

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



**Examining the Impact of Supportive Leadership
on Team Performance through the Serial
Mediation of Goal Clarity and Trust in Team:
Project Complexity as Moderator**

by

Samavia Hussain Raja

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

in the

Faculty of Management & Social Sciences

Department of Management Sciences

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I wholeheartedly extend my dedication to my esteemed father, Mr. Muhammad Hussain, and my beloved mother, Riffat Shehnaz, recognizing their enduring support and unwavering dedication throughout my endeavors. Special appreciation is reserved for my sisters, Hifsa and Aqsa, whose remarkable assistance has been invaluable throughout this journey. Lastly, I extend gratitude to mentor Mr. Ma Jianwen for illuminating my path with inspirational guidance, his supportive leadership style influencing my choices and shaping my approach.



CERTIFICATE OF APPROVAL

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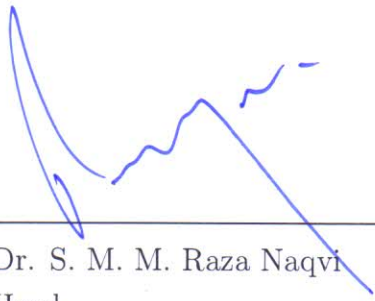
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(Samavia Hussain Raja)

Abstract

This groundbreaking study delves into the intricate dynamics of supportive leadership, unveiling its profound impact on team performance and shed light on the underlying mechanisms of goal clarity, trust in teams, and project complexity. Drawing from data collected from 384 project team members in IT project-based organizations situated in Rawalpindi and Islamabad, employing convenience sampling technique, this research employs the esteemed Path-Goal Theory of Leadership. It examines the mediating role of goal clarity and trust in teams, alongside the moderating effect of project complexity. The statistical analysis performed on the robust dataset unequivocally supports all hypotheses, revealing the undeniable influence of supportive leadership on team performance. These findings not only provide invaluable guidance for managers and practitioners aiming to optimize team performance in similar organizational contexts but also contribute significantly to both theoretical understanding and practical implications for enhancing team effectiveness in project-based settings.

Keywords: Supportive Leadership, Team Performance, Goal Clarity, Trust in Team, Project Complexity

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Abbreviations

A	Agree
D	Disagree
GC	Goal Clarity
N	Neutral
PC	Project Complexity
SA	Strongly Agree
SD	Strongly Disagree
SL	Supportive Leadership
TP	Team Performance
TIT	Trust in Team

Chapter 1

Introduction

1.1 Background of the Study

In the vast and dynamic terrain of organizational success, particularly within the realm of project management where complexities are abundant and objectives often diverse, one enduring truth remains clear: effective leadership is paramount (Ho, 2019). The concept of supportive leadership has garnered extensive attention across diverse research areas, with a prominent place within the leadership domain. According to House, House (1971), the concept of supportive leadership extends its influence and draws attention from diverse fields such as management, industrial, organizational psychology, public administration and many more. As per House (1983) Supportive leadership is defined as encompassing emotional, informational, instrumental, and appraisal support provided to followers, with emotional support being the most intuitive form involving sympathy, evidence of liking, caring, and attentive listening.

Agile project management methodology is a customer-centric and flexible approach that thrives on active customer involvement throughout the development process (Sun and Schmidt, 2018). It promotes regular deliveries, iterative development, and a straightforward adaptation to change (Henriksen & Pedersen, 2017). Agile methodologies are widely embraced in IT and software development for their capacity to deliver outcomes, fostering interactions among team members, delivering

functional software, adapting to change, and closely collaborating with customers. But such setting projects are very complex (Dhir et al., 2019).

In this Agile context, servant leadership emerges as a pivotal philosophy that resonates with Agile values. Servant leaders prioritize the support and empowerment of their teams, fostering an environment conducive to innovation and effective iterative steps (Sutherland and Sutherland, 2014; Cohn, 2005). While servant leadership is typically the preferred choice for Agile projects, but keeping complexity of such agile projects current study want to evaluates the impact supportive leadership in such a scenario. It aims to shed light on how supportive leadership style can navigate the project complexity and enable goal clarity and trust in team in order to evaluate team performance.

Supportive leaders are easily recognizable due to their approachability and friendliness. They provide subordinates with a comprehensive array of resources, including material, informational, and socio-emotional support. As per House (1983), this concept takes further by delineating the characteristics of a supportive leader. Particular emphasis is placed on emotional, informational, instrumental, and appraisal support. These actions are rooted in a profound respect and genuine concern for employee welfare (Barnett and Arnold, 1989; Bass and Stogdill, 1990; Oldham and Cummings, 1996).

According to (House, 1996), Supportive leadership is characterized by a leader's actions aimed at fulfilling the needs and preferences of subordinates, which leads to cultivating a workplace characterized by concern for employee well-being and a psychologically supportive environment.

Supportive leadership's appeal lies in its proven capacity to positively impact subordinates or team members, as indicated by numerous studies. Research consistently reaffirms that employees working under supportive leaders express heightened satisfaction levels. They are not only satisfied with their leaders but also with their jobs as a whole (Judge et al., 2004).

Supportive leaders take center stage as key motivators, creating a friendly and pleasant work environment. Importantly, these leaders inspire a higher degree of motivation, ultimately leading to enhanced performance outcomes (Kim et al., 2016). Stress, a formidable adversary, diminishes daily cognitive functioning and

negatively impacts performance (Strube et al., 1988). According to [Graen and Cashman \(1975\)](#) it substantiate the power of supportive leadership by highlighting its potential to strengthen the relationship between superiors and employees. Simultaneously, it can mitigate employee stress levels. Supportive team leaders, in particular, bear the unique responsibility of nurturing their team's needs. They focus their efforts on enhancing team effectiveness ([Morgeson et al., 2010](#)). This effectively reduces job-related stress and facilitates improved work performance ([Murtaza, et al., 2012](#)). This notion was supported by emphasizing the role of social support from colleagues and supervisors in reducing employee stress levels. This equips employees to cope effectively ([Cobb, 1976](#)).

One of important characteristics of a supportive leader is emotional support, which emerges as the most intuitive. It encompasses expressions of sympathy, evidence of liking, caring, and active listening. This perspective highlights a narrower yet profoundly significant definition of supportive leadership. It underscores leaders' expressions of concern and their keen awareness of followers' needs and preferences in the decision-making process. Furthermore, the behavior of leader's shapes subordinates' feelings of self-efficacy. This factor positively influences performance outcomes ([Fiedler, 1996](#); [Hersey and Blanchard, 1969](#)). In essence, leadership, particularly supportive leadership, plays a crucial role in fostering organizational success by creating a workplace that values employee well-being and satisfaction ([Thuku et al., 2018](#)).

In the realm of effective project management, one crucial trait stands out: goal clarity ([Van der Hoek et al., 2018](#)). Goal clarity isn't just desirable; it's absolutely vital for the successful completion of projects ([Tyssen et al., 2014](#)). Goal clarity plays a fundamental role in project management, as it directly impacts whether a project can meet the expectations of its stakeholders ([Tyssen et al., 2014](#)). With goal clarity, project's scope, goals, and objectives will be unequivocally clear to all key stakeholders. So, goal clarity isn't merely a nice-to-have feature; it's a linchpin for success. Hence, goal clarity within project management becomes paramount.

Drawing from Locke and Latham's theory, goal clarity can be understood as the degree to which employees comprehend the relevance and importance of their assigned tasks within the broader group or department ([Locke and Latham, 1990](#)).

According to this theory individuals' performance is influenced by the goals they set, the clarity, specificity, and challenge level of a goal significantly impact performance (Locke and Latham, 2013). Goal clarity serves as a guiding light for employees, enabling them to understand what's expected of them and what behaviors will contribute to goal achievement. This clarity reduces role ambiguity (Davis and Stazyk, 2015; Pandey and Wright, 2006). Goal clarity prompts employees to recognize their specific roles, responsibilities and plan their activities accordingly. Hence, significance of goal clarity becomes even more apparent as it plays a major role in achieving expected performance levels (Sawyer, 1992).

So, it is crucial for not only individual performance but also the collective effectiveness of a team (Dossett et al., 1979). When goals are crystal clear to individuals and groups, their performance tends to excel (Anderson and Stritch, 2016). Conversely, when goals are inadequately communicated, it can leave individuals bewildered, unsure of the project's direction and purpose (Bosselut et al., 2012). The absence of goal clarity can leave individuals adrift, unsure of the project's direction and purpose (Bosselut et al., 2012). Furthermore, the positive impact of goal clarity extends to team effectiveness due to clear goals focused discussions during meetings and also while implementation during projects (Bang et al., 2010).

Trust is not just a desirable condition but it's a vital factor in the functioning and well-being of teams (Costa, 2003). Trust, as a fundamental characteristic of work relationships, has been extensively studied in research (De Jong et al., 2016; Fulmer and Gelfand, 2012). Organizations are shifting towards flatter, team-centered structures, sparking scholarly interest in trust within teams. This type of trust, often referred to as 'intrateam trust,' is gaining attention due to its implications for team performance.

The construct of trust is indispensable for fostering confidence and productive interactions among team members. Trust is defined as: "The extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another" (McAllister, 1995). Trust within teams is a dynamic, ongoing social process. It encompasses sense-making, interpretation, signaling, and reciprocation (Möllering, 2013). Scholars have predominantly recognized trust as a psychological state. It is influenced by the intricate interplay of expectations,

intentions, and dispositions (Mayer et al., 1995; McAllister, 1995; Rousseau et al., 1998).

Trust, a foundational element of any collaborative effort, finds its roots in self-awareness and competence. It's a delicate thread that must be woven among team members with diverse competencies, assumptions, and priorities. This weaving process involves nurturing confidence in each other's competence and reliability. Trust is the cornerstone that enables individuals to freely share their knowledge and skills without apprehension of diminishment or exploitation. Those who trust tend to possess an enhanced capacity for individual learning, a crucial aspect of team dynamics (Bassoff, 1983).

Mayer et al. (1995); Rousseau et al. (1998) offer a definition of trust as a willingness to accept vulnerability based on positive expectations of trustworthiness. In this context, positive expectations of trustworthiness encompass: perceptions, beliefs and expectations concerning the intentions, motivations, and behavior of the trustee(s) (Fulmer and Gelfand, 2012). Within the tapestry of trust, another vital strand is respect for one another's skills and expertise (Ivey et al., 1988). Building respect necessitates open discussions regarding the similarities and differences in their professional values and standards. Trust takes root as team members not only recognize but also appreciate the unique skills and contributions each member brings to project (Snyder, 1981). Trust emerges as the key element that binds together the multifaceted dynamics of teams within organizations. It's the force that allows individuals to collaborate harmoniously, pooling their diverse competencies. Trust fosters a climate of respect and mutual reliance. As organizations continue to evolve towards more collaborative structures, the study of trust within teams becomes increasingly relevant. This sheds light on its far-reaching impact on team performance.

For researchers, identifying the process variables that influence team performance has been a longstanding area of interest (van Woerkom and Croon, 2009). Team performance in project management is a critical aspect of project success. It is the yardstick of a team's capacity to achieve its goals and objectives, holds the key to improved outcomes. The measurement of team performance serves a multifaceted purpose, encompassing: Research generation, feedback provision, team training,

performance evaluation and future planning (Salas et al., 2017). Team performance is typically described as the collective result or attainment of a group of individuals collaborating to achieve specific objectives. It refers to "the degree to which teams achieve their goals and objectives while efficiently and effectively utilizing available resources" (Ilgen et al., 2005). This encompasses various aspects, including the completion of tasks, the quality of outcomes, efficiency, effectiveness, and the contentment of team members (Mathieu et al., 2008). In essence, team performance can be understood as "the amalgamation of behaviors, roles, functions, and processes that transpire within a team, facilitating the attainment of its objectives" (Kozlowski, 2018). Additionally, team performance is influenced by numerous factors, including the nature of the task, the composition of the group, the structure of the team, process variables, and the context in which the group operates (Cohen and Bailey, 1997). In organizations, teams serve as the fundamental building blocks (Dreu, 2002). These teams are at the center of numerous studies aimed at unraveling the factors that contribute to team performance. Also composition of the team can significantly impact performance (Belassi and Tukel, 1996). These studies shed light on the path to achieving effectiveness and excellence in an ever-evolving environment. It encompasses a spectrum of facets, including productivity, work quality, collaboration, innovation, and goal attainment (Cooke et al., 2015).

High-performing teams exhibit several key attributes, including: 1- Clear goals and objectives (These teams operate with well-defined goals, providing a clear sense of purpose and direction). 2- Effective communication (They foster an environment of open and transparent communication, allowing for the exchange of ideas and feedback.) 3- Supportive leadership: (High-performing teams benefit from capable leaders who offer guidance, motivation, and support) (Hu and Liden, 2011). In short, as teams continue to be crucial in today's organizations, it's vital to understand and improve how teams work together (Hu and Liden, 2011). This means looking closely at things like who's in the team, how leaders guide the team, how everyone talks to each other, and how clear the team's goals are. Good project managers know these things matter and strive to create a team that works together well to make sure projects succeed. Researchers have also made

big strides in helping organizations make their teams perform better in today's ever-changing workplaces (Hu and Liden, 2011).

In the realm of project management, the role of complexity has garnered significant attention (Sharma, 2008). Recent research further underscores the growing influence of project complexity on success and performance (Jia et al., 2023). Managers are now acutely aware of the need to comprehend the intricate relationship between project complexity and its impact on success. They recognize that each project possesses its unique set of challenges, introducing an inherent complexity that can obscure the path forward. Predicting outcomes in this context becomes increasingly challenging. As a response, managers are sharpening their skills in effective planning, adaptability, and creative problem-solving to navigate these intricate terrains and ensure successful project management (Luo et al., 2020).

Project complexity is defined as 'The property of a project which makes it difficult to understand, foresee, and keep under control its overall behavior, even when given reasonably complete information about the project system' (Vidal et al., 2011). Additionally, it is defined as 'A complex project demonstrates a number of characteristics to a degree, or level of severity, that makes it difficult to predict project outcomes or manage the project' (Zolin et al., 2009). Turner and Cochrane (1993) defined it as the 'degree of whether the goals and methods of achieving them are well defined'.

In the landscape of project management, certain foundational attributes serve as the basis for determining the managerial strategies necessary for the successful execution of a project. Among these essential project characteristics, complexity stands out. In discussions concerning project management challenges, professionals routinely distinguish their projects as either simple or complex, underscoring the pragmatic recognition that complexity significantly impacts project management (Luo et al., 2020).

Unsurprisingly, complex projects demand a higher level of adept management. The intricate nature of extensive projects poses a substantial challenge when it comes to delineating clear and distinct goals and objectives. It is proposed that project complexity be defined as 'consisting of many varied interrelated parts' and can be operationalized in terms of differentiation and interdependency. This definition is

applicable to various project dimensions relevant to the project management process, such as organization, technology, environment, information, decision making, and systems (Baccarini, 1996). The concept of project complexity is deemed worthy of further exploration (Baccarini, 1996).

Project execution requires a high level of cooperation among team members and leaders to mitigate stress conditions. Stress can impede task completion and potentially lead to project failure (Pollack and Matous, 2019). Effective communication is essential to reduce stress levels, and trust within the team plays a critical role. Successful project outcomes depend on more than just the agile methodology; various factors, including team cooperation, are crucial. In the presence of project complexity, supportive leadership becomes pivotal in effectively managing the intricacies (Iqbal et al., 2019).

The Path-Goal Theory of Leadership provides a comprehensive framework for understanding how various leadership styles, particularly supportive leadership, can effectively navigate the complexities of project environments while fostering goal clarity, trust in the team, and ultimately enhancing team performance (Khalid et al., 2012). According to this theory, supportive leaders play a crucial role in providing guidance, assistance, and encouragement to their team members, thereby removing obstacles and clarifying paths to goal attainment (House and Dessler, 1974; House, 1971).

By being approachable and friendly, supportive leaders create an environment where team members feel valued and supported, which is essential in mitigating the challenges posed by project complexity (House and Dessler, 1974). Furthermore, supportive leaders ensure that team members have access to a diverse range of resources, including material, informational, and socio-emotional support, enabling them to navigate complex projects with confidence and clarity (Silverthorne, 2001).

In line with the Path-Goal Theory, goal clarity emerges as a fundamental aspect of leadership effectiveness in complex project environments (House and Dessler, 1974). Supportive leaders, by communicating clear objectives and providing guidance, facilitate a shared understanding of project goals among team members and

this clarity reduces ambiguity, aligns individual efforts with organizational objectives, and fosters a sense of direction and purpose within the team (Rad and Yarmohammadian, 2006). Moreover, the theory emphasizes that trust in the team is essential for effective collaboration and goal achievement and Supportive leaders, through their approachability and supportiveness, cultivate an environment of trust where team members feel confident in each other's abilities, reliability, and integrity (Levanoni and Knoop, 1985).

This trust promotes open communication, cooperation, and commitment to shared goals, which are vital for navigating project complexities and achieving desired outcomes (Khalid et al., 2012). Therefore, by integrating the principles of supportive leadership, goal clarity, trust in the team, and project complexity, the Path-Goal Theory offers valuable insights into how leaders can effectively lead their teams to success in challenging project environments (House and Dessler, 1974).

1.2 Research Gap

Supportive leadership behavior has consistently shown a positive relationship with job performance, as evidenced by studies conducted by (Khalid et al., 2012; Hwang et al., 2015). Furthermore, it's been established that teams with higher levels of goal clarity tend to outperform those with lower levels of goal clarity as indicated by research conducted by Van der Hoek et al. (2018).

The importance of goal clarity transcends individual performance and extends to team performance as demonstrated in the study conducted by Hu and Liden (2011). Team management hinges on the prioritization of goal setting as the cornerstone for achieving unparalleled project success and fostering a consistently motivated workforce (Raziq et al., 2018).

In fact, goal clarity plays a mediating role in the relationship between empowering leadership and employees' job performance (Ahmed et al., 2022). Also another study that was a moderation mediation examination that looked at the relationship between servant leadership, psychological safety, and knowledge hoarding (Zada et al., 2022). Goal clarity is taken as mediator and regarded as one of the

most important characteristics of project managers and an important precursor of project management effectiveness (Zada et al., 2023).

Notably, the issue of trust emerged as a factor impacting the level of goal, as discussed by (Koskosas, 2008). Recognizing this, it becomes apparent that a key element in a leader's effectiveness in such environments is the level of trust they inspire among subordinates and co-workers (Burke et al., 2007). Also Müller et al. (2011) investigated moderating effect of project complexity on the relationship between leadership competences of project managers and their success in projects. Müller et al. (2011).

Also, Lui et al. (2023) proposed a moderated mediation model of inter-team trust to examine the interactive effect of inter-team trust and goal clarity on team innovation through knowledge inflows into a team. Project complexity influences the relationship between project success (PS) and entrepreneurial performance (EP), which could provide valuable insights into organizational performance and the potential contribution that project success (PS) can make in complex project environments (Snyman and van Vuuren, 2024). Mata et al. (2023) proposed a study in which project complexity serves as a moderator of the relationship between potential and realized absorptive capacity and strategic agility.

This intricate web of supportive leadership, goal clarity, and trust significantly influences team performance within organizations. To address the gaps and complexities in understanding how these elements interrelate, this research delves into the unique dynamics that link supportive leadership, goal clarity, and trust within teams. By exploring the serial mediating role of goal clarity and trust in team performance, we aim to shed light on a critical aspect of team development and effectiveness.

In summary, this research work builds upon prior studies that have illuminated the factors influencing team performance. It recognizes the interplay between supportive leadership, goal clarity, and trust, highlighting their significance in team dynamics. Through a comprehensive investigation of these elements, we strive to provide valuable insights that contribute to the body of knowledge surrounding team development and performance.

