project level.

### **5.3 Limitations of Research**

While conducting the study it is tried to eliminate and overcome flaws but still there are always few limitations in research as it is not possible to cover all aspects in one study. By adding some well-informed evidences in literature, few research gaps have been filled by the current research. On the other hand, due to constraint of resources and time there are also some limitations in our study. The research is done only to the IT organizations of Pakistan that are project-based; therefore, results may not be generalized to other fields and sectors. Only one mediator and one moderator were tested due to time constraint. However, future research can expand the model and check other mediators as well.

Small sample size is another limitation of study and the reason behind this limitation is that data is collected in a very short time. Data was collected from only project based organizations from IT sector operating in Islamabad and Rawalpindi so it might not represent the whole culture of Pakistan, whereas employees working in different cities exhibit different behavior due to environment and other geographical changes.

Additionally, we use convenience sampling method and choose the sample which was easily reachable to us. Due to convenient sampling and data collected from the few organizations, the results of the present study cannot be generalized for the projectized organizations that are not engage in such activities. The results are different because of strong situational factors as well as Pakistani cultural has strong impact and results cannot be generalized to other countries.

### **5.4 Future Research Directions**

There is always some space in everything, which gives future directions. This research opens abundant novel opportunities for future researches. There are

some suggestions regarding current research on which research should be conducted in future. This study empirically verified as well as tested the influence of Shared Leadership on Virtual Team Effectiveness on the other hand in the future researchers can observe effect of Shared Leadership on organization through different project related variables i.e. Strategic Shared Leadership and Bureaucratic Shared Leadership etc. Different other level of teams can also be selected i.e. project teams, self-managed teams, and operational teams The present study has been carried out for focusing on project depended organizations simply and only, this really provides an approach forward to the researchers inspect as well as duplicate model in organization other than project relied organization so as to inspect effect with a large size of sample.

Moreover, association between shared leadership as well as virtual team effectiveness can be studied with other mediating variables. Future researches can also focus on moderating role of other variables like Adhocracy Culture and Market Culture between the relationship Shared leadership and Virtual teams. Together with there is too sufficient room vacant to discover multiple factors that is conditional that can impact these associations. Virtual Team Effectiveness is the novel variable in the domain of project management can be studied and empirically tested in other relationships both on individual and organizational level.

We endorse research at further level to pay thoughtfulness on the information and data as well as data gathering methods since this research contain some weaknesses. The outcomes and implication of the study will be valuable for future and recent researchers aiming on, this field for linking Shared leadership to various other variables like trust building. In addition, the size of sample can be widen and increased, as current study is only limited to certainly accessible sample. Hence, forthcoming researches perhaps can incorporate these guidelines.

## **5.5 Conclusion**

The discipline of project management is accepting a lot of recognition from researchers and academicians. Keeping in view, the study has taken a significant

concept namely Shared leadership and established it in the context of project-based organizations. The current study is directed to improve domain of Shared Leadership and Virtual Team Effectiveness, which are very popular fields and having great implication in the present era. The current study has attempted to consider the association between Shared Leadership and Virtual Team Effectiveness in IT sector containing project based IT organization in Rawalpindi and Islamabad of Pakistan. Data was collected from these organizations through a questionnaire study to measure the extent to which Shared leadership impacts Virtual Team Effectiveness with mediating role of Trust Building and moderating role of Project Culture. Altogether 350 questionnaires were dispersed, however, only 310 were used for analysis since these questionnaires contain most appropriate and comprehensive data required for carrying out for current study analysis. Statistical tests indicate that validity and reliability of the model variables of model are also suitable.

The proposed hypotheses are also supported through the theory The GRPI model of team effectiveness. The data analysis outcomes showed acceptance of five hypotheses (H1, H2, H3, H4 & H5). The current study has contribution to the existing literature of Shared Leadership and Trust Building because there is very limited literature available about the variables in the domain of project management. Moreover, this study contributes to the literature in a way that it appreciates the role of Trust Building as a mediator between Shared Leadership and Virtual Team Effectiveness. This study has given all-inclusive view of impact of Trust Building on Virtual Team Effectiveness along with Project Culture as a moderator weakened the positive impact in project-dependent Pakistani organizations. The current study not only offers several theoretical and practical implications but also opens plenty of new avenues for research.

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# Appendix A

CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
ISLAMABAD

Department of Management Sciences

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## Questionnaire

Dear Participant,

I am student of MS Project Management Capital University of Science and Technology, Islamabad. I am conducting research on the topic: “**Impact of Shared Leadership and Virtual Team Effectiveness in Projects with the Mediating Role of Trust Building and Moderating Role of Project culture**”.

You can help me by completing the attached questionnaire. I appreciate your participation in my study and I assure that your responses will be held confidential and will only be used for education purposes.