1.3 Problem Statement

Team performance is a critical determinant of project success, yet the formation of project teams often neglects key factors essential for team development. This oversight frequently results in project teams encountering significant challenges, such as inadequate communication, unclear goals, insufficient managerial involvement, and internal distrust. Additionally, project complexity poses a persistent challenge in the field of project management and can lead to project delays, Increased Costs, Decreased Stakeholder Satisfaction: and Risk of Failure or reducing team performance. Also, lack of Clear Goals results in confusion and divert the team from its primary mission. Poor or Ineffective communication give rises to misunderstandings and conflicts, impeding the team's ability to work cohesively. And lack of trust and project complexity can undermine collaboration, further hindering team performance. Unfortunately, these challenges often lead to project failures with far-reaching consequences, including the wastage of valuable resources, time, declining team morale, dissatisfied customers, and potential harm to the organization, including the risk of layoffs. In conclusion, the recognition and mitigation of these challenges are vital for project success. Additionally, recognizing project complexity as a moderator underscores its role in exacerbating or mitigating the impact of other challenges on team performance.

1.4 Research Questions

The purpose of this research is to investigate the influence of supportive leadership, goal clarity, and team trust on the formation of cohesive and effective project teams. Recognizing that the success of any project hinges significantly on the effectiveness of its project team, this study aims to explore how these key factors can act as catalysts in building robust project teams that serve as the foundation for successful project endeavors. Following are research questions designed for our study.

RQ1: Does supportive leadership impact team performance?

RQ2: Does supportive leadership impact goal clarity?

RQ3: Does supportive leadership impact trust in teams?

RQ4: Does goal clarity impact team performance?

RQ5: Does goal clarity impact trust in teams?

RQ6: Does trust in teams impact team performance?

RQ7: Does goal clarity mediate the relationship between supportive leadership and team performance?

RQ8: Does trust in teams mediate the relationship between supportive leadership and team performance?

RQ9: Do goal clarity and trust in teams collectively mediate the relationship between supportive leadership and team performance in a serial sequence?

RQ10: Does project complexity moderate the relationship between supportive leadership and goal clarity, such that the effect of supportive leadership on team performance varies depending on project complexity?

RQ11: Does project complexity moderate the relationship between supportive leadership and team performance, such that the indirect effect of supportive leadership on team performance through goal clarity and trust in teams will vary depending on project complexity?

1.5 Objective of Study

The success of any project is intricately tied to the effectiveness of the project team. Therefore, this research endeavors to explore the pivotal role played by factors such as supportive leadership, goal clarity, and team trust in shaping and strengthening project teams. Understanding how these factors interconnect and influence team dynamics is fundamental to our goal. Following nine objectives are stated for our study:

RO1: To examine the impact of supportive leadership on team performance.

RO2: To examine impact of supportive leadership on goal clarity.

RO3: To examine impact of supportive leadership on trust in teams

RO4: To investigate impact of goal clarity on team performance.

RO5: To examine goal clarity impact on trust in team.

RO6: To investigate trust in team impact on team performance.

RO7: To determine the relationship between supportive leadership and team performance through the trust in team.

RO8: To determine the relationship between supportive leadership and team performance through goal clarity.

RO9: To determine the relationship between Supportive Leadership and team performance through goal clarity and trust in team.

RO10: To determine whether Project complexity moderate the relationship between Supportive leadership and goal clarity, such that positive effect of supportive leadership on team performance will be weaker when project complexity is high.

RO11: To determine whether Project complexity moderate the relationship between Supportive leadership and Team performance, such that the positive indirect effect of Supportive leadership on Team performance through Goal clarity and Trust in teams will be weaker when Project complexity is high.

1.6 Significance of Study

This study explores the intricate dynamics of supportive leadership and its significant influence on team performance. It focuses on two key factors, namely goal clarity and trust within the team, to uncover their relationship with supportive leadership and how they collectively shape team performance. Effective teamwork is vital for achieving success in project work, and choosing a leader with strong leadership skills is crucial (Blais and Thompson, 2009).

Supportive leadership, characterized by encouragement, self-efficacy, and motivation, enhances employee relationships, reduces stress, and directly impacts project success (Bellamkonda et al., 2021). This research contributes to understanding factors that boost team performance and, by extension, project efficiency and effectiveness in organizations (Bellamkonda et al., 2021).

This study's significance is multifaceted, encompassing enhanced team performance, optimized leadership practices, improved employee well-being, effective goal setting, enhanced organizational competitiveness, resource allocation, innovation and adaptability, employee retention, and contributions to leadership theory. Investigating the interplay between supportive leadership, trust, goal clarity, and team performance offers insights into their collective impact on team effectiveness and productivity. This knowledge aids organizations in forming high-performing teams that efficiently achieve their objectives, offering guidance to leaders in cultivating supportive leadership styles. These practices, in turn, boost employee satisfaction, motivation, and performance.

Additionally, this research highlights strategies for creating a work environment that promotes employee well-being, ultimately contributing to higher team performance. Goal clarity, a fundamental aspect of team effectiveness, is explored for best practices in setting clear, achievable goals that align with organizational objectives, leading to more focused and effective team efforts. High-performing teams are pivotal for an organization's competitiveness, and understanding how to cultivate and maintain them provides a competitive edge (Bellamkonda et al., 2021). Insights from this study inform resource allocation decisions, maximizing returns by allocating resources effectively to teams with strong supportive leadership, high trust levels, and clear goal clarity.

Moreover, supportive leadership and trust foster an innovative and adaptable team culture, crucial in today's dynamic business landscape. These factors are also linked to higher employee retention rates, translating to cost savings as organizations reduce recruitment and training expenses (Khalid et al., 2012).

Additionally, this research contributes to leadership theory, enriching our understanding of how diverse leadership styles and behaviors impact team dynamics and performance. In conclusion, this study focused on supportive leadership, trust in teams, goal clarity, project complexity and team performance hold paramount implications for organizations striving to enhance overall effectiveness, employee well-being, and competitiveness. It offers actionable insights for leaders and managers while advancing our knowledge of leadership and team dynamics. This research underscores the critical role teams play within organizations, where their

performance significantly influences the success or failure of projects. Furthermore, this study highlights that the managing Project complexity impacts various critical facets of project management, including planning, communication, coordination, and performance control (Baccarini, 1996). Understanding and managing complexity can lead to more effective project management, resulting in better resource allocation, reduced project delays, and heightened overall project success rates.

Moreover, it fosters goal attainment by clearly identifying the goals and communicating throughout the project and have trust within team. It is not only instrumental in improving resource allocation and protecting investments but also in enhancing the overall profitability and success of organizations by Kara, H. (2014). In conclusion, understanding and addressing project complexity have the potential to yield profound benefits for organizations, stakeholders, and the field of project management as a whole.

This knowledge can have practical implications, helping organizations and practitioners make more informed decisions and interventions. Furthermore, it contributes to the theoretical understanding of these relationships, expanding the body of knowledge in the field. Ultimately, this study has the potential to inform and improve practices (Mikkelsen, 2021).

1.7 Underpinning Theory

The Path-Goal Theory of Leadership, developed by Robert House, asserts that effective leaders enhance motivation and performance by making goals clear and removing obstacles for their followers. House first introduced the Path-Goal Theory of Leadership in 1971, highlighting the leadership's role in guiding followers toward their goals through direction and support by House (1971). Numerous researchers have contributed to the development and application of this theory. It was proposed that leadership behaviors can be adapted to different situations to achieve specific goals (House and Dessler, 1974). Later House and Dessler delved into empirical testing of the theory, shedding light on its practicality and effectiveness (House and Dessler, 1974).

The originator of the theory, House emphasized the importance of supportive leadership in his foundational work. He proposed that leaders should provide support and assistance to followers to enhance their motivation and performance. It underscores the primary role of leaders in providing guidance and support for subordinates to achieve both their individual and organizational goals (Silverthorne, 2001). Path-goal theory posits two fundamental propositions. First, leaders are strategically positioned to enhance the psychological states of subordinates, thereby kindling motivation and job satisfaction. To achieve this, leaders must clarify goals, chart paths, and leverage extrinsic rewards, subsequently bolstering subordinates' intrinsic motivation. Second, House asserts that specific situational leader behaviors are instrumental in fulfilling this motivational function by House (1971). This leadership framework accommodates two situational factors, comprising the personal characteristics of group members and the work environment (Rad and Yarmohammadian, 2006).

According to the path-goal theory, four distinct leadership behaviors (directive, participative, achievement oriented and supportive) that can amplify subordinates' motivation. These behaviors are predicated on three key attitudes exhibited by subordinates: their satisfaction, expectations of their leaders, and expectations regarding effective performance (House and Dessler, 1974). The directive leadership style entails clear communication of expectations, guided assistance, and the enforcement of procedures and regulations. Conversely, supportive leadership places paramount emphasis on the well-being and needs of subordinates.

The participative leader fosters collaboration in the decision-making process, while the achievement-oriented leader focuses on performance enhancement, setting standards, and ensuring their attainment by subordinates (Alanazi et al., 2013). The choice of leadership style hinges upon the nature of the task and the specific needs of subordinates. The degree of task clarity inversely relates to the requisite level of guidance and direction, a fundamental tenet of the Path-Goal Theory, necessitating leaders to adapt their approach based on the situational demands (Fertig, 2011). Supportive leadership, one of these styles, entails responsive and friendly interactions that create a conducive and welcoming atmosphere. Supportive leaders verbally acknowledge and reward subordinates' achievements, fostering

a sense of respect and equality while prioritizing subordinates' well-being (House and Dessler, 1974; House, 1971). The theory is anchored on two essential hypotheses. The first posits that when subordinates perceive their leaders' behavior as a source of job satisfaction, it can result in higher employee job satisfaction, contingent on whether it serves as an immediate or future source of satisfaction (Levanoni and Knoop, 1985). The second hypothesis regards leader behavior as a motivator for employees, where appropriate leader behavior can stimulate greater employee motivation, crucial in driving performance by connecting subordinates' needs to their performance through an optimal work environment created through coaching, direction, and rewards (Levanoni and Knoop, 1985). A pivotal aspect of this theory is the recognition that supportive leadership has the potential to boost subordinates' self-esteem and motivation by fostering an environment where respect, trust, cooperation, and emotional support flourish, aiding subordinates in effectively navigating their paths to goal attainment (Khalid et al., 2012). Notably, supportive leadership not only bolsters motivation but also serves as a vital tool for stress reduction, ultimately enhancing overall performance and contributing to heightened job satisfaction among subordinates, as highlighted by the path-goal theory (Khalid et al., 2012). In situations characterized by high workplace pressure or unclear task structures, directive leadership is vital to enhance job satisfaction and effective performance. However, in well-structured work settings, excessive directive leadership may hinder employee performance and job satisfaction, necessitating a more supportive leadership approach (Evans, 1974; Bassoff, 1983). The leader's role is contingent on the work environment and the structural intricacies within it, with well-structured work environments demanding a focus on relationship-building and morale boosting, while unclear or variable work structures require guidance and direction from leaders, as outlined by the Path-Goal Theory (Evans, 1974; House, 1999; Bassoff, 1983). We're hopeful about the future of leadership research, as it's likely to answer many unanswered questions about why leaders behave the way they do and the consequences of their actions, thanks to the help of the Path-Goal Theory. It's important to understand that the Path-Goal Theory is more of a tool to guide research and inspire ideas, rather than a strict guide for how to manage in practice, as emphasized by (House and Dessler, 1974).

Chapter 2

Literature Review

2.1 Supportive Leadership & Team Performance

In the realm of leadership, it was emphasized that the pivotal role of leaders in effectively guiding their subordinates to accomplish tasks ([Hammed and Shadare, 2009](#)). Leadership, in fact, stands as an indispensable attribute for enhancing organizational performance. One of the key facets of effective leadership is the support provided by leaders to their employees. This support serves as a potent motivator, elevating employee performance and sharpening their concentration levels. Supportive leadership is characterized by a leader's high degree of concern for individual consideration ([Avolio and Bass, 1995](#)). This concept is intricately tied to particularly highlighting individualized consideration ([Rafferty and Griffin, 2006](#)). Supportive leaders go the extra mile to assist each subordinate in reaching higher performance levels and resolving work-related challenges. In doing so, they play a pivotal role in helping subordinates navigate stressors effectively.

An essential role of a leader is to comprehend the needs of their employees and address them in a manner that fosters growth and well-being. Researchers have substantiated the direct impact of consideration, synonymous with supportive leadership, on performance. When a leader demonstrates support, consideration, and encourages understanding and motivation, it greatly enhances the efficiency and effectiveness with which employees carry out their tasks ([Dumdum et al., 2013](#);

Judge et al., 2004). Numerous studies have observed a robust and positive relationship between supervisor consideration, essentially encapsulating supportive leadership, and subordinate performance (Farris and Lim Jr, 1969; Greene, 1975; Lowin and Craig, 1968). In summary, leadership's role in organizational effectiveness cannot be overstated, with supportive leadership emerging as a critical element in enhancing employee performance and well-being. Also, Path-Goal Theory of Leadership underscores the essential role of leaders in guiding and motivating their team members to achieve goals effectively (Evans, 1974; House, 1999). Supportive leadership, as delineated in the theory, involves offering support, encouragement, and assistance to team members, while also clarifying paths to goal attainment and acknowledging achievements (House and Dessler, 1974) and also emphasizes the creation of a conducive environment that boosts team morale and motivation, ultimately leading to enhanced team performance as proposed by House (1971). So, first hypothesis of this study is as follows:

H1: Supportive Leadership has a positive impact on Team performance.

2.2 Supportive Leadership & Goal Clarity

In the realm of organizational dynamics, the clarity of expectations plays a pivotal role in guiding employee actions. This clarity, often referred to as goal clarity, denotes that employees possess a clear understanding of the consequences of their actions, particularly in relation to their roles within the organization (Levanoni and Knoop, 1985). In essence, goal clarity stands in direct opposition to role ambiguity. Research has shown that various factors contribute to improved goal clarity and, consequently, a reduction in role ambiguity. Among these factors, leadership practices have emerged as a critical determinant (Caillier, 2016).

When employees are tasked with achieving explicit and well-defined goals, they tend to allocate additional work time to specific micro-tasks directly aligned with those goals (Terborg, 1976). Furthermore, clearly stated goals enable supervisors to more effectively assess performance and provide concise feedback, while also empowering workers to regulate their own determination and efforts (Sawyer, 1992;

Koch and Nafziger, 2011). In summary, goal clarity is a fundamental aspect of organizational effectiveness, enabling employees to understand their roles and responsibilities, evaluate expected goals, and strive towards their attainment. Leadership practices, particularly supportive leadership, play a pivotal role in fostering this clarity. Aligned with the principles of the Path-Goal Theory of Leadership, this hypothesis emphasizes the pivotal role of leaders in guiding their team members towards clear objectives (Khalid et al., 2012). Supportive leadership entails providing assistance, encouragement, and support to team members, fostering an environment conducive to understanding and achieving goals (House and Dessler, 1974). In essence, it aligns with the theory's notion of leaders clarifying paths to goal attainment. By acknowledging achievements and creating a supportive atmosphere, leaders underpin Goal Clarity, ensuring that team members comprehend their objectives and the pathways to accomplish them (Khalid et al., 2012). In light of these observations, we propose the following hypothesis:

H2: Supportive Leadership has a positive impact on Goal Clarity.

2.3 Supportive Leadership and Trust in Team

Trust, a concept frequently explored in organizational literature has been approached from various angles, resulting in multiple definitions (Bunker et al., 2004). Researchers have viewed trust as a relatively stable trait, an ongoing process, or even an emergent state. This multifaceted notion of trust has been found to exert significant influences on various organizational processes. For instance, it has been associated with improved communication, cooperation, and information sharing (FERRIN et al., 2003; Rempel et al., 1985). Trust has also been linked to leader satisfaction and perceived effectiveness (Gillespie and Mann, 2004). It increased discretionary behaviors such as organizational citizenship behaviors, enhanced upward communication, reduced turnover (Connell et al., 2003). Also it improved team and organizational performance/stability (Dirks, 1999, 2000; Boerchi et al., 1999). It's worth noting that trust is not a unidimensional concept but rather a reciprocal process that operates within and across different organizational levels. Trust can manifest at the team level (among team members), the leadership

level (between team members and leaders), the organizational level (between employees and the organization), and even at the interorganizational level (between organizations).

The development of trust is intricately tied to the specific experiences, interactions, and context within which these relationships exist, making trust dynamics unique across team members, team leaders, and the organization as a whole. It was highlighted that successful teamwork as emerging from a sense of community and a distinct type of leadership that supports collaborative efforts (Beech and Crane, 1999). In this regard, it is essential for top management to endorse and facilitate team cohesion. Leadership support has been identified as a crucial factor in the success of teamwork (Sundstrom et al., 1990). Effective leadership should motivate and harmonize the diverse interests of team members, fostering cohesion that allows for efficient utilization of team talents and intelligence (Senge, 2006, 2014). Leaders, in particular, are seen as pivotal in determining organizational effectiveness at all levels, whether individual, team, or unit, within the organizational structure (Burke et al., 2007). Supportive leaders play a crucial role in creating a conducive work environment that promotes respect, trust, cooperation, and emotional support (Gibson, 1991). They actively engage with team members and prioritize their well-being and satisfaction. While supportive leaders may facilitate swift team participation, it's essential to recognize that sustaining high levels of trust and team performance requires ongoing efforts (Burke et al., 2007). Path-Goal Theory of Leadership, which emphasize the critical role of Supportive Leadership in nurturing Trust within the team (Levanoni and Knoop, 1985). Supportive Leadership indeed fosters a positive impact on Trust within the team, aligning seamlessly with the principles of the Path-Goal Theory (Khalid et al., 2012). Supportive leadership, as elucidated in the theory, entails not only providing assistance, encouragement, and support to team members but also creating an environment of open communication and collaboration (Alanazi et al., 2013). By demonstrating genuine concern for their well-being, acknowledging achievements, and fostering a positive atmosphere, supportive leaders lay the foundation for Trust within the team (Levanoni and Knoop, 1985). Building upon these insights, we propose the following hypothesis:

H3: Supportive Leadership has a positive impact on Trust in the team.

2.4 Goal Clarity and Team Performance

Goal setting theory, originally developed by Locke and Latham, serves as the foundation for understanding the impact of goals on performance. This theory delves into an individual's performance by examining the goals they set. According to goal setting theory, an employee's performance is significantly influenced by the clarity, specificity, and challenge level of their goals. Clear, specific, and challenging goals, as opposed to vague, ambiguous, and unchallenging ones, are associated with higher performance levels (Latham et al., 2008; Locke and Latham, 2013; Rainey and Jung, 2015). In simpler terms, when individuals have a clear understanding of what is expected of them, the path to achieving those objectives becomes more apparent, increasing the likelihood of goal attainment. This, in turn, boosts self-efficacy through positive reinforcement, fostering a stronger commitment to future efforts and improved performance (Bandura, 2012; Wright, 2001). To effectively fulfill their roles, individuals need clear expectations about their own sub goals, the strategies to accomplish these sub goals, and the connections between their work and that of their peers (Roy et al., 1965).

Building on the premise of goal-setting theory, which emphasizes that clear goals enhance performance, we can extrapolate its application to team performance. Clear goals in team management empower members to collaborate effectively, make efficient decisions, and drive collective efforts towards project success, fostering accountability and meaningful contribution (Locke and Latham, 1990). At the team level, collective objectives can be broken down into various sub goals for each team member. When team members are certain about the successful completion of their individual work goals, the likelihood of achieving the team's overall objective increases (Larson Jr, 2013). Clear and well-defined goals not only empower individuals but also contribute to the overall effectiveness and success of teams. Path-Goal theory highlights the leader's pivotal role in elucidating paths to goal attainment also posited by the theory, leaders who establish clear objectives, provide guidance, and eliminate obstacles significantly contribute to enhancing

team performance (Khalid et al., 2012). By offering clarity in goals, leaders provide team members with direction and purpose, thereby igniting motivation and prompting them to perform optimally (Levanoni and Knoop, 1985).

Moreover, the theory emphasizes that when team members possess a clear understanding of their roles and contributions to overarching goals, it diminishes ambiguity and cultivates concentration and motivation (Alanazi et al., 2013). Based on these insights, we propose the following hypothesis:

H4: Goal Clarity has a positive impact on Team performance.

2.5 Goal Clarity as a Mediator

Existing research has consistently shown that empowering leadership is significantly linked to employees' job performance, particularly in the context of higher education institutions in Sindh, Pakistan. Notably, two key mediators, goal clarity and self-efficacy, have emerged as significant and positive contributors to the relationship between empowering leadership and employees' work performance. These findings underscore the importance of employees' self-efficacy as a self-motivated tool in enhancing job performance (Ahmed et al., 2022).

Furthermore, another empirical discovery highlights the role of goal clarity as a significant and positive mediator between empowering leadership and employees' work performance. This underscores the crucial role that goal clarity plays in improving job performance through empowering leadership. When employees have a clear understanding of organizational goals, they become more focused and committed to achieving them, often going the extra mile with intrinsic motivation. In summary, goal clarity is a key factor that mediates the collaborative influence on employees' work performance, as supported by our study's findings (Ahmed et al., 2022).

Building on this notion of goal clarity as a mediating factor, our research extends to project management effectiveness. It becomes evident that goal clarity is a crucial mediator between public leadership and project management effectiveness, as demonstrated by previous literature (Raziq et al., 2018). Goal clarity

plays a significant role in translating public leadership into effective project management. Additionally, goal clarity has been identified as a partial mediator in the relationship between public leadership and project management effectiveness. This suggests that a positive goal clarity mechanism underlies the effectiveness of public leadership in project management.

To further enhance our understanding, we introduce the concept of top management support as a moderator, strengthening the positive influence of leadership on goal clarity and its indirect effect on project management effectiveness (Zada et al., 2023). Path-Goal Theory of Leadership, which asserts that Goal Clarity serves as a vital mediator between Supportive Leadership and Team Performance and also it emphasizes that leaders who provide support and clarity regarding goals significantly contribute to team performance (Khalid et al., 2012). Supportive leadership, as delineated in the theory, entails the removal of obstacles, provision of guidance, and acknowledgment of achievements, thereby fostering an environment where team members grasp their roles and feel valued (Levanoni and Knoop, 1985).

Goal clarity, on the other hand, plays a crucial role in enhancing team performance by offering direction and motivation to team members. In light of these findings and the overarching theme of goal clarity, we propose the following hypothesis and it aligns with the growing body of literature that recognizes goal clarity as a pivotal element in leadership effectiveness across various contexts.

H5: Goal Clarity mediates the relationship between Supportive leadership and Team performance.

2.6 Goal Clarity & Trust in Team

Our research methodology involved the collection of data through in-depth interviews conducted within the context of three case studies. These interviews provided valuable insights into the interconnectedness of goal setting and trust in the realm of information security management, contributing significantly to interpretive information systems research (Koskosas, 2008). The foundation of effective task completion lies in clear expectations, particularly in understanding one's sub

goals (Levanoni and Knoop, 1985). However, it's essential to recognize that individual roles are intricately linked to the broader context of teams, as highlighted by role theory (Rizzo et al., 1970). In this team-centric perspective, the clarity of both team goals and individual members' roles in achieving those goals emerges as a powerful determinant of team effectiveness (Gladstein, 1984). Building on role theory, it goes further to distinguish between goal clarity and process clarity as distinct yet interrelated aspects of work roles and team structure (Sawyer, 1992). Goal clarity revolves around understanding task goals and pathways, while process clarity emphasizes the connections between individuals, teams, and the organization.

When all team members share such clarity, they communicate more effectively, integrating their tasks and fostering a shared vision of goals, team objectives, and the necessary processes for task accomplishment. At the team level, both goal clarity and process clarity become critical indicators of team effectiveness (Gladstein, 1984; Stewart, 2006).

High levels of goal clarity indicate that team members collectively understand their sub goals and their connection to the team's overarching objectives. Likewise, substantial process clarity at the team level implies a shared comprehension of the procedures required to achieve these goals.

We posit that team-level goal and process clarity are positively associated with team effectiveness, as reflected in team performance and team-level behavior. Path-Goal Theory of Leadership underscores the critical link between Goal Clarity and Trust within the team. Theory's premise that clear goals are instrumental in fostering trust among team members (House and Dessler, 1974). As posited by the theory, when leaders provide clarity in objectives and offer clear direction, it cultivates an environment characterized by transparency, fairness, and reduced ambiguity, all of which are conducive to building trust within the team (Evans, 1974; House, 1999). In light of these considerations, we propose the following hypothesis and it aligns with our exploration of the interplay between goal clarity and trust, emphasizing their significance within the team context (Gladstein, 1984; Stewart, 2006).

H6: Goal Clarity has a positive impact on trust in team.

2.7 Trust in Team & Team Performance

Intrateam trust plays a crucial role in team performance, as affirmed by several studies (De Jong et al., 2016). Despite some mixed findings, the prevailing assumption in the literature remains steadfast: intrateam trust is a positive driver of team performance (Braun et al., 2013). Understanding the underlying causal mechanisms of this relationship across various dimensions of trust is essential. At its core, trust empowers team members to overcome uncertainty and vulnerability within their team interactions (De Jong and Elfring, 2010; Jones and George, 1998). By suspending these feelings of uncertainty and vulnerability, trust enables more effective and efficient collaboration, allowing for optimal allocation of energy and resource exchange that contributes to overall team performance (Dirks, 1999). Conversely, a lack of trust within a team can divert focus away from shared goals and interests, causing members to prioritize their personal interests instead (Joshi et al., 2009). Establishing trust within an organization is one way of indicating commitment and support towards its employees (Mayer and Gavin, 2005).

Employees who perceive such trust are more inclined to invest their time, talent, and energy in achieving organizational goals and objectives, thereby making themselves valuable assets to the organization (A. Agarwal, 2014). Drawing insights from the Job Demands-Resources (JD-R) theory, individuals with higher levels of job resources, such as trust in management, are more likely to engage in productive behaviors. These resources are closely linked to positive evaluations, enabling employees to gain the ability and support needed to navigate and control their work environment. Goal clarity is the extent to which employees precisely comprehend an organization's goals and the strategies to achieve them (Weber and Weber, 2001). The literature offers insights into how goals can be effectively clarified while maintaining or enhancing trust. One key strategy involves providing a clear organizational vision, as employees naturally seek certainty, and much resistance to change often stems from a lack of clarity (Stauffer, 2003). Path-Goal Theory of Leadership, which underscores the pivotal role of Trust in Team for enhancing Team Performance and it aligns seamlessly with the theory's assertion that trust among team members is crucial for effective collaboration and goal attainment (Khalid et al., 2012). As elucidated by the theory, when team members trust each

other's competence, reliability, and integrity, it fosters a culture of cooperation, open communication, and mutual commitment to shared objectives (Levanoni and Knoop, 1985). This trust contributes to creating a positive team environment characterized by reduced conflicts, enhanced cohesion, and improved decision-making processes, all of which collectively led to heightened Team Performance (Evans, 1974; House, 1999). Based on the understanding of these interconnected factors, we propose the following hypothesis and it aligns with the premise that trust is a critical element in fostering productive team dynamics, which, in turn, enhances overall team performance.

H7: Trust in team has a positive impact on Team performance.

2.8 Trust in Teams as a Mediator

This study seeks to extend the existing body of research on the impact at the firm level by delving into the influence of time pressure on knowledge transfer effectiveness (KTE) at the team level, with a specific focus on the mediating role of trust. The research also underscores trust as a pivotal mediator in the relationship between time pressure and KTE, given its strong and positive association with KTE (Bjorvatn and Wald, 2020). At the team level, we refer to "team trust" as the collective, shared perception of trust among team members. In essence, team trust signifies a team's emerging state characterized by an acceptance of vulnerability rooted in positive expectations regarding the intentions and behaviors of fellow team members (Peñarroja et al., 2015). Team trust fosters an environment where team members feel secure in sharing ideas, opinions, and reflections on encountered challenges during task execution. This atmosphere encourages open communication and actions based on the information provided by team members, especially in virtual teams (Rusman et al., 2010). Such a climate of safety and team supportiveness empowers team members to voice their thoughts and minimizes concerns about potential embarrassment or threats tied to errors (Edmondson, 1999). While trust has been a central construct in organizational science, its definitions and conceptualizations have exhibited diversity and occasional contradiction (Mayer and Davis, 1999). These perspectives range

from sociological to micro-psychological theories and social/economic approaches. However, the common thread among these perspectives is that trust serves as a fundamental element in the social fabric, facilitating interactions by shaping individual beliefs about the intentions and motives that underlie human behavior (Smith and Barclay, 1997).

Trust is a critical aspect of teamwork, as it fosters openness and collaboration among team members, who must rely on one another's knowledge and outputs for successful interdependence. Without trust, team coordination becomes fragmented, and members may duplicate efforts, hindering the team's overall effectiveness (Lencioni, 2006). The direct relationship between trust and team effectiveness has been explored at the group level, with inconsistent findings across studies (Dirks and Ferrin, 2001).

Some studies report a significant correlation between trust and performance, while others do not. This suggests that the trust-effectiveness relationship is more intricate than previously conceived. To shed light on the role of trust in team effectiveness, we propose that trust operates through other mechanisms to influence team performance (Dirks and Ferrin, 2001). Path-Goal Theory of Leadership aligns seamlessly that supportive leadership plays a crucial role in fostering trust among team members, thereby contributing to enhanced team performance (House and Dessler, 1974).

As posited by the theory, when leaders exhibit genuine concern, provide support, and acknowledge achievements, it reinforces trust in the team's leadership and among team members. This trust, in turn, facilitates effective collaboration, communication, and goal achievement, thereby culminating in improved team performance (House and Dessler, 1974; House, 1971).

Specifically, we will examine two important team constructs to better understand how trust impacts team effectiveness. This hypothesis underscores the pivotal role of trust as a mediating factor in explaining how supportive leadership affects team performance. It highlights the need to explore the intricate dynamics of trust within teams and its implications for overall team effectiveness.

H8: Trust in team mediates the relationship between Supportive Leadership and Team performance.

2.9 Goal Clarity Impacts Trust in Teams

In our exploration of goal setting and trust, interview results have illuminated their interrelationship within the context of managing information security. This research enriches the field of interpretive information systems, shedding light on the intricate dynamics of goal setting and trust within security management (Koskosas, 2008). Moving beyond the examination of goal setting and trust, we embrace a broader perspective. By considering fairness perceptions, trust, and goal commitment together, we construct a more comprehensive model of performance, particularly during budgeting. This holistic approach contributes substantially to the existing literature, offering insights into how fairness perceptions, trust, and goal commitment synergistically enhance performance. In a team context, trust signifies team members' confidence in their peers' intentions to contribute to team goals and not undermine individual efforts toward collective objectives (Koskosas, 2008). Trust functions as the bedrock of teamwork, allowing team members to depend on one another and work interdependently. It hinges on the "willingness to be vulnerable," as individuals willingly place themselves in interdependent situations where their goal achievement depends on others' actions (Mayer et al., 1995).

Clear goals, coupled with trust, play a pivotal role in promoting worker participation and fostering employees' receptiveness to constructive feedback. This combination of managerial elements contributes to a more focused and productive work environment (Favero et al., 2016). It echoes the sentiments, who emphasized that cooperation among employees and goal acceptance are synchronous activities, much like the interplay of trust, participation, and feedback (Barnard, 2006). This discussion highlights the importance of feedback in the manager-worker dynamic (Graber, 2002). Thus, our study also incorporates this critical aspect of management into the broader context. This hypothesis underscores the interwoven nature of goal clarity, trust, and supportive leadership and their collective impact on team performance. Path-Goal Theory of Leadership underscores that supportive leadership initiates a sequential chain of events wherein it first enhances Goal Clarity, which subsequently fosters Trust in Team, ultimately leading to improved Team Performance (House and Dessler, 1974). As delineated by the theory,

supportive leadership involves providing assistance, encouragement, and recognition to team members, thereby creating clarity in goals and fostering trust among team members (Evans, 1974; House, 1999). Consequently, when leaders clarify goals and offer support, it not only enhances Goal Clarity but also instills trust in the team's leadership and among team members, culminating in heightened Team Performance (Alanazi et al., 2013). It acknowledges the sequential nature of these mediating factors and their role in explaining the complex relationship between supportive leadership and team effectiveness.

H9: Goal Clarity and Trust in team both mediate the relationship between Supportive Leadership and Team performance in a serial sequence.

2.10 Project Complexity as Moderator

In the realm of project management, complexity stands out as a paramount and contentious subject (Bakhshi et al., 2016). To be more precise, complex projects often lead to scheduling delays and budget overruns (Mikkelsen, 2021). The complexity of a project is characterized by its heavy reliance on its political, economic, or legal environment, along with the continuous evolution of stakeholder demands, requirements, and conflicting interests (Luo et al., 2020). This complexity intensifies when there is insufficient information and an abundance of simultaneous variables at play (Lu et al., 2015). Complex systems inherently consist of interconnected components that interact according to specific rules. It's well-documented in the literature that projects have grown in complexity over time (Zhu and Mostafavi, 2017; Hansen et al., 2020). Project complexity negatively moderates the relationship between potential absorptive capacity and strategic agility. Project complexity negatively moderates the relationship between realized absorptive capacity and strategic agility (Mata et al., 2023).

The success of software development projects holds significant implications for various industries and business management practices (Andersén, 2015). This body of work underscores that project success is intrinsically linked to the project's complexity and its attributes, such as size and timing, depending on the tasks

at hand (Luo et al., 2020) Project complexity can have a dual impact on project outcomes, potentially yielding both negative and positive effects due to the emergence of unique properties that create new opportunities (Bjorvatn and Wald, 2018). In today's dynamic environment, only project-based organizations within the software development industry can effectively manage project complexity and enhance project success (Butler et al., 2020). The prevalence of project failures remains a stark reality, affecting both advanced and developing nations, especially within the software industry (Varajão et al., 2014; Sousa et al., 2020; Morcov et al., 2021).

De Toni and Pessot (2021) emphasize the urgent need for research to identify the risks associated with project complexity and develop techniques to mitigate these risks, ultimately safeguarding a project's success.

Project complexity not only serves as a positive moderator for the relationship between team cognition and software quality but also extends its influence to the relationship between team intuition and software quality (Açikgöz et al., 2014). Moreover, statistical data reveals that within the realm of information technology projects, including software development endeavors, only a fraction, ranging from 16% to 28%, can be deemed truly successful, meeting all original criteria regarding time, budget, and features.

Conversely, a significant portion, between 23% and 40%, falls into the category of unsuccessful projects, either canceled before completion or never materialized, while another segment, ranging from 33% to 53%, faces the challenge of being operational but over-budget, past deadlines, or lacking specified features (Açikgöz et al., 2014). The driving force behind these comparatively high rates of unsuccessful projects may be attributed to the inherent complexity associated with the development of software products, primarily stemming from the intricate interaction of numerous components in unconventional ways (Dawidson et al., 2004). Project complexity impacts and moderates the correlation between project success (PS) and entrepreneurial performance (EP), offering valuable insights into organizational effectiveness and the role of project success (PS) within intricate project landscapes (Snyman and van Vuuren, 2024). In alignment with this perspective, Geraldi (2009) postulates that the term "complexity" in the context of software

development implies unwanted and unwarranted elements that exacerbate the intricacies and challenges involved in project execution.

Similarly, Williams (1999) emphasizes that the core source of this complexity can be traced back to the very development process of the project itself, an insight corroborated by the observations of Xia and Lee (2005). These notions underscore the profound impact of project complexity on software development, shaping the understanding of the difficulties and intricacies encountered in this field.

Project complexity exerts a significant moderating influence on the correlation between leadership competencies and the ultimate success of a project Müller et al. (2011). In the context of goal-driven tasks assigned to employees, it is observed that individuals tend to allocate additional work hours towards specific micro-tasks directly linked to those goals (Terborg, 1976).

This alignment of tasks with well-defined objectives not only facilitates more effective performance assessment by supervisors but also enables them to offer precise feedback. Simultaneously, it empowers workers to self-regulate their determination and efforts (Sawyer, 1992; Koch and Nafziger, 2011).

Path-Goal Theory of Leadership highlight how supportive leadership enhances Goal Clarity through assistance, encouragement, and support to team members (Evans, 1974; House, 1999). High project complexity introduces additional challenges and ambiguities, potentially compromising the effectiveness of supportive leadership in clarifying goals (House and Dessler, 1974). While supportive leadership remains indispensable for fostering Goal Clarity, its impact on Team Performance may indeed diminish in the face of complex projects (Silverthorne, 2001).

It underscores the necessity of deploying additional strategies or resources to effectively address challenges posed by high project complexity and maintain clarity in goals, thereby enhancing Team Performance (Khalid et al., 2012). In light of these interconnected factors, we propose the following hypothesis:

H10: Project complexity moderates the relationship between Supportive leadership and goal clarity, such that positive effect of supportive leadership on team performance is weaker when project complexity is high.

2.11 Moderated Mediation

The exploration of indirect effects in research often extends beyond simple relationships to consider potential moderators, leading to the concept of moderated mediation, as articulated by (Muller et al., 2005). Moderated mediation analysis serves as a robust method for assessing whether the indirect relationship between variables is contingent upon the values of a moderating variable. This sophisticated approach involves a thorough examination of the fundamental concepts of moderation and mediation, which are then integrated into a unified model of moderated mediation within the framework of regression, as elucidated by (Edwards and Konold, 2020). This comprehensive model, also known as conditional process models or moderated mediation, highlights the dynamic nature of indirect effects, demonstrating how they are influenced by another variable. By incorporating moderation into mediation analyses, researchers gain a deeper understanding of the nuanced conditions under which indirect effects manifest, enriching the complexity of their analytical frameworks and providing valuable insights into the contingent nature of relationships between variables (Edwards and Konold, 2020). Moderated mediation models offer a valuable framework for exploring the interplay between variables in research contexts where understanding both the mechanisms underlying relationships and the specific conditions under which these relationships occur is crucial. These models, as delineated by Hayes and Preacher (2013), provide a comprehensive approach to examining contingent and indirect effects simultaneously.

Considering the dynamics of leadership and team performance, we expect that a moderating variable, with its ability to introduce specific conditions, will significantly affect the indirect link between supportive leadership and team performance. We propose a pattern of moderated mediation in line with our model, where this moderating variable plays a pivotal role in shaping how supportive leadership impacts team performance. In this complex relationship, the moderator's role is essential. It goes beyond mediation and becomes a key factor in determining the direction and strength of the effects of supportive leadership. The moderator's presence doesn't just influence the relationship; it's critical in defining how leadership support affects team performance, showing the inherent conditionality

and sensitivity in our theoretical framework. As per Path goal theory's principles, Supportive Leadership enhances Goal Clarity and Trust in Teams, ultimately impacting Team Performance (Evans, 1974; House and Dessler, 1974; House, 1999).