Thanks a lot for your help and support!

Sincerely,

**Zainab Saeed**

Ms Scholar

Capital University of Science and Technology,  
Islamabad

<b>Section: I Demographics</b>
Gender: 1- Male 2- Female
Age: 1 (15-25) 2 (26-35) 3 (36-45) 4(45-60) 5(60 and above)
Qualification: 1-Matric 2-Intermediate 3-Bachelor 4-Master 5-MS/MPhil 6-Ph.D 7-Other

**Answer the following items by choosing on a scale of 1 to 5, to what extents do you agree with the following statements**

### **Section II: Shared Leadership**

**1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree,**

<b>Sr. No.</b>	<b>Questions</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
1	I collaborate regularly with my team members to achieve goals	1	2	3	4	5
2	My team has a vision with agreed upon goals. Our group undertakes.	1	2	3	4	5
3	The formal leaders in my team are willing to delegate some control to informal leaders	1	2	3	4	5
4	Our team members trust each other to work effectively and get the job done.	1	2	3	4	5
5	I understand my team's purpose and goals	1	2	3	4	5
6	When major decisions must be made, team members are involved in the decision process in a meaningful way.	1	2	3	4	5
7	Each team member's unique expertise is valued and utilized	1	2	3	4	5
8	When I think of shared leadership, I think of a mission to learn and construct knowledge collaboratively.	1	2	3	4	5
9	I have an excellent rapport with at least two other team members	1	2	3	4	5
10	When a new task arises, shared leadership responsibilities are determined by members' strengths, not by formal titles.	1	2	3	4	5
11	I feel confident taking on shared leadership responsibilities in this team.	1	2	3	4	5
12	If the team's chairperson left, the team would continue to make progress toward its goals	1	2	3	4	5
13	When team members work together as leaders, they share beliefs, values, and goals	1	2	3	4	5

Sr. No.	Questions	SD	D	N	A	SA
14	As a leader in the team, I have responsibilities in multiple roles/positions.	1	2	3	4	5
15	All members of my team value collective efficacy.	1	2	3	4	5
16	I know what strengths and skills each of the other team members possesses.	1	2	3	4	5
17	In addition to the team's formally designated leaders, I can identify at least two other team members who act as informal leaders.	1	2	3	4	5
18	The shared leadership roles available in my group result from the needs arising from our goals.	1	2	3	4	5
19	I feel that every other team member has a capacity for shared leadership.	1	2	3	4	5
20	Multiple people are trusted with information and decision making for every activity our group undertakes.	1	2	3	4	5

### Section III: Trust Building

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

Sr. No.	Questions	SD	D	N	A	SA
1	If I had my way, I wouldn't let the other team members have any influence over issues that are important to the project.	1	2	3	4	5
2	I would be comfortable giving the other team members complete responsibility for the completion of this project.	1	2	3	4	5
3	I really wish I had a good way to oversee the work of the other team members on the project.	1	2	3	4	5
4	I would be comfortable giving the other team members a task or problem which was critical to the project, even if I could not monitor them.	1	2	3	4	5

## Section IV: Project Culture

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

Sr. No.	Questions	SD	D	N	A	SA
1	My organization has a good understanding in project management principles	1	2	3	4	5
2	My organization is compliant with project management standards	1	2	3	4	5
3	My organization utilizes project management methodologies effectively	1	2	3	4	5
4	My organization utilizes project management processes effectively	1	2	3	4	5
5	My organization takes risks	1	2	3	4	5
6	My organization is a team oriented	1	2	3	4	5
7	My organization is outcome oriented	1	2	3	4	5
8	My organization is leading in market share when compared with its competitor	1	2	3	4	5
9	My organization is often first to launch new products in the market when compared with its competitors	1	2	3	4	5

**Section V: Virtual team effectiveness**

**1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree**

<b>Sr. No.</b>	<b>Questions</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
1	In the past, my team has been effective in reaching its goals	1	2	3	4	5
2	My team is currently meeting its business objectives.	1	2	3	4	5
3	When my team completes its work, it is generally on time	1	2	3	4	5
4	When my team completes its work, it is generally within its budget	1	2	3	4	5
5	There is respect for individuals in my team	1	2	3	4	5
6	I feel the members of my team value my input.	1	2	3	4	5
7	Team member morale is high in my team	1	2	3	4	5
8	In the future, I would be interested in participating in another virtual team	1	2	3	4	5
9	My team members will tell the truth about the limits of their knowledge.	1	2	3	4	5
10	My team members can be counted on to do when they say they will do	1	2	3	4	5
11	My team members will be honest in describing their experience and abilities	1	2	3	4	5
12	My team members have high skill ability.	1	2	3	4	5

**Thank you for your cooperation!**