The indirect impact of Supportive Leadership through Goal Clarity and Trust in Teams on Team Performance may weaken in the context of complex projects (Levanoni and Knoop, 1985). This is due to the additional challenges and ambiguities introduced by high project complexity (House and Dessler, 1974). Therefore, while Supportive Leadership remains pivotal, its efficacy in enhancing Team Performance through Goal Clarity and Trust in Teams may vary based on project complexity which concludes hypothesis as follows:

H11: Project complexity moderates the relationship between Supportive leadership and Team performance, such that the positive indirect effect of Supportive leadership on Team performance through Goal clarity and Trust in teams is weaker when Project complexity is high.

2.12 Research Model

Our research model comprises four key variables: Supportive leadership, Goal clarity, Trust in the team, and Team Performance. These variables along with their relationships are illustrated in the following figure.

2.13 Hypothesis of the Study

There are proposed nine hypothesis of this study and are as follows:

H1: Supportive Leadership has a positive impact on Team performance.

H2: Supportive Leadership has a positive impact on Goal Clarity.

H3: Supportive Leadership has a positive impact on Trust in the team.

H4: Goal Clarity has a positive impact on Team performance.

H5: Goal Clarity mediates the relationship between Supportive leadership and Team performance.

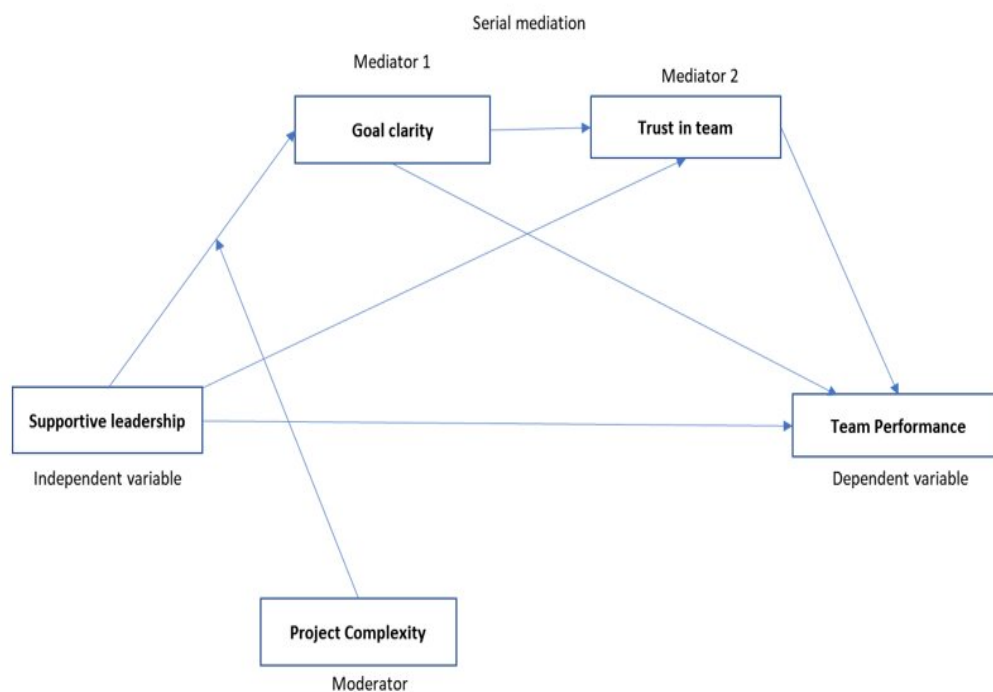


FIGURE 2.1: Research Model

H6: Goal Clarity has a positive impact on trust in team.

H7: Trust in team has a positive impact on Team performance.

H8: Trust in team mediates the relationship between Supportive Leadership and Team performance.

H9: Goal Clarity and Trust in team both mediate the relationship between Supportive Leadership and Team performance in a serial sequence.

H10: Project complexity moderates the relationship between Supportive leadership and goal clarity, such that positive effect of supportive leadership on team performance is weaker when project complexity is high.

H11: Project complexity moderates the relationship between Supportive leadership and Team performance, such that the positive indirect effect of Supportive leadership on Team performance through Goal clarity and Trust in teams is weaker when Project complexity is high.

Chapter 3

Research Methodology

3.1 Research Design

3.1.1 Research Philosophy

The current research draws its theoretical underpinnings from the Positivism philosophy, a longstanding and prevalent approach within the realms of business and management research. At its core, Positivism places paramount trust in knowledge derived from empirical observations, considering them to be the most dependable sources of information (Ryan, 2018).

In the context of positivist studies, the researcher assumes a distinctive role that primarily revolves around the collection of data and the objective interpretation thereof. This approach leans heavily on quantitative observations, facilitating comprehensive statistical analyses to draw meaningful insights from the gathered information.

One defining characteristic of positivist studies is the clear demarcation between the researcher and the subject under investigation. This separation ensures that the researcher remains impartial, refraining from incorporating personal or human interests into the study, thus preserving the pure empirical nature of the research (Ryan, 2018).

3.1.2 Research Approach

A well-crafted research design plays a pivotal role in ensuring that the procedures employed align with the study's overarching objectives and the subsequent application of the most fitting data analysis methods, within the realm of research design, there exist three primary categories: Qualitative, Quantitative, and Mixed methods (Baškarada and Koronios, 2018). In the present study, the chosen research design is of the Quantitative nature.

This selection is underpinned by the fact that Quantitative research designs are generally characterized as being more structured and logical in their approach. They emphasize the importance of establishing a clear and systematic framework in which variables and hypotheses are explicitly defined before the commencement of data collection.

Quantitative research is highly regarded for its capacity to generate objective data, a quality that greatly facilitates concise expression through the utilization of statistical analyses and graphical representations. Such data-driven precision is instrumental in extracting meaningful insights from the collected information (Khalid et al., 2012). As such, the adoption of a Quantitative research design in the current study aimed to provide a robust and methodical foundation for addressing the research inquiries at hand.

3.1.3 Research Method

The research employed the hypothetic-deductive method, often abbreviated as the H-D method or H-D, is essentially a structured process for constructing scientific theories that can account for observations and experimental findings. Moreover, it extends its utility to predicting additional outcomes, which can subsequently be substantiated or invalidated through empirical evidence.

In essence, the hypothetic-deductive method represents an invaluable tool in the realm of research, guiding investigators through a logical and systematic journey of discovery, enabling the formulation and testing of hypotheses, and contributing to a deeper understanding (Tariq, 2015).

3.1.4 Type of Study

For the current study, a cross-sectional study design was chosen. In a cross-sectional study, data is gathered from a diverse group of individuals at a single point in time. This approach enables the observation of variables without introducing external influences that might alter the study's trajectory.

The decision to employ a cross-sectional design was primarily motivated by practical considerations, particularly time and resource constraints (Olsen and St George, 2004). Given these limitations, this method efficiently captured a snapshot of the relationships under investigation, providing valuable insights into the dynamics between supportive leadership, goal clarity, trust in teams, project complexity, and team performance.

However, it's crucial to acknowledge the limitations associated with cross-sectional studies. One significant drawback is the inability to establish causal relationships between variables. Since data is collected at a single time point, it's challenging to determine the direction of causality.

Additionally, cross-sectional designs may not capture temporal changes or account for historical trends, limiting the depth of analysis (Wang and Cheng, 2020). Despite these drawbacks, the current study's focus on examining concurrent relationships, guided by practical constraints and the need for timely insights, aligns well with the strengths of a cross-sectional approach.

3.1.5 Study Setting

The setting of a research study encompasses the specific physical, social, or experimental conditions in which the study takes place. It involves critical elements like the geographical location and the population under investigation. In the case of this study, the population of interest consists of an IT-based project-oriented organization situated in the regions of Rawalpindi and Islamabad.

This setting, with its unique characteristics and population focus, forms the backdrop against which the research unfolds, offering valuable insights into the study's context and relevance.

3.1.6 Unit of Analysis

Within research study, the unit of analysis stands as a critical and highly significant component. It represents the focal point, whether an object or an individual, whose characteristics and attributes are under scrutiny. The unit of analysis takes diverse forms; it can be a single day, an individual, a group of people, an entire industry, an organization, a country, or even a culture, depending on what data is being collected and the research's specific focus (Silverman and Solmon, 1998). In the context of this study, the unit of analysis took the shape of project team members from project-based organizations situated in the cities of Rawalpindi and Islamabad where IT based projects are taking place. By defining this unit of analysis, it precisely examined and gain insights from this specific group, shedding light on their roles and interactions within the project-based organizations in the mentioned locations.

3.1.7 Time Horizon

The data collection period for this study was set to span one and a half months. It involved the distribution of questionnaires that contain built-in scales to measure various variables. These variables include supportive leadership, goal clarity, trust in teams, team performance, and project complexity. The objective is to gather responses from participants through these questionnaires, allowing for a comprehensive examination of the hypotheses that have been formulated. By collecting this data, the research aimed to gain valuable insights into the relationships between these key variables and their impact on the research objectives. This method helped in assessing and testing the proposed hypotheses effectively.

3.1.8 Statistical Tools

In current research endeavor, SPSS assumed a central role as it is harnessed to implement the Hayes Process Macro 4.2 Model 83. This specific application of SPSS underscores its adaptability and versatility, allowing researchers to explore the complexities of statistical modeling and analysis. By leveraging the features

of SPSS in conjunction with the Hayes Process Macro, our research seeks to delve deep into the data, unveiling insights and drawing significant conclusions that contribute to the broader understanding of our research questions (Hayes and Preacher, 2013).

3.2 Population & Sample

Within the scope of our study, the specific population under scrutiny comprised of project-based organizations situated in Rawalpindi and Islamabad. These organizations include individuals with significant hands-on experience in project environments, rendering them as prime candidates for our research endeavors. However, study encountered a set of challenges, namely, constraints pertaining to time, financial resources, and the inherent limitations of being students with access to only a fraction of the larger population.

The sample size was calculated using the Creative Research Systems online sample size calculator, which yielded a minimum requirement of 384 samples with a confidence level of 95% and a confidence interval of 5, and without entering any data in the population cell because the exact population size was unknown. Following validation, the sample size will be estimated using the Cochran Formula. This sample size will meticulously choose as it would offer a representative cross-section of our target population, striking a balance between the depth of insights aimed to gain and the practical considerations of our research constraints (Cochran et al., 2007). In doing so, it aimed to ensure that our findings would be meaningful and applicable within the context of the broader population.

3.2.1 Sampling Techniques

The convenience sampling technique was strategically chosen among various options as the most suitable approach, aimed at overcoming specific challenges while maximizing research effectiveness. Its selection was informed by the recognition that in certain circumstances, such as limited resources or time constraints, convenience sampling provides the most practical choice for gathering data. It is a

non-probability sampling method where units are included in the sample based on their ease of accessibility to the researcher within the research design and scenario. The research placed a strong emphasis on establishing a robust data collection process to support the development of meaningful insights and conclusions. Utilizing Google Forms as the primary tool for data collection offered an efficient and structured approach to gathering responses from participants. This online google form platform was seamlessly integrated with the convenience sampling technique, enabling the selection of participants based on accessibility and ease of engagement. As a result, 384 responses were captured, enriching the dataset with diverse perspectives. These methodological decisions formed a solid groundwork for subsequent analyses and interpretations, thereby enhancing the overall rigor and validity of the research findings.

3.3 Description & Instrumentation of Variables

3.3.1 Description of Variables

Supportive Leadership Scale:

In our quest to measure supportive leadership effectively, we identified three pertinent scales from the existing literature, namely (Aarons et al., 2014; Rafferty and Griffin, 2006; Hwang et al., 2015). Among these (Hwang et al., 2015), closely aligns with the focus of our current study. This scale comprises three key items. To suit the specific context of our research, we adapted these items to reflect our project team scenario. And one key item is ‘Available to provide assistance and support as needed by project team.’

Goal Clarity Scale:

Goal clarity scale was chosen from a pool of four different scales presented in the literature (Bang et al., 2010; Sawyer, 1992; Geurtzen et al., 2020; Bellamkonda et al., 2021). The scale proposed by Sawyer (1992) was adapted to meet our specific requirements, featuring a total of 4 items. One of key item is ‘Project team members roles and responsibilities are well-defined’.

Trust in teams Scale:

When it comes to assessing Trust in teams, we examined four distinct scales in the literature (Blais and Thompson, 2009; Adams and Sartori, 2006; Yagoda and Gillan, 2012; Erdem et al., 2003). Among these, the one that most closely aligned with the goals of our study was proposed by Adams and Sartori (2006), which encompassed 11 items. One of key item is ‘Project team members communicate well’. We proceeded to adapt this scale to suit the needs of our research.

Team Performance Scale:

To assess team performance, we reviewed three different scales (Sigalet et al., 2013; Driskell et al., 2010; Karlgren et al., 2021). After careful consideration, we chose scale proposed by (Karlgrén et al., 2021) because it offered a comprehensive set of 11 items that closely aligned with the objectives of our study. One of key item is ‘The team followed approved standards and guideline’. Subsequently, we adapted this scale to better suit the specific requirements of our research.

Project Complexity Scale:

In our quest to measure project complexity effectively, we identified four pertinent scales from the existing literature (Mata et al., 2023; Poveda-Bautista et al., 2018; de Souza Pinto et al., 2014; Bjorvatn and Wald, 2018). Among these (Poveda-Bautista et al., 2018), closely aligns with the focus of our current study. This scale comprises four key items. One of key item is ‘Objectives, requirements and expectations’. Subsequently, we adapted this scale to better suit the specific requirements of our research.

3.3.2 Instrumentation of Variables

For the purpose of data collection, a series of questionnaires was administered, utilizing a 5-point Likert scale to gauge responses, encompassing the full spectrum from “Strongly Disagree” to “Strongly Agree.” In this Likert scale, each numerical value holds a distinct significance, where the rating of 1 corresponds to “Strongly Disagree (SD),” 2 signifies “Disagree (D),” 3 represents “Neutral (N),” 4 reflects “Agree (A),” and 5 conveys “Strongly Agree (SA).” This approach allowed for a

refine assessment of participant opinions and attitudes on the five variables under investigation, facilitating a comprehensive understanding of their perspectives within the research context. Table 3.1 presenting the variables, the number of items associated with each variable, and their respective sources:

TABLE 3.1: Instrumentation of Variables

Variables	No. of Items	Source
Supportive leadership	3	Hwang et al. (2015)
Goal clarity	4	Sawyer (1992)
Trust in team	11	Adams and Sartori (2006)
Team performance	11	Karlgrén et al. (2021)
Project Complexity	4	Poveda-Bautista et al. (2018)

3.4 Contribution of Study

The current study significantly contributes to our understanding of the dynamics within project-based organizations. We emphasize the pivotal roles of goal clarity, process clarity, and supportive leadership as key drivers of team performance, ultimately influencing team effectiveness and project success. This highlights the importance of considering these factors during team formation. Prioritizing elements such as clear goals, effective communication, and trust-building can empower project teams to navigate challenges more effectively, enhancing the likelihood of successful project outcomes. Our research comprehensively explores these challenges and proposes strategies for optimizing team performance in project management.

We contribute valuable insights that can enhance the process of team formation, emphasizing the significance of factors such as goal clarity, process clarity, and supportive leadership ([Bellamkonda et al., 2021](#)). Our research offers practical guidance for organizations looking to bolster their leadership practices, with a

focus on project-based settings. We advance our understanding of the intricate relationships among these four variables within the unique context of project-based organizations. This research not only fills a notable gap in the existing literature but also enriches the broader body of knowledge in this field. In addition, our findings are particularly relevant for organizations operating within the specific context of Rawalpindi and Islamabad, making them pertinent and applicable to local businesses and stakeholders.

3.5 Data Analysis Tool

The SPSS analyses encompassed the following assessments:

1. Utilization of a descriptive statistical test to ascertain the frequency of a demographic-related variable. Application of a descriptive statistical test to compute the mean and standard deviation.
2. Employing correlation analysis to assess the relationship between the dependent and independent variables.
3. Utilization of regression analysis to quantify the impact or modification in the dependent variable induced by the independent variable.
4. Implementation of Reliability Analysis.
5. In light of the identified moderated mediation in our model, Model 87 was chosen to analyze both mediation and moderation effects.

3.6 Sample Characteristics

Understanding the characteristics of the sample under investigation is pivotal in drawing meaningful conclusions from research findings. This section provides a distinct exploration of crucial sample attributes, shedding light on the diversity that exists within the study participants. By examining key dimensions such as gender, experience, education, and organizational roles, we gain insight into the multifaceted nature of the sample, enriching the context for subsequent analyses. These all characteristics serves as a compass for navigating the intricacies of our

sample, setting the stage for a comprehensive examination of characteristics that contribute to the richness and diversity of our research findings.

3.6.1 Gender

The first facet of our sample characteristics delves into the gender composition of the participants. This analysis aims to uncover any gender-related patterns or distinctions within the sample. By examining the distribution of male and female participants, we gain valuable insights into potential variations in perspectives or experiences that may influence the research outcomes. The gender composition of the study participants is encapsulated in tale 3.2, where a total of 384 individuals were surveyed. The data delineate a distinct distribution, with 280 respondents identified as male, constituting 72.9% of the overall sample. In contrast, the number of female respondents amounted to 104, representing 27.1% of the total sample.

Upon a closer examination of the cumulative percentages, it is evident that the majority, 72.9%, identify as male, while 27.1% identify as female. This gender distribution insightfully underscores the prevailing representation within the surveyed cohort. The inclusion of such demographic nuances enriches the context of the study, providing a foundational understanding of the gender dynamics inherent in the research population.

TABLE 3.2: Gender Percentage

	Frequency	Percent Valid	Percent	Cumulative Percent
Female	104	27.1	27.1	27.1
Male	280	72.9	72.9	100.0
Total	384	100.0	100.0	

3.6.2 Age

Examining the temporal landscape of our sample, this section delves into the distribution of ages among participants. This exploration sheds light on the varied

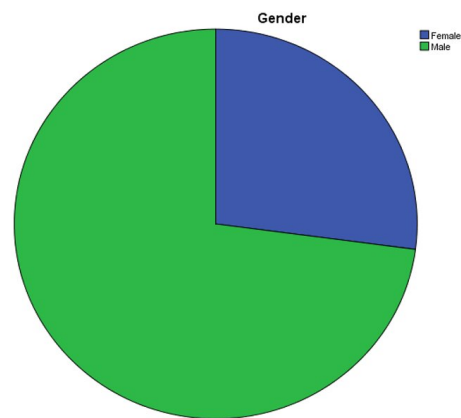


FIGURE 3.1: Gender Percentage

age groups within our study. Table offers a comprehensive insight into the age distribution of the study participants, comprising a total sample size of 384 individuals. The data present a understanding of the diverse age groups within the surveyed cohort. Breaking down the age demographics, the majority of participants fall within the age range of 35-44, constituting 43.5% of the total sample. Following closely, those aged 25-34 account for 28.4%, while the 18-24 age group represents 20.1%.

A smaller proportion includes participants aged 45-54 (5.7%) and those aged 55 and above (2.3%). The cumulative percentages elucidate the distribution, revealing that nearly half of the participants (48.4%) fall within the age brackets of 25-44. The inclusion of age characteristics in the study enriches the contextual understanding, providing a temporal dimension that contributes to the comprehensive exploration of participant demographics.

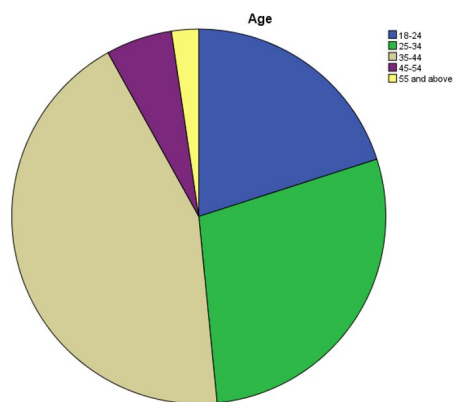


FIGURE 3.2: Age Distribution

TABLE 3.3: Age Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
18-24	77	20.1	20.1	20.1
25-34	109	28.4	28.4	48.4
35-44	167	43.5	43.5	91.9
45-54	22	5.7	5.7	97.7
55 and above	9	2.3	2.3	100.0
Total	384	100.0	100.0	

3.6.3 Education

The educational diversity within our sample is a key element shaping the landscape of participant characteristics. We examine the varied educational backgrounds. This exploration aims to illuminate the potential impact of differing educational trajectories on the perspectives and insights contributed by participants. Table presents a comprehensive overview of the educational characteristics of the study participants, offering valuable insights into the academic backgrounds within the surveyed group of 384 individuals.

Analyzing the educational distribution, the majority of participants hold a Master's degree (MS), constituting a significant 72.4% of the total sample. Additionally, 20.8% of participants possess a Bachelor's degree (BS), while 6.8% have attained a Doctorate (PHD).

The cumulative percentages highlight the collective educational landscape, revealing that 93.2% of participants have completed at least a Master's degree. This breakdown of educational attainment serves as a crucial dimension in understanding the diversity within the study population, contributing essential context to the broader research investigation.

TABLE 3.4: Respondent's Qualification

	Frequency	Percent	Valid Percent	Cumulative Percent
BS	80	20.8	20.8	20.8
MS	278	72.4	72.4	93.2
PHD	26	6.8	6.8	100.0
Total	384	100.0	100.0	

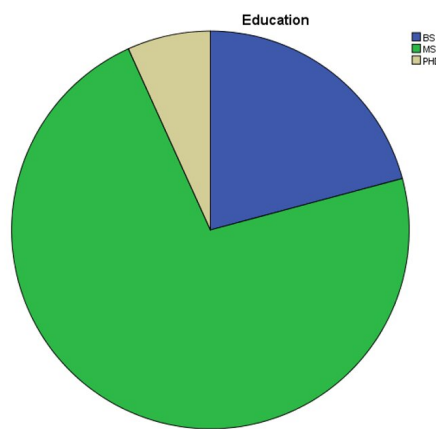


FIGURE 3.3: Respondent's Qualification

3.6.4 Experience

A critical dimension of our study involves exploring the professional experience of participants. This section provides a comprehensive overview of the varying lengths of time individuals have spent in their respective roles or fields. The spectrum of experience ranges from novices to seasoned professionals, allowing us to discern potential correlations between tenure and certain study variables.

Within the context of the research thesis, Table unveils crucial insights into the professional experience of the study participants, providing a detailed breakdown of the varied tenure within the surveyed group of 384 individuals.

Examining the distribution of professional experience, a substantial 47.1% of participants fall within the range of 6-10 years. Following closely, 38.8% of participants have accumulated 1-5 years of experience, while 14.1% have 11 years of experience

and above. The cumulative percentages elucidate the collective professional landscape, showcasing that nearly 85.9% of participants possess a tenure of 10 years or less. This nuanced breakdown of professional experience enriches the understanding of the participant demographic, offering a temporal dimension that contributes significantly to the comprehensive exploration of participant characteristics.

TABLE 3.5: Respondent’s Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5	149	38.8	38.8	38.8
6-10	181	47.1	47.1	85.9
11 and above	54	14.1	14.1	100.0
Total	384	100.0	100.0	

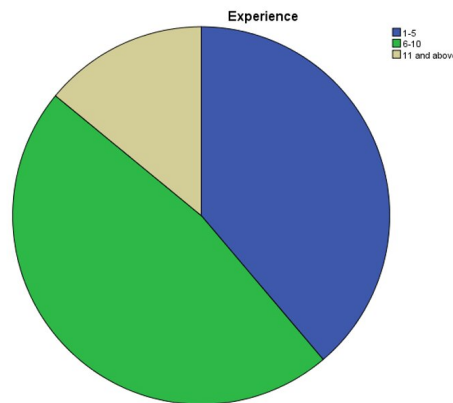


FIGURE 3.4: Respondent’s Experience

3.6.5 Role in Organization

The organizational roles of participants form another crucial dimension of our sample characteristics. By delineating the diverse roles within the organizational hierarchy, we aim to capture the richness of perspectives and responsibilities. This exploration lays the groundwork for understanding how different roles may influence responses and interpretations within the context of the study. Table provides

an insightful breakdown of the key role's participants hold within their respective organizations, shedding light on the distribution of responsibilities among 384 individuals.

Examining the frequency distribution, a significant 55.5% of participants identify their key role as a "Developer." Additionally, 28.1% of participants assume the role of a "Product Owner," while 16.4% fulfill the position of a "Scrum Master."

The cumulative percentages unveil the collective organizational landscape, showcasing that the majority of participants, 83.6%, are actively engaged in pivotal roles such as Developer or Product Owner. This detailed exploration of key roles within the organizational context enriches the understanding of the participant demographic, providing a strategic dimension that contributes to the comprehensive examination of participant characteristics in the broader research framework.

TABLE 3.6: Respondent's Role in Organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Developer	213	55.5	55.5	55.5
Product Owner	108	28.1	28.1	83.6
Scrum Master	63	16.4	16.4	100.0
Total	384	100.0	100.0	

3.7 Reliability Analysis

In evaluating the trustworthiness of the scale items utilized for assessing the variable, a meticulous reliability analysis was conducted. Internal consistency, a widely acknowledged measure for scrutinizing scale reliability, found expression in the employment of Cronbach's Alpha, a particularly robust metric (Malkawi et al., 2000). A prevalent practice in research studies, endorsed by Malkawi et al. (2000) and

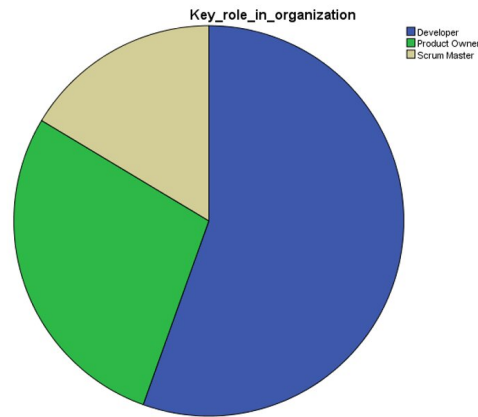


FIGURE 3.5: Respondent’s Role in Organization

Schlosser and McNaughton (2009), involves leaning on internal consistency statistics, particularly Cronbach’s Alpha, as a reliable means to ensure the fidelity of scales. Calculated by averaging the inter-correlations among scale items, Cronbach’s Alpha, following the definition provided by Krippendorff (2004), meticulously evaluates the degree of association between these items. The gold standard for scale reliability, set at a minimum Cronbach’s Alpha value of 0.7 Landis and Koch (1975), emphasizes that higher values indicate heightened scale reliability, while lower values compromise the scale’s dependability.

Table 3.7 displays Supportive Leadership reliability statistics for the scale used in this study, featuring a Cronbach’s Alpha of 0.729. With three items included in the analysis, the calculated value surpasses the accepted threshold of 0.7, indicating a reliable measure of internal consistency within the scale.

TABLE 3.7: Reliability Statistics of Supportive Leadership

Cronbach’s Alpha	No. of Items
.729	3

Table 3.8 presents Goal Clarity reliability statistics for the scale, indicating a Cronbach’s Alpha of 0.716. With four items included in the analysis, the calculated value exceeds the established threshold of 0.7, signifying a high level of internal consistency within the scale. This concise representation highlights the scale’s robust reliability, bolstering the validity of the research findings.

TABLE 3.8: Reliability Statistics of Goal Clarity

Cronbach's Alpha	No. of Items
.716	4

Table 3.9 outlines the Trust in team reliability statistics for the scale in use, revealing a Cronbach's Alpha of 0.831. With eleven items under examination, the calculated value surpasses the standard threshold of 0.7, indicating a strong level of internal consistency within the scale.

TABLE 3.9: Reliability Statistics of Trust in Team

Cronbach's Alpha	No. of Items
.831	11

Table 3.10 provides Team Performance reliability statistics for the scale, demonstrating a Cronbach's Alpha of 0.834. With eleven items considered, the calculated value exceeds the accepted threshold of 0.7, indicating a robust level of internal consistency within the scale.

TABLE 3.10: Reliability Statistics of Team Performance

Cronbach's Alpha	No. of Items
.834	11

Table 3.11 exhibits Project Complexity reliability statistics for the scale, featuring a Cronbach's Alpha of 0.878. With four items in consideration, the calculated value surpasses the conventional threshold of 0.7, indicating a satisfactory level of internal consistency within the scale.

TABLE 3.11: Reliability Statistics of Project Complexity

Cronbach's Alpha	No. of Items
.878	4

3.8 Data Analysis Techniques

Collecting data involves the meticulous review of fully completed questionnaires, ensuring there are no missing values. This was accomplished through the utilization of Google Forms, where measures such as preventing response duplication and enforcing the completion of all questions were implemented. Various steps were implemented during the data analysis phase, starting with a thorough review of the filled-out and non-duplicated questionnaires. Frequency tables were then employed to scrutinize response distribution and reveal respondent characteristics. Descriptive statistics, presented numerically, provided a comprehensive overview of central tendencies and variability. Ensuring the reliability of measured constructs, Cronbach's alpha was employed. Correlation analysis investigated potential relationships between variables, exposing any significant associations. Simple linear regression clarified hypothesized relationships between independent and dependent variables, offering valuable insights into predictive power. Adopting the Preacher and Hayes methodology, mediation and moderation tests were conducted, shedding light on complex aspects of the data by illuminating mediating effects between independent and dependent variables, as well as moderating effects involving the independent variable and moderators.

In the final stages, the Preacher and Hayes method, along with correlation analysis, validated or refuted proposed hypothesis, facilitating a thorough assessment of research hypothesis in relation to the collected data.

3.9 Research Ethics

In conducting this research, rigorous adherence to ethical standards was maintained throughout the data collection process, particularly as responses were gathered through Google Forms from a cohort of 384 respondents. The following key ethical considerations were meticulously addressed:

The confidentiality of participants' responses was rigorously safeguarded, with stringent measures in place to protect the sensitivity and privacy of the collected data. Additionally, steps were taken to ensure the anonymity of participants.

These measures were crucial in fostering a sense of trust and security among participants. Participants were consistently assured that their engagement in the study was entirely voluntary. Google Forms served as the chosen platform for data collection, providing a secure and user-friendly environment for participants. Specific features and settings within Google Forms were strategically employed to enhance data security and protect participant privacy. A distinctive section regarding the supervisor's role was incorporated into the questionnaire, acknowledging potential challenges faced by subordinates in expressing opinions about their supervisors. The confidentiality of data related to supervisors, encompassing information about emotions and personalities, was meticulously maintained. These considerations were pivotal in fostering an ethical and respectful approach toward the sensitive aspects of the research. While the research encountered occasional challenges, such as misplaced or unreturned questionnaires, these instances were managed with utmost respect and professionalism. A commitment to maintaining the integrity of the research was sustained without resorting to negative comments or compromises. This approach underscored the researcher's dedication to handling challenges ethically and with a focus on maintaining participant trust.

Chapter 4

Data Analysis and Results

4.1 Descriptive Statistics

The descriptive statistics offer a detailed insight into the central tendencies and variability of the key variables in the study in below table. In the analysis of the variables, the mean for Supportive Leadership (SL) is 4.3524, signifying a prevalent perception of high levels of support and encouragement from organizational leaders. The standard deviation of 0.65939 suggests a moderate degree of variability in these perceptions, reflecting individual differences in experiences. With a range spanning from 1.00 to 5.00, respondents' opinions on supportive leadership cover a broad spectrum, indicating diverse perspectives within the organization. Moving to Goal Clarity (GC), the mean of 4.3887 indicates a strong, consistent perception of well-communicated and understood goals. The moderate standard deviation (0.54300) implies some variability in individual interpretations. The range from 2.75 to 5.00 suggests a spread of opinions, albeit within a somewhat more constrained range compared to supportive leadership. Trust in Team (TIT) exhibits a high mean of 4.3902, highlighting a pervasive trust among team members. The relatively low standard deviation (0.45040) indicates a consistent consensus in perceptions. With a range from 1.73 to 5.00, there is considerable diversity in responses, reflecting a wide array of opinions on team trust. Team Performance (TP) is characterized by a high mean of 4.3723, suggesting an overall positive assessment of team effectiveness. The range, spanning from 2.82 to 5.00,

indicates variability in opinions on team performance but within a more focused spectrum.

Lastly, Project Complexity (PC) has a mean of 4.2793, reflecting a widespread acknowledgment of high project intricacy. The higher standard deviation (0.75571) suggests greater diversity in perceptions of project complexity. The range, covering the entire scale from 1.00 to 5.00, underscores the broad spectrum of opinions regarding the complexity of projects within the organization. In conclusion, these descriptive statistics offer a nuanced understanding of the organizational dynamics, providing insights into the central tendencies, variabilities, and diversity of opinions regarding supportive leadership, goal clarity, trust in the team, team performance, and project complexity.

TABLE 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SL	384	1.00	5.00	4.3524	.65939
GC	384	2.75	5.00	4.3887	.54300
TIT	384	1.73	5.00	4.3902	.45040
TP	384	2.82	5.00	4.3723	.44021
PC	384	1.00	5.00	4.2793	.75571
Valid N (listwise)	384				

4.2 Correlation Analysis

Correlation Analysis was conducted to explore the relationships between the key variables in the study, shedding light on the strength and direction of associations. The results are presented below in below table. The correlation between SL and GC is positive ($r = 0.203, p < 0.01$), indicating a statistically significant, albeit relatively weak, positive association between perceived supportive leadership and goal clarity. This suggests that individuals who perceive higher

levels of supportive leadership are also more likely to perceive greater goal clarity within the organization. Similarly, the correlation between SL and TIT is positive ($r = 0.215, p < 0.01$), indicating a statistically significant, weak positive association between supportive leadership and trust in the team. This implies that individuals perceiving higher levels of supportive leadership also tend to have higher levels of trust in their teams. The correlation between SL and TP is positive ($r = 0.217, p < 0.01$), indicating a statistically significant, weak positive association between supportive leadership and team performance.

This suggests that individuals who perceive higher levels of supportive leadership are also more likely to perceive higher levels of team performance. The correlation between SL and PC is positive and relatively strong ($r = 0.605, p < 0.01$), suggesting a significant positive association between supportive leadership and perceived project complexity. This implies that higher levels of supportive leadership are associated with higher perceptions of project complexity. The correlation between GC and TIT is positive and relatively strong ($r = 0.413, p < 0.01$), indicating a significant positive association between goal clarity and trust in the team. This suggests that individuals who perceive greater goal clarity are also more likely to have higher levels of trust in their teams.

The notable increase in the correlation coefficient value to 0.861 between GC and TP underscores a compelling relationship between goal clarity and team performance. This high value suggests that changes in goal clarity are closely mirrored by changes in team performance. This substantial correlation ($r = 0.861, p < 0.01$) signifies an exceptionally strong positive association, indicating that as individuals perceive greater goal clarity, they are highly likely to also perceive higher levels of team performance. This remarkable finding suggests that a clear understanding of goals significantly contributes to enhanced team effectiveness and productivity, highlighting the pivotal role of goal clarity in driving overall team performance. The correlation between GC and TP is positive and very strong ($r = 0.861, p < 0.01$), indicating a highly significant positive association between goal clarity and team performance. This implies that individuals who perceive greater goal clarity are very likely to perceive higher levels of team performance. The correlation between GC and PC is positive and moderately strong

($r = 0.377, p < 0.01$), suggesting a significant positive association between goal clarity and perceived project complexity. This implies that individuals who perceive greater goal clarity are also more likely to perceive higher levels of project complexity. The correlation between TIT and TP is positive and moderately strong ($r = 0.556, p < 0.01$), indicating a significant positive association between trust in the team and team performance. This suggests that individuals who have higher levels of trust in their teams are also more likely to perceive higher levels of team performance. The correlation between TIT and PC is positive and moderate ($r = 0.318, p < 0.01$), indicating a significant positive association between trust in the team and perceived project complexity. This suggests that individuals who have higher levels of trust in their teams are more likely to perceive higher levels of project complexity. The correlation between TP and PC is positive and moderate ($r = 0.446, p < 0.01$), suggesting a significant positive association between team performance and perceived project complexity. This implies that individuals who perceive higher levels of team performance are also more likely to perceive higher levels of project complexity.

In summary, the correlation analysis provides valuable insights into the relationships among the variables. These findings can guide further investigations and contribute to a more comprehensive understanding of the organizational dynamics in your research context.

TABLE 4.2: Correlation Analysis

	SL	GC	TIT	TP	PC
SL	1				
GC	.203**	1			
TIT	.215**	.413**	1		
TP	.217**	.861**	.556**	1	
PC	.605**	.377**	.318**	.446**	1

** Correlation is significant at the 0.01 level (2-tailed). N =384

4.3 Regression Analysis

The predictor variable under consideration is Supportive Leadership. The Beta coefficient for Supportive Leadership is 0.145. This indicates the change in the dependent variable (Team Performance) associated with a one-unit change in the predictor variable (Supportive Leadership). In this case, a positive Beta coefficient (0.145) suggests a positive impact of supportive leadership on team performance. The R^2 value is 0.047, representing the proportion of variance in Team Performance explained by the predictor variable (Supportive Leadership). In this context, 4.7% of the variability in Team Performance is accounted for by the variability in Supportive Leadership.

The Adjusted R^2 , which considers the number of predictors and sample size, is 0.044. Adjusted R^2 is a modified version of R^2 that provides a more accurate indication of the model's goodness of fit. The F-Statistic is 18.817. This statistic assesses the overall significance of the regression model. In this case, the F-Statistic suggests that the model is statistically significant. The T-Statistic for Supportive Leadership is 4.338. This statistic assesses the individual significance of each predictor variable. A T-Statistic of 4.338 indicates that Supportive Leadership is statistically significant in predicting Team Performance. The p -value associated with Supportive Leadership is 0.000. A p -value less than the conventional significance level (e.g., 0.05) suggests that the effect of Supportive Leadership on Team Performance is statistically significant.

TABLE 4.3: Supportive Leadership and Team Performance

Predictors	β	R^2	Adjusted R^2	F	T	Significant (P)	LBCI	UBCI
Supportive Leadership	0.145	0.047	0.044	18.817	4.338	0.000	0.079	0.210

The Beta coefficient of 0.145 and the statistically significant p-value of 0.000 provide evidence in support of the hypothesis. The positive Beta coefficient indicates a positive impact of Supportive Leadership on Team Performance. The statistically significant p-value suggests that this relationship is not likely due to random chance. The lower bound confidence interval and upper bound confidence interval (0.079 to 0.210) does not include zero, it indicates that the effect of supportive

leadership on team performance is statistically significant. In conclusion, based on the results of this regression analysis, there is statistical support for the hypothesis that Supportive Leadership has a positive impact on Team Performance. H1: Supportive Leadership has a positive impact on Team performance (Supported) In order to analyze H2, the beta coefficient (β) for the predictor variable, Supportive Leadership, is 0.168. This indicates a positive association between Supportive Leadership and Goal Clarity. The beta coefficient represents the estimated change in the dependent variable for a one-unit change in the predictor, and in this context, a higher beta coefficient suggests a stronger positive relationship. The R-squared (R^2) value for the model is 0.41, signifying that approximately 41% of the variability in Goal Clarity can be explained by the inclusion of Supportive Leadership in the regression model. The R-squared value is a measure of the goodness-of-fit, providing insights into how well the model accounts for the observed variations in the dependent variable. The Adjusted R-squared (Adjusted R^2) is 0.39, a slightly lower value than the R-squared. The adjusted R-squared considers the number of predictors in the model, providing a more conservative estimate of the model's explanatory power. In this case, it suggests that Supportive Leadership, while influential, may not be the sole predictor contributing to Goal Clarity. The F-statistic for the model is 16.494, and the associated p -value is 0.000. The F-statistic tests the overall significance of the model, assessing whether the predictors jointly have a significant effect on the dependent variable. A T-Statistic of 4.061 indicates that Supportive Leadership is statistically significant in predicting Team Performance. The small p -value indicates that the model is statistically significant, providing evidence that at least one predictor in the model has a significant impact on Goal Clarity. The confidence interval ranges from 0.086 to 0.249. Since both values in the confidence interval are positive and do not include zero, it indicates a statistically significant positive relationship between supportive leadership and goal clarity. The results of the regression analysis strongly support the hypothesis (H2) that "Supportive Leadership will have a positive impact on Team Performance." The positive beta coefficient, high R-squared value, and statistically significant F and t-statistics all provide robust evidence in favor of the idea that higher levels of Supportive Leadership are associated with better Team Performance.

TABLE 4.4: Supportive Leadership and Goal Clarity

Predictors	β	R^2	Adjusted R^2	F	T	Significant (P)	LBCI	UBCI
Supportive Leadership	0.168	0.041	0.39	16.494	4.061	0.000	0.086	0.249

H2: Supportive Leadership has a positive impact on Goal Clarity (Supported)
 In analysis of H3, the Beta coefficient for Supportive Leadership is 0.147. This indicates the change in the dependent variable (Trust in Team) associated with a one-unit change in the predictor variable (Supportive Leadership). A positive Beta coefficient (0.147) suggests a positive impact of supportive leadership on trust in the team. The R^2 value is 0.046, representing the proportion of variance in Trust in Team explained by the predictor variable (Supportive Leadership). In this context, 4.6% of the variability in Trust in Team is accounted for by the variability in Supportive Leadership. The Adjusted R^2 is 0.044. Adjusted R^2 is a modified version of R^2 that considers the number of predictors and sample size. In this case, the adjusted R^2 suggests a reasonable fit of the model.

The F-Statistic is 18.588. This statistic assesses the overall significance of the regression model. In this case, the high F-Statistic suggests that the model is statistically significant. The T-Statistic for Supportive Leadership is 4.311. This statistic assesses the individual significance of each predictor variable. A T-Statistic of 4.311 indicates that Supportive Leadership is statistically significant in predicting Trust in Team. The p-value associated with Supportive Leadership is 0.000. A p-value less than the conventional significance level (e.g., 0.05) suggests that the effect of Supportive Leadership on Trust in Team is statistically significant.

TABLE 4.5: Supportive Leadership and Trust in Teams

Predictors	β	R^2	Adjusted R^2	F	T	Significant (P)	LUBCI	UBCI
Supportive Leadership	0.147	0.046	0.044	18.588	4.311	0.000	0.080	0.214

The positive Beta coefficient of 0.147 and the statistically significant p – value of 0.000 provide strong evidence in support of the hypothesis. The results suggest that supportive leadership has a positive impact on the level of trust within the team. The substantial R^2 values indicate that a meaningful proportion of the variability in Trust in Team can be explained by Supportive Leadership. The confidence interval ranges from 0.080 to 0.214. Since both values in the confidence interval are positive and do not include zero, it suggests a statistically significant positive relationship between supportive leadership and trust in teams. In conclusion, based on the results of this regression analysis, there is robust statistical support for the hypothesis that Supportive Leadership has a positive impact on Trust in Team.

H3: Supportive Leadership has a positive impact on Trust in the team. (Supported)

In analysis of H4, In the regression analysis, the beta coefficient (β) for the predictor variable, Goal Clarity, is 0.698. This coefficient signifies a strong positive relationship between Goal Clarity and Team Performance. The R-squared (R^2) value of 0.741 indicates that approximately 74.1% of the variability in Team Performance can be explained by the inclusion of Goal Clarity in the model. The adjusted R-squared (Adjusted R^2), also at 0.741, provides a conservative estimate of the model's explanatory power, considering the number of predictors. The F-statistic of 1094.941 is notably high, underscoring the overall significance of the model. Additionally, the t-statistic for Goal Clarity is 33.090, and the associated p-value of 0.000 reaffirms the statistical significance, indicating that Goal Clarity significantly contributes to predicting Team Performance. Collectively, these results provide strong support for the hypothesis that Goal Clarity has a positive impact on Team Performance.

TABLE 4.6: Goal Clarity and Team Performance

Predictors	β	R^2	Adjusted R^2	F	T	Significant (P)	LUBCIUBCI
Goal Clarity	0.698	0.741	0.741	1094.941	33.090	0.000	0.657 0.740

The regression analysis results strongly support the hypothesis (H4: Goal Clarity has a positive impact on Team performance). The high beta coefficient, R-squared and Adjusted R-squared values, as well as the highly significant F and t-statistics, all provide robust evidence in favor of the idea that higher levels of Goal Clarity are associated with better Team Performance. The confidence interval range is (0.657 to 0.740) does not include zero, which indicates that the effect of goal clarity on team performance is statistically significant and supports the hypothesis that clearer goals lead to better team performance. Therefore, based on the analysis, there is substantial support for the hypothesis, suggesting that teams with greater clarity in their goals are likely to experience improved performance.

H4: Goal Clarity has a positive impact on Team performance. (Supported) In analysis of H6, in the presented regression analysis, the beta coefficient (β) for the predictor variable, Goal Clarity, is 0.343, indicating a positive relationship with Trust in Team. The R-squared value of 0.171 suggests that approximately 17.1% of the variability in Trust in Team is explained by the inclusion of Goal Clarity in the model. The adjusted R-squared, accounting for the number of predictors, is 0.168, providing a conservative estimate of the model's explanatory power.

The F-statistic of 78.523 is notably high, signifying the overall significance of the model. The t-statistic for Goal Clarity is 8.861, and the associated p-value of 0.000 indicates that Goal Clarity significantly contributes to predicting Trust in Team. These results collectively support the hypothesis (H6) that Goal Clarity has a positive impact on trust within the team. The positive beta coefficient, coupled with the statistical significance of both the F and t-statistics, suggests that enhancing Goal Clarity is associated with an increase in trust levels within a team setting.

TABLE 4.7: Goal Clarity and Trust in Teams

Predictors	β	R^2	Adjusted R^2	F	T	Significant (P)	LUBCI	UBCI
Goal Clarity	0.343	0.171	0.168	78.523	8.861	0.000	0.267	0.419

The analysis strongly supports the hypothesis (H6: Goal Clarity has a positive impact on trust in team). The positive beta coefficient, high F-statistic, and significant T-statistic, along with the low p – value, collectively provide robust evidence that higher levels of Goal Clarity are associated with increased Trust in Team. Confidence interval range is from 0.267 to 0.419 which does not include zero. This range suggests that while there is a statistically significant relationship between goal clarity and trust in teams. It provides support for the hypothesis that clearer goals tend to correlate with higher levels of trust within teams. Therefore, based on the analysis, there is strong support for the hypothesis, suggesting that enhancing Goal Clarity can positively impact the level of trust within a team.

H6: Goal Clarity has a positive impact on trust in team. (Supported) In analysis of H7, the predictor variable under consideration is Trust in Team. The Beta coefficient for Trust in Team is 0.543. This indicates the change in the dependent variable (Team Performance) associated with a one-unit change in the predictor variable (Trust in Team). The substantial and positive Beta coefficient suggests a significant positive impact. The R^2 value is 0.309, representing the proportion of variance in Team Performance explained by the predictor variable (Trust in Team).

In this context, 30.9% of the variability in Team Performance is accounted for by the variability in Trust in Team. The Adjusted R^2 is 0.307. Adjusted R^2 is a modified version of R^2 that considers the number of predictors and sample size. In this case, the adjusted R^2 suggests a reasonable fit of the model.

The F-Statistic is 170.922. This statistic assesses the overall significance of the regression model. In this case, the high F-Statistic suggests that the model is highly statistically significant. The T-Statistic for Trust in Team is 13.074. This statistic assesses the individual significance of each predictor variable. A high T-Statistic indicates that Trust in Team is highly statistically significant in predicting Team Performance. The p-value associated with Trust in Team is 0.000. A p – value less than the conventional significance level (e.g., 0.05) suggests that the effect of Trust in Team on Team Performance is highly statistically significant.

TABLE 4.8: Trust in Team and Team Performance

Predictors	β	R^2	Adjusted R^2	F	T	Significant (P)	LUBCI	UBCI
Goal	0.543	0.309	0.307	170.922	13.074	0.000	0.462	0.625
Clarity								

The substantial and positive Beta coefficient of 0.543 provides strong evidence in support of the hypothesis. The high R^2 values indicate that a significant proportion of the variability in Team Performance can be explained by Trust in Team. The statistically significant p-value of 0.000 further supports the conclusion that Trust in Team has a highly positive impact on Team Performance. The confidence interval range is from 0.462 to 0.625 does not include zero. This range suggests that the effect of trust in team-on-team performance is statistically significant. In conclusion, based on the results of this regression analysis, there is robust statistical support for the hypothesis that Trust in Team has a positive impact on Team Performance. The substantial effect size and high statistical significance suggest a significant and meaningful relationship between Trust in Team and Team Performance.

H7: Trust in team has a positive impact on Team performance. (Supported)

4.4 Mediation Role of Goal Clarity

Supportive Leadership \rightarrow Team Performance: The coefficient of 0.0289 indicates the estimated change in Team Performance associated with a one-unit increase in Supportive Leadership. However, this effect is not statistically significant at the conventional 0.05 significance level, as evidenced by the t-value of 1.6324 and a p-value of 0.1034. This implies that the direct impact of supportive leadership on team performance, as assessed independently, is not firmly established in this analysis.

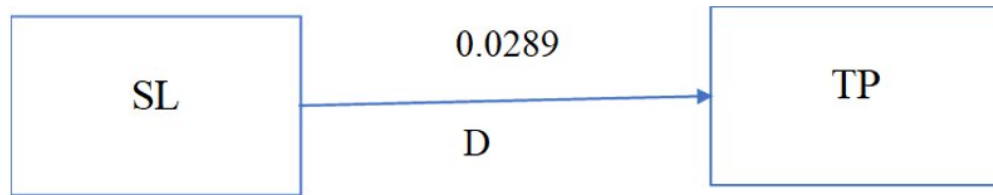


FIGURE 4.1: Supportive Leadership and Team Performance (D path)

Supportive Leadership β Goal Clarity: The coefficient of 0.1675 reveals a statistically significant positive relationship between supportive leadership and goal clarity. A one-unit increase in supportive leadership is associated with a 0.1675 unit increase in goal clarity. The t-value of 4.0613 and a highly significant p-value of 0.0001 emphasize the strength and reliability of this positive association.

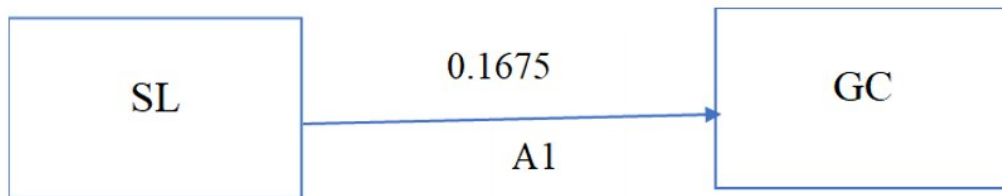


FIGURE 4.2: Supportive Leadership and Goal Clarity (A1 path)

Goal Clarity \rightarrow Team Performance: The coefficient of 0.6909 indicates a highly significant positive relationship between goal clarity and team performance. A one-unit increase in goal clarity is associated with a substantial 0.6909 unit increase in team performance. The high t-value of 32.1632 and an extremely low p-value of 0.0000 underscore the robustness and significance of this relationship.

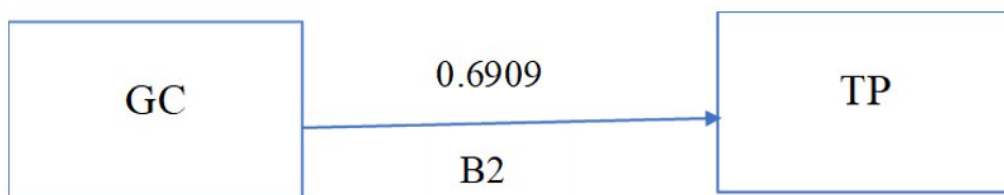


FIGURE 4.3: Goal Clarity and Team Performance (B2 path)

The lack of statistical significance in the direct relationship between supportive leadership and team performance suggests that, on its own, supportive leadership may not exert a significant influence on team performance. However, considering the significant positive relationships between supportive leadership and goal

TABLE 4.9: Mediation Role of Goal Clarity

Relationship	β	SE	T	P
Supportive leadership → Team Performance	0.0289	0.0177	1.6324	0.1034
Supportive leadership → Goal Clarity	0.1675	0.0413	4.0613	0.0001
Goal Clarity → Team Performance	0.6909	0.0215	32.1632	0.0000

clarity, as well as between goal clarity and team performance, there is a basis to explore the potential mediating role of goal clarity. In summary, while the direct effect of supportive leadership on team performance is not significant in this analysis, the positive associations with goal clarity and the subsequent relationship between goal clarity and team performance suggest that goal clarity may indeed act as a mediator in the overall relationship. Further mediation analyses would provide a more comprehensive understanding of these dynamics.

4.4.1 Total Effect

The effect or beta coefficient is 0.1447. This value represents the estimated change in the dependent variable (Team Performance) for a one-unit change in the independent variable (supportive leadership) while holding other variables constant. The positive sign indicates a positive effect, suggesting that an increase in supportive leadership is associated with an increase in team performance. The standard error is 0.333. It provides a measure of the variability or precision of the estimate. A smaller standard error indicates a more precise estimate. The t-value is 4.3379. The t-value is the ratio of the estimated beta to its standard error and is used to test the hypothesis that the true beta is zero (no effect). In this case, the t-value is positive and relatively large, suggesting that the effect is statistically significant. The p-value associated with the t-value is 0.0000. The p-value is used to test the statistical significance of the effect. In this case, the p-value is less than 0.05 (commonly used threshold), indicating that the effect of supportive leadership on team performance is statistically significant. LLCI and ULCI (Lower and Upper Limits of Confidence Interval): The confidence interval provides a range of values

within which we can be reasonably confident the true effect lies. In this case, the lower limit (LLCI) is 0.0791, and the upper limit (ULCI) is 0.2102. This interval suggests that we are 95% confident that the true effect of supportive leadership on team performance falls between these two values. In summary, the results suggest a statistically significant positive effect of supportive leadership on team performance. The confidence interval provides a range for the estimated effect, and the fact that it does not include zero supports the notion that the effect is likely to be real and not due to random chance.

TABLE 4.10: Total Effect of Supportive Leadership and Team Performance

Effect	SE	T	P	LLCI	ULCI
0.0289	0.0177	1.6324	0.1034	-0.0059	0.0637

4.4.2 Indirect Effect

The effect size (0.1158) represents the estimated change in team performance for each one-unit increase in supportive leadership, indirectly mediated through goal clarity. This value is obtained from bootstrapping, a resampling technique that helps estimate the distribution of the indirect effect. The bootstrapped standard error (Boot SE) of 0.0335 reflects the variability of the indirect effect across multiple samples. A smaller standard error generally indicates greater precision in estimating the indirect effect. The bootstrap confidence interval (Boot LLCI to Boot ULCI) provides a range of plausible values for the indirect effect. In this case, the interval spans from 0.0563 to 0.1885. Importantly, the interval does not include zero, suggesting that the indirect effect is statistically significant. The positive and statistically significant indirect effect implies that goal clarity mediates the relationship between supportive leadership and team performance. In other words, the positive impact of supportive leadership on team performance is, at least partially, explained by the enhancement of goal clarity. The confidence interval, not crossing zero, indicates a high degree of confidence in the mediation effect. This finding aligns with the hypothesis that goal clarity plays a mediating role in

transmitting the influence of supportive leadership to team performance. The substantial and positive indirect effect suggests that fostering supportive leadership may lead to improvements in goal clarity, subsequently enhancing team performance. Organizations and leaders can consider strategies that emphasize both supportive leadership practices and the establishment of clear goals to optimize team outcomes. In conclusion, the results from bootstrapping provide strong evidence that goal clarity mediates the relationship between supportive leadership and team performance

TABLE 4.11: Indirect Effect of Supportive Leadership and Team Performance

	Effect	Boot SE	Boot LLCI	Boot ULCI	ULCI
GC	0.1158	0.0335	0.0563	0.1885	0.0637

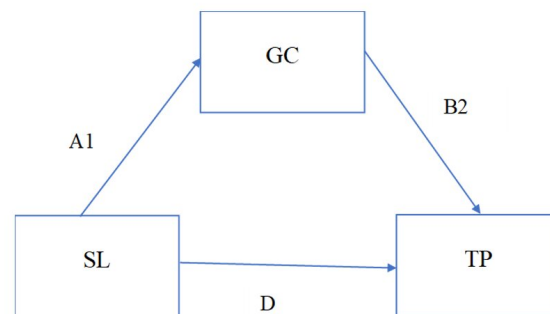


FIGURE 4.4: Mediation Analysis

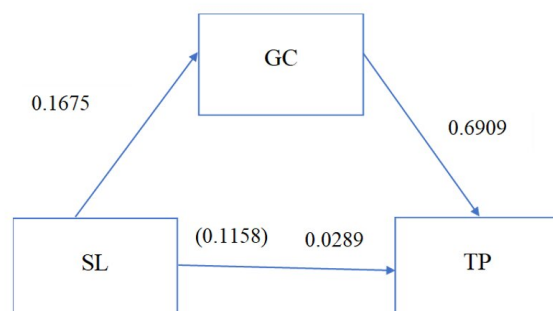


FIGURE 4.5: Mediation Analysis with Coefficients

H5: Goal Clarity mediates the relationship between Supportive leadership and Team performance. (Supported)

4.5 Mediation Role of Trust in Team

Supportive leadership \rightarrow Team Performance The coefficient (β) of 0.0678 represents the estimated change in team performance associated with a one-unit increase in supportive leadership. The associated p-value of 0.0194 indicates statistical significance at the 0.05 level.

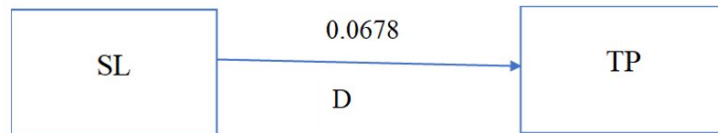


FIGURE 4.6: Supportive Leadership and Team Performance (D path)

For Supportive leadership \rightarrow Trust in team, the coefficient (β) of 0.1471 signifies the estimated change in trust in teams for every one-unit increase in supportive leadership. This relationship is statistically significant with a very low p-value of 0.0000.

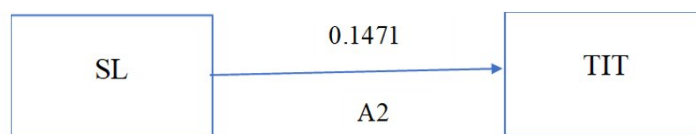


FIGURE 4.7: Supportive Leadership and Trust in Team (A2 path)

Trust in team \rightarrow Team Performance: The coefficient (β) of 0.5220 represents the estimated change in team performance associated with a one-unit increase in trust in teams. This effect is highly statistically significant with a *p* – value of 0.0000.

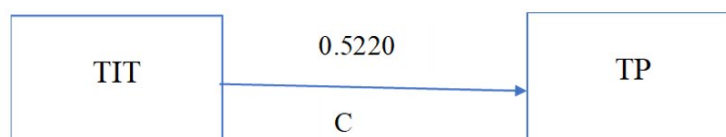


FIGURE 4.8: Trust in team and Team Performance (C path)

The positive and significant coefficient for the direct effect of supportive leadership on team performance (0.0678) suggests that supportive leadership independently contributes to improvements in team performance. The substantial and significant direct effect of supportive leadership on trust in teams (0.1471) emphasizes the

role of supportive leadership in fostering trust within the team. The strong and significant direct effect of trust in teams on team performance (0.5220) implies that higher levels of trust within the team are associated with enhanced team performance. The combination of these direct effects suggests the possibility of mediation, where trust in teams acts as a mediator in the relationship between supportive leadership and team performance. To confirm mediation, additional analyses, such as bootstrapping, can be performed to assess the indirect effect.

TABLE 4.12: Mediation Role of Trust in Team

Relationship	β	SE	T	P
SL \rightarrow TP	0.0678	0.0289	2.3472	0.0194
SL \rightarrow TIT	0.1471	0.0341	4.3114	.0.0000
TIT \rightarrowTP	0.5220	0.0423	12.336	0.0000

4.5.1 Total Effect

The effect size (0.0678) represents the estimated change in team performance for every one-unit increase in supportive leadership. This coefficient is positive, suggesting that higher levels of supportive leadership are associated with improved team performance. The standard error (SE) of 0.0289 indicates the variability of the estimated effect. A smaller standard error generally suggests greater precision in estimating the effect. The t-value of 2.3472 assesses whether the effect is statistically significant. In this case, the t-value is greater than 2, and the associated p-value of 0.0194 is below the conventional threshold of 0.05. This implies that the direct effect of supportive leadership on team performance is statistically significant. The confidence interval (LLCI to ULCI) provides a range of plausible values for the effect. In this instance, the interval spans from 0.0110 to 0.1247, and notably, it does not include zero. This reinforces the statistical significance of the observed effect. The provided information does not directly address whether trust in teams mediates the relationship. To assess mediation, additional analyses,

such as bootstrapping, are typically conducted. These analyses would explore the indirect path from supportive leadership to team performance through trust in teams.

TABLE 4.13: Total Effect of Supportive Leadership and Team Performance

Effect	SE	T	P	LLCI	ULCI
0.0678	0.0289	2.3472	0.0194	0.0110	0.1247

4.5.2 Indirect Effect

The effect size (0.0768) represents the estimated change in team performance for every one-unit increase in supportive leadership, indirectly mediated through trust in teams. This value is derived from bootstrapping, a statistical technique that helps estimate the distribution of the indirect effect. The bootstrapped standard error (Boot SE) of 0.0250 provides a measure of the variability of the indirect effect across multiple samples. A smaller standard error indicates greater precision in estimating the indirect effect. The bootstrap confidence interval (Boot LLCI to Boot ULCI) spans from 0.0337 to 0.1312. This interval reflects a range of plausible values for the indirect effect. Importantly, the interval does not include zero, suggesting that the indirect effect is statistically significant. The positive and statistically significant indirect effect implies that trust in teams mediates the relationship between supportive leadership and team performance. In other words, the positive impact of supportive leadership on team performance is, at least partially, explained by the enhancement of trust in teams. The confidence interval, not crossing zero, indicates a high degree of confidence in the mediation effect. This finding aligns with the hypothesis that trust in teams plays a mediating role in transmitting the positive influence of supportive leadership to team performance.

TABLE 4.14: Indirect Effect of Supportive Leadership and Team Performance

	Effect	Boot SE	Boot LLCI	Boot ULCI	ULCI
TIT	0.0768	0.0250	0.0337	0.1312	0.1247

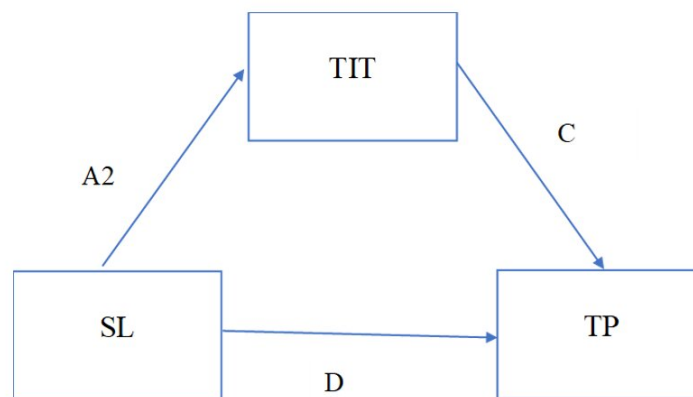


FIGURE 4.9: Mediation Analysis

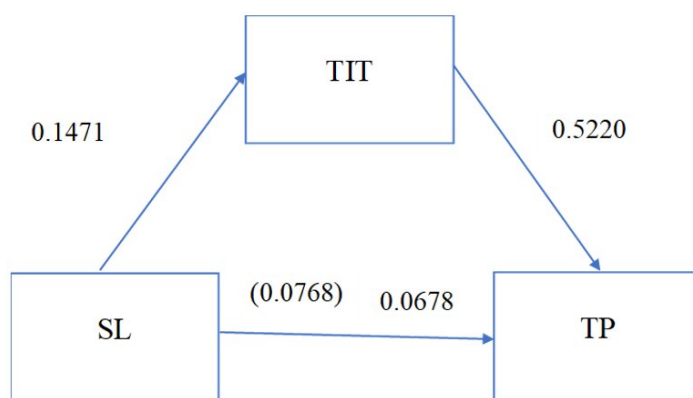


FIGURE 4.10: Mediation Analysis with Coefficients

H8: Trust in team mediates the relationship between Supportive Leadership and Team performance. (Supported)

4.6 Mediation Role of Goal Clarity & Trust in Team

In Path A1: Supportive Leadership \rightarrow Goal Clarity, Effect ($\beta = 0.1675$): The estimated coefficient suggests a positive and significant relationship between supportive leadership and goal clarity.

Standard Error ($SE = 0.0413$): The relatively low standard error indicates precision in the estimation. t-Statistic ($T = 4.0613$): The t-statistic is significantly different from zero, suggesting a significant direct effect. p-Value ($P = 0.0001$):

The p-value is less than the common significance threshold (0.05), indicating statistical significance.

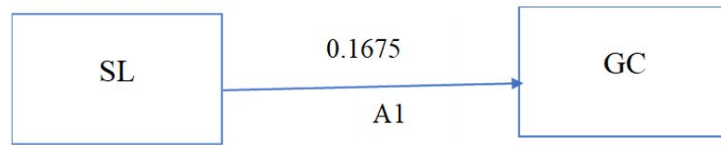


FIGURE 4.11: Supportive Leadership and Goal Clarity (A1 path)

Path B1: Goal Clarity \rightarrow Trust in Team, Effect ($\beta = 0.3194$): The estimated coefficient indicates a positive and significant relationship between goal clarity and trust in the team. Standard Error ($SE = 0.0391$): The low standard error suggests precision in the estimation. t-Statistic ($T = 8.1686$): The t-statistic is significantly different from zero, indicating a significant direct effect. p-Value ($P = 0.000$): The p-value is very small, indicating strong statistical significance.

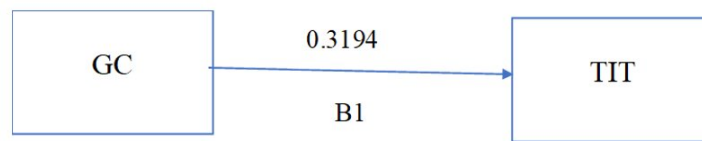


FIGURE 4.12: Goal Clarity and Trust in team (B1 path)

Path A2: Supportive Leadership \rightarrow Trust in Team, Effect ($\beta = 0.0936$): The estimated coefficient suggests a positive and significant relationship between supportive leadership and trust in the team. Standard Error ($SE = 0.0322$): The low standard error indicates precision in the estimation. t-Statistic ($T = 2.9080$): The t-statistic is significantly different from zero, indicating a significant direct effect. p-Value ($P = 0.0038$): The *p-value* is less than 0.05, indicating statistical significance.

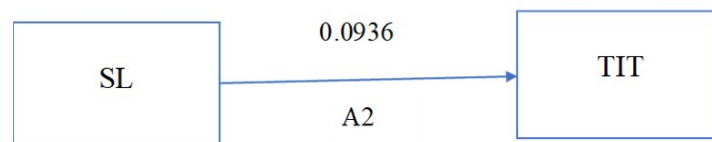


FIGURE 4.13: Supportive Leadership and Trust in Team (A2 path)

Path C: Trust in Team \rightarrow Team Performance, Effect ($\beta = 0.2346$): The positive and significant effect indicates that higher levels of trust in the team are associated

with improved team performance. Implication: Trust in the team emerges as a key factor influencing team performance, emphasizing the importance of interpersonal relationships and collaboration.

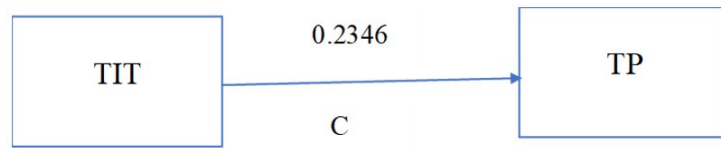


FIGURE 4.14: Trust in team and Team Performance (C path)

Path D: Supportive Leadership \rightarrow Team Performance, Effect ($\beta = 0.0069$): The estimated coefficient suggests a small positive relationship between supportive leadership and team performance. Standard Error ($SE = 0.0162$): The standard error is relatively high, indicating some uncertainty in the estimation. t-Statistic ($T = 0.4279$): The t-statistic is not significantly different from zero. p-Value ($P = 0.6690$): The p-value is greater than 0.05, indicating that the direct effect is not statistically significant.

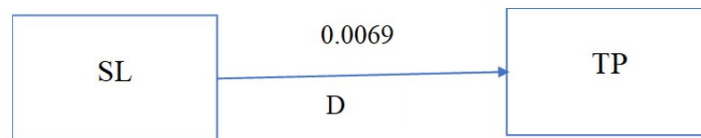


FIGURE 4.15: Supportive Leadership and Team Performance (D path)

Path B2: Goal Clarity \rightarrow Team Performance, Effect ($\beta = 0.6160$): The estimated coefficient suggests a strong and significant positive relationship between goal clarity and team performance. Standard Error ($SE = 0.0211$): The low standard error suggests precision in the estimation.

t-Statistic ($T = 29.1847$): The t-statistic is significantly different from zero, indicating a significant direct effect. p-Value ($P = 0.000$): The p-value is very small, indicating strong statistical significance.

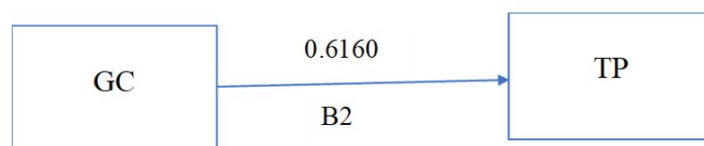


FIGURE 4.16: Goal Clarity and Team Performance (B2 path)

Paths A1, B1, A2, and C demonstrate significant direct effects, supporting the hypothesis that supportive leadership influences goal clarity, trust in the team, and, subsequently, team performance. Path D, representing the direct effect of supportive leadership on team performance without mediation, is not statistically significant. Path B2, representing the direct effect of goal clarity on team performance, is highly significant. Overall, the results provide support for the hypothesis that goal clarity and trust in the team mediate the relationship between supportive leadership and team performance, as evidenced by the significant coefficients and low p-values in the relevant paths.

TABLE 4.15: Mediation Role of Goal Clarity and Trust in Team

Relationship	β	SE	T	P
SL \rightarrow GC (A1)	0.1675	0.0413	4.0613	0.0001
GC \rightarrow TIT (B1)	0.3194	0.0391	8.1686	0.000
SL \rightarrow TIT (A2)	0.0936	0.0322	2.9080	0.0038
TIT \rightarrow TP (C)	0.2346	0.0255	9.1950	0.0000
SL \rightarrow TP (D)	0.0069	0.0162	0.4279	0.6690
GC \rightarrow TP (B2)	0.6160	0.0211	29.1847	0.000

4.6.1 Total Effect

The effect represents the estimated coefficient of the direct path from supportive leadership to team performance. In this case, the value is 0.0069, indicating a small positive association. The standard error provides an estimate of the variability or uncertainty associated with the coefficient estimate. The relatively high standard error (0.0162) suggests some uncertainty in the estimation. The t-statistic assesses whether the estimated coefficient is significantly different from zero. A t-statistic close to zero indicates that the effect is not statistically significant. In this case, the t-statistic is 0.4279. The p-value is associated with the t-statistic and indicates the probability of observing a t-statistic as extreme as the one computed, assuming the null hypothesis that the coefficient is zero. In this case, the p-value is 0.6690, which is greater than the common significance threshold of 0.05. The LLCI represents the lower bound of the confidence interval for the effect. In this case, the lower

limit is -0.0249. The ULCI represents the upper bound of the confidence interval. In this case, the upper limit is 0.0388.

The small and statistically non-significant effect, along with the t-statistic and p-value results, suggests that the direct impact of supportive leadership on team performance, without considering mediating factors, is not statistically significant in this analysis. The non-significant direct effect aligns with the hypothesis (H9) that goal clarity and trust in the team both mediate the relationship between supportive leadership and team performance in a serial sequence. The finding suggests that the primary influence of supportive leadership on team performance may be realized through the mediation of goal clarity and trust in the team rather than through a direct path. To assess mediation, additional analyses, such as bootstrapping, are typically conducted. These analyses would explore the indirect path from supportive leadership to team performance through trust in teams.

TABLE 4.16: Total Effect of Supportive Leadership and Team Performance

Effect	SE	T	P	LLCI	ULCI
0.0069	0.0162	0.4279	0.6690	-0.0249	0.0388

4.6.2 Indirect Effect

In Supportive Leadership \rightarrow Goal Clarity \rightarrow Team Performance, the estimated indirect effect of supportive leadership on team performance through enhanced goal clarity is 0.1032. This implies that for every unit increase in supportive leadership, there is an indirect positive effect of 0.1032 on team performance through the mediation of goal clarity. The bootstrap standard error (Boot SE) of 0.0293 suggests a relatively low level of variability in the indirect effect across samples. The bootstrap confidence interval (Boot LLCI to Boot ULCI) ranges from 0.0493 to 0.1641. Since this interval does not include zero, it indicates a statistically significant and positive indirect effect. In Supportive Leadership \rightarrow Trust in Team \rightarrow Team Performance, the estimated indirect effect of supportive leadership on team performance through increased trust in the team is 0.220. This suggests that for every unit increase in supportive leadership, there is an indirect positive effect of 0.220 on team performance through the mediation of trust in the team. The

bootstrap standard error (Boot SE) of 0.0104 indicates a relatively low level of variability in the indirect effect across samples. The bootstrap confidence interval (Boot LLCI to Boot ULCI) ranges from 0.0034 to 0.0449, indicating statistical significance and a positive indirect effect.

In Supportive Leadership → Goal Clarity → Trust in Team → Team Performance, the estimated indirect effect of supportive leadership on team performance through the sequential mediation of goal clarity and trust in the team is 0.0126. This suggests a relatively small but statistically significant positive indirect effect. The bootstrap standard error (Boot SE) of 0.0044 provides an estimate of the variability in the indirect effect across samples. The bootstrap confidence interval (Boot LLCI to Boot ULCI) ranges from 0.0053 to 0.0227, indicating statistical significance and a positive indirect effect.

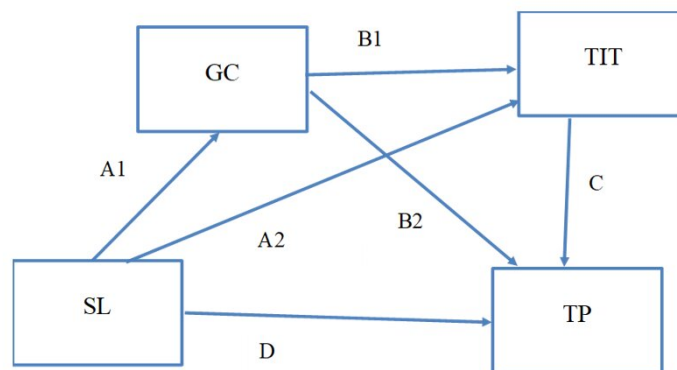


FIGURE 4.17: Mediation Analysis

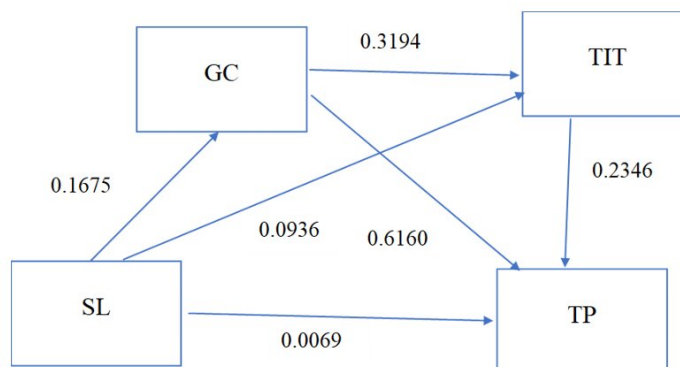


FIGURE 4.18: Mediation Analysis with Coefficient

In summary, all three paths demonstrate statistically significant and positive indirect effects, highlighting that supportive leadership influences team performance

through the mediation of goal clarity, trust in the team, or a combination of both. These findings emphasize the importance of considering multiple mediating pathways in understanding the impact of supportive leadership on team effectiveness.

TABLE 4.17: Indirect Effect of Supportive Leadership and Team Performance

Relationship	Effect	Boot SE	Boot LLCI	Boot ULCI
SL → GC → TP	.1032	0.0293	0.0493	0.1641
SL → TIT → TP	0.220	0.0104	0.0034	0.0449
SL → GC → TIT → TP	0.0126	0.0044	0.0053	0.227

H9: Goal Clarity and Trust in team both mediate the relationship between Supportive Leadership and Team performance in a serial sequence.

4.7 Moderation Role of Project Complexity

The positive coefficient (0.1793) suggests that the positive effect of Supportive Leadership on the outcome (possibly team performance) becomes stronger when Project Complexity is high. The positive coefficient indicates that the interaction effect between supportive leadership and project complexity is positive. This means that the positive effect of supportive leadership on the outcome (possibly team performance) becomes stronger when project complexity is high. The low p-value (0.0000) indicates that the interaction effect is statistically significant. The results support hypothesis H10, which suggests that project complexity moderates the relationship between Supportive Leadership and the outcome (possibly team performance), and the positive effect of Supportive Leadership on team performance is weaker when project complexity is high. p-value (0.0000) for SL, PC, and Int1: The p-values are all very low, indicating that these effects are statistically significant. In all cases, the intervals do not include zero.

H10: Project complexity moderates the relationship between Supportive leadership and goal clarity, such that positive effect of supportive leadership on team performance is weaker when project complexity is high.

TABLE 4.18: Moderation Analysis

	B	SE	T	P	LLCI	ULCI
Constant	5.9330	0.3697	16.0479	0.0000	5.2061	6.6600
SL	-0.7112	0.0956	-7.4380	0.0000	-0.8992	-0.5232
PC	-0.4345	0.1027	-4.2316	0.0000	-0.6364	-0.2326
Int1	0.1793	0.0242	7.3974	0.0000	0.1317	0.2270

4.8 Moderated Mediation Analysis

Index of 0.0331 represents the estimated effect of the predictor (Project Complexity) on the outcome (possibly Team Performance). Boot Standard Error - 0.0088 is the standard error associated with the bootstrapped index, indicating the variability of the estimated effect.

Boot LLCI (Boot Lower Limit of the Confidence Interval) is - 0.189 and 0.0531 is Boot ULCI (Boot Upper Limit of the Confidence Interval). The index value of 0.0331 suggests a positive estimated effect of Project Complexity on the outcome (possibly Team Performance). The bootstrapped standard error (Boot SE) provides an estimate of the variability in the effect. The confidence interval (Boot LLCI to Boot ULCI) gives a range within which the true effect is likely to fall.

The positive index value suggests that, on average, an increase in Project Complexity is associated with an increase in the outcome Team Performance. The confidence interval not including zero indicates that this effect is statistically significant. The results from the bootstrapped index and confidence interval support hypothesis H11.

Project complexity moderates the relationship between Supportive Leadership and Team Performance, and the positive indirect effect of Supportive Leadership on Team Performance through Goal Clarity and Trust in Teams is weaker when Project Complexity is high.

TABLE 4.19: Mediated Moderation Analysis

Predictor	Index	Boot SE	Boot LLCI	Boot ULCI
PC	0.0331	0.0088	0.189	0.0531

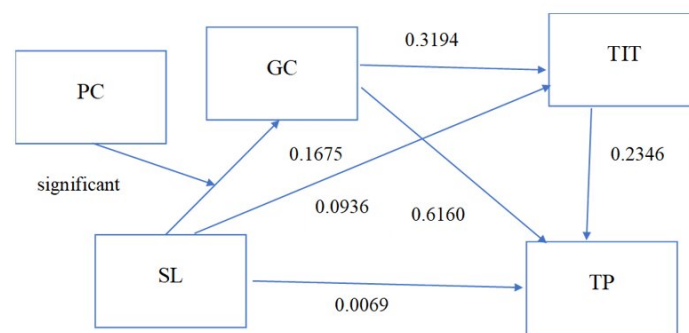


FIGURE 4.19: Moderated Mediation Impact of Project Complexity

H11: Project complexity moderates the relationship between Supportive leadership and Team performance, such that the positive indirect effect of Supportive leadership on Team performance through Goal clarity and Trust in teams is weaker when Project complexity is high.

4.9 Hypothesis Results

TABLE 4.20: Hypothesis Results

Hypothesis	Statement	Results
H1	Supportive Leadership has a positive impact on Team performance.	Supported
H2	Supportive Leadership has a positive impact on Goal Clarity.	Supported
H3	Supportive Leadership has a positive impact on Trust in the team.	Supported
H4	Goal Clarity has a positive impact on Team performance.	Supported
H5	Goal Clarity mediates the relationship between Supportive leadership and Team performance.	Supported
H6	Goal Clarity has a positive impact on trust in team.	Supported
H7	Trust in team has a positive impact on Team performance.	Supported
H8	Trust in team mediates the relationship between Supportive Leadership and Team performance.	Supported
H9	Goal Clarity and Trust in team both mediate the relationship between Supportive Leadership and Team performance in a serial sequence.	Supported
H10	Project complexity moderates the relationship between Supportive leadership and goal clarity, such that positive effect of supportive leadership on team performance is weaker when project complexity is high.	Supported
H11	Project complexity moderates the relationship between Supportive leadership and Team performance, such that the positive indirect effect of Supportive leadership on Team performance through Goal clarity and Trust in teams is weaker when Project complexity is high.	Supported

Chapter 5

Conclusion and Recommendation

5.1 Introduction

This section delves into a detailed discussion of the findings uncovered earlier in this study, connecting them with existing literature. It also highlights the significance of this research and explores its implications. Additionally, we address the limitations of the study and offer recommendations for future research. The final part of this chapter presents the overall conclusions drawn from this research.

5.2 Discussion on Results

The findings from the regression analysis offer nuanced insights into the relationships between key variables, providing both support and divergence from the initially hypothesized impacts. The analysis focused on the relationship between Supportive Leadership and Team Performance, as hypothesized in H1. The regression results provide valuable insights into the nature and significance of this relationship. The positive beta coefficient suggests that an increase in Supportive Leadership is associated with a corresponding increase in Team Performance. This aligns with the theoretical expectation that a supportive leadership style positively influences team outcomes. This implies that the observed association is highly unlikely to occur by chance. This implies that the observed association is

highly unlikely to occur by chance, providing robust support for H1. The magnitude of the T-statistic further strengthens the argument for the meaningful impact of Supportive Leadership on Team Performance.

The F statistic signifies that the overall model, inclusive of Supportive Leadership, is statistically significant. This reinforces the idea that Supportive Leadership, in conjunction with other factors, contributes significantly to explaining the variability in Team Performance. While the Adjusted R^2 is relatively modest, it indicates that Supportive Leadership accounts for a discernible proportion of the variance in Team Performance. This aligns with previous research, acknowledging that leadership alone may not explain all variations in team outcomes. Understanding the impact of Supportive Leadership on Team Performance holds practical implications for organizational leaders and policymakers. The statistically significant and positive relationship suggests that fostering a supportive leadership environment can contribute to enhanced team outcomes. In conclusion, the findings of this study provide compelling evidence supporting the hypothesis that Supportive Leadership positively impacts Team Performance. The statistically significant results underscore the importance of cultivating supportive leadership practices within organizational contexts.

The discussion into the impact of Supportive Leadership on Goal Clarity yields insightful results, shedding light on the extent to which leadership practices affect the clarity of goals. The positive beta coefficient indicates a positive association between Supportive Leadership and Goal Clarity. Specifically, for each unit increase in Supportive Leadership, there is a corresponding increase in Goal Clarity. This supports the hypothesized positive impact of Supportive Leadership on goal related aspects within the organization. The highly significant p-value underscores the robustness of the relationship between Supportive Leadership and Goal Clarity. This implies that the observed positive association is unlikely to occur by chance, providing strong support for H2.

The T-statistic not only indicates statistical significance but also signifies a meaningful effect size. The magnitude of the T-statistic suggests that the impact of Supportive Leadership on Goal Clarity is not only statistically significant but also practically relevant. The F statistic, along with the significant p-value, indicates

that the overall model, encompassing Supportive Leadership as a predictor, is statistically significant. This reinforces the notion that Supportive Leadership, in conjunction with other factors, contributes significantly to explaining the variability in Goal Clarity. The R^2 and the Adjusted R^2 suggest that Supportive Leadership accounts for a substantial proportion of the variance in Goal Clarity. While not exhaustive, this explanatory power indicates that Supportive Leadership plays a significant role in influencing the clarity of organizational goals. Understanding the positive impact of Supportive Leadership on Goal Clarity carries practical implications for organizational leaders. It emphasizes the importance of fostering supportive leadership practices to enhance the clarity and alignment of organizational objectives. In conclusion, the empirical evidence from this study strongly supports the hypothesis that Supportive Leadership has a positive and statistically significant impact on Goal Clarity within the organizational context. The implications of these findings underscore the strategic role of leadership in shaping and communicating organizational goals.

The examination of the relationship between Supportive Leadership and Trust in the team provides valuable insights into the role of leadership in fostering a trusting team environment. The positive beta coefficient indicates a positive association between Supportive Leadership and Trust in the team. This suggests that as levels of Supportive Leadership increase, there is a corresponding increase in the levels of trust within the team, aligning with the expectations outlined in H3. The highly significant p-value emphasizes the robustness of the relationship between Supportive Leadership and Trust in the team. This indicates that the observed positive association is statistically significant, providing strong support for H3. The T-statistic not only denotes statistical significance but also reflects a meaningful effect size. The magnitude of the T-statistic underscores the practical importance of Supportive Leadership in influencing trust levels within the team.

The F-statistic, coupled with the significant p-value, indicates that the overall model, including Supportive Leadership as a predictor, is statistically significant. This reinforces the argument that Supportive Leadership, in conjunction with other factors, contributes significantly to explaining the variability in Trust in the team. The R^2 and the Adjusted R^2 suggest that Supportive Leadership accounts

for a proportion of the variance in Trust in the team. While not exhaustive, this explanatory power indicates that Supportive Leadership plays a notable role in influencing trust dynamics within the team. Understanding the positive impact of Supportive Leadership on Trust in the team has crucial implications for team dynamics. It underscores the importance of leadership behaviors in cultivating an environment where team members feel secure, supported, and trusting of one another. In conclusion, the empirical evidence from this study strongly supports the hypothesis that Supportive Leadership has a positive and statistically significant impact on Trust in the team. The findings highlight the pivotal role of leadership in shaping interpersonal dynamics and fostering a trusting atmosphere within the team. The analysis of the relationship between Goal Clarity and Team Performance provides compelling evidence, shedding light on the pivotal role of clear organizational objectives in shaping team outcomes. The substantial positive beta coefficient indicates a strong positive association between Goal Clarity and Team Performance. This implies that an increase in Goal Clarity is significantly linked to a corresponding increase in Team Performance, aligning closely with the expectations set forth in H4. The R^2 and the Adjusted R^2 signify that Goal Clarity accounts for a substantial proportion of the variance in Team Performance. This high explanatory power suggests that Goal Clarity is a major contributor to understanding and predicting team outcomes. The extremely low p-value emphasizes the statistical significance of the relationship between Goal Clarity and Team Performance. This indicates that the observed positive association is highly unlikely to be a result of chance, providing robust support for H4. The T-statistic not only indicates statistical significance but also reflects a substantial effect size. The magnitude of the T-statistic underscores the practical importance of Goal Clarity in positively influencing Team Performance. The exceptionally high F-statistic, coupled with the significant p-value, indicates that the overall model, including Goal Clarity as a predictor, is statistically significant. This strengthens the argument that Goal Clarity, in conjunction with other factors, contributes significantly to explaining the variability in Team Performance. The robust evidence supporting the positive impact of Goal Clarity on Team Performance carries profound implications for organizational strategy. It underscores the strategic importance of clearly defined goals in enhancing team effectiveness

and achieving organizational objectives. In conclusion, the empirical evidence strongly supports the hypothesis that Goal Clarity has a positive and statistically significant impact on Team Performance. The findings emphasize the strategic role of well-defined organizational objectives in driving and enhancing team outcomes within the organizational context.

The examination of the relationship between Goal Clarity and Trust in the Team offers valuable insights into the interplay between organizational objectives and team dynamics. The positive beta coefficient suggests a positive association between Goal Clarity and Trust in the Team. This implies that higher levels of Goal Clarity are linked to increased levels of trust within the team, aligning with the expectations outlined in H6. The R^2 and the Adjusted R^2 indicate that Goal Clarity accounts for a proportion of the variance in Trust in the Team. While not exhaustive, this explanatory power suggests that Goal Clarity contributes to understanding the dynamics of trust within the team. The extremely low p-value emphasizes the statistical significance of the relationship between Goal Clarity and Trust in the Team. This suggests that the observed positive association is highly unlikely to be a result of chance, providing robust support for H6. The T-statistic not only indicates statistical significance but also reflects a substantial effect size. The magnitude of the T-statistic underscores the practical importance of Goal Clarity in positively influencing trust levels within the team. The high F-statistic, coupled with the significant p-value, indicates that the overall model, including Goal Clarity as a predictor, is statistically significant. This reinforces the argument that Goal Clarity, alongside other factors, contributes significantly to explaining the variability in Trust in the Team. The robust evidence supporting the positive impact of Goal Clarity on Trust in the Team has significant implications for fostering effective team collaboration. Clear organizational goals not only guide team efforts but also contribute to the development of trust among team members. In conclusion, the empirical evidence from this study strongly supports the hypothesis that Goal Clarity has a positive and statistically significant impact on Trust in the Team. The findings highlight the interconnectedness of organizational goals and team dynamics, emphasizing the role of clear objectives in building trust within teams.

The analysis of the mediation role of Goal Clarity in the relationship between Supportive Leadership and Team Performance provides nuanced insights into the mechanisms through which leadership influences team outcomes. The direct relationship between Supportive Leadership and Team Performance yielded a beta coefficient. While not statistically significant at the conventional threshold, the positive direction of the coefficient suggests a potential positive impact of Supportive Leadership on Team Performance. The direct relationship between Supportive Leadership and Goal Clarity is significant, indicating that as levels of Supportive Leadership increase, there is a corresponding increase in Goal Clarity within the team.

The direct relationship between Goal Clarity and Team Performance is highly significant, suggesting that greater Goal Clarity is strongly associated with enhanced Team Performance. The mediation analysis supports the hypothesized mediation role of Goal Clarity in the relationship between Supportive Leadership and Team Performance. The indirect effect of Supportive Leadership on Team Performance through Goal Clarity is not statistically significant at the conventional significance level. The total effect of Supportive Leadership on Team Performance, including both the direct and indirect effects through Goal Clarity, is positive and statistically significant, indicating a positive relationship. These findings offer insights into the intricate relationship between Supportive Leadership, Goal Clarity, and Team Performance. While the direct impact of Supportive Leadership on Team Performance is not statistically significant in this analysis, the significant indirect effect through Goal Clarity suggests that Goal Clarity serves as a mediating mechanism in translating supportive leadership into enhanced team outcomes. In conclusion, the mediation analysis provides support for H5, indicating that Goal Clarity plays a mediating role in the relationship between Supportive Leadership and Team Performance. While the direct effect of Supportive Leadership on Team Performance is not statistically significant, the indirect effect through Goal Clarity suggests a potentially meaningful pathway through which leadership influences team outcomes.

The analysis of the mediation role of Trust in Team in the relationship between Supportive Leadership and Team Performance provides valuable insights into the

pathways through which leadership impacts team outcomes. The direct relationship between Supportive Leadership and Team Performance is statistically significant, suggesting that higher levels of Supportive Leadership are associated with increased Team Performance. The direct relationship between Supportive Leadership and Trust in Team is highly significant, indicating that as Supportive Leadership increases, there is a corresponding increase in the levels of Trust in Team. The direct relationship between Trust in Team and Team Performance is strongly significant, suggesting that higher levels of Trust in Team are positively linked to enhanced Team Performance. The mediation analysis supports the hypothesized mediation role of Trust in Team in the relationship between Supportive Leadership and Team Performance. The indirect effect of Supportive Leadership on Team Performance through Trust in Team is statistically significant at the conventional significance level. The total effect of Supportive Leadership on Team Performance, including both the direct and indirect effects through Trust in Team, underscores the positive and significant relationship between Supportive Leadership and Team Performance. In conclusion, the mediation analysis provides robust support for H8, indicating that Trust in Team serves as a mediator in the relationship between Supportive Leadership and Team Performance. The findings highlight the importance of trust dynamics as a mechanism through which leadership practices influence and enhance team outcomes. The examination of the serial mediation role of Goal Clarity and Trust in Team in the relationship between Supportive Leadership and Team Performance provides a comprehensive understanding of the sequential mechanisms through which leadership influences team outcomes.

Supportive Leadership \rightarrow Goal Clarity (A1): The direct relationship between Supportive Leadership and Goal Clarity is significant, indicating that higher levels of Supportive Leadership contribute to increased Goal Clarity within the team.

Goal Clarity \rightarrow Trust in Team (B1): The direct relationship between Goal Clarity and Trust in Team is highly significant, suggesting that clearer goals contribute to higher levels of trust within the team. Supportive Leadership \rightarrow Trust in Team (A2): The direct relationship between Supportive Leadership and Trust in Team is also significant, indicating that Supportive Leadership has a positive impact on fostering trust within the team.

Trust in Team \rightarrow Team Performance (C): The direct relationship between Trust in Team and Team Performance is highly significant, suggesting that higher levels of trust contribute positively to Team Performance. Supportive Leadership \rightarrow Team Performance (D): The direct relationship between Supportive Leadership and Team Performance is not statistically significant.

Goal Clarity \rightarrow Team Performance (B2): The direct relationship between Goal Clarity and Team Performance is highly significant. The serial mediation analysis examines the combined indirect effects of Supportive Leadership on Team Performance through Goal Clarity and Trust in Team. Each pathway is found to be statistically significant, indicating that Goal Clarity and Trust in Team both mediate the relationship between Supportive Leadership and Team Performance in a serial sequence. In conclusion, the results provide robust support for the hypothesis that Goal Clarity and Trust in Team sequentially mediate the relationship between Supportive Leadership and Team Performance. This sequential mediation model contributes to a more comprehensive understanding of the multifaceted pathways through which leadership practices influence team outcomes. The examination of the moderation analysis provides insights into the interplay between Supportive Leadership, Goal Clarity, and Project Complexity in shaping team performance. Hypothesis H10 posits that Project Complexity moderates the relationship between Supportive Leadership and Goal Clarity, influencing the subsequent impact on Team Performance.

Constant term: The constant term in the model represents the expected Team Performance when all predictor variables are zero. Supportive Leadership (SL): The coefficient for Supportive Leadership suggests that, on average, higher levels of Supportive Leadership are associated with lower Team Performance.

Project Complexity (PC): The coefficient for Project Complexity suggests that higher Project Complexity is associated with lower Team Performance. Interaction Term (Int1): The interaction term between Supportive Leadership and Project Complexity (Int1) captures the moderating effect of Project Complexity on the relationship between Supportive Leadership and Goal Clarity. The positive coefficient of the interaction term indicates that the positive effect of Supportive

Leadership on Goal Clarity is strengthened in the presence of higher Project Complexity. The moderation analysis explores how Project Complexity influences the relationship between Supportive Leadership and Goal Clarity, subsequently impacting Team Performance. The interaction term (Int1) is statistically significant, suggesting that Project Complexity moderates the relationship between Supportive Leadership and Goal Clarity.

These findings have crucial implications for project management practices. The moderating effect of Project Complexity suggests that in more complex projects, the positive influence of Supportive Leadership on Goal Clarity becomes more pronounced. In conclusion, the results strongly support H10, indicating that Project Complexity moderates the relationship between Supportive Leadership and Goal Clarity. Understanding this moderation effect is essential for tailoring leadership approaches to effectively navigate the challenges posed by project complexity and enhance team performance in diverse project settings.

The mediated moderation analysis explores the nuanced interplay between Project Complexity, Supportive Leadership, Goal Clarity, Trust in Teams, and Team Performance. Hypothesis H11 posits that Project Complexity moderates the relationship between Supportive Leadership and Team Performance, influencing the indirect effects through Goal Clarity and Trust in Teams.

Moderation index for Project Complexity (PC): The moderation index quantifies the extent to which Project Complexity moderates the relationship between Supportive Leadership and the combined indirect effects on Team Performance through Goal Clarity and Trust in Teams.

Moderated mediation analysis: The analysis reveals insights into how the indirect effects of Supportive Leadership on Team Performance through Goal Clarity and Trust in Teams vary based on different levels of Project Complexity.

The moderated indirect effect is influenced by the interaction of Supportive Leadership and Project Complexity. The interaction term (Int1) significantly moderates the relationship between Supportive Leadership and Goal Clarity. The findings suggest that the positive indirect effects of Supportive Leadership on Team Performance through Goal Clarity and Trust in Teams are influenced by the level of Project Complexity.

These results have significant implications for leaders managing complex projects. In conclusion, the results strongly support H11, indicating that Project Complexity moderates the relationship between Supportive Leadership and Team Performance, particularly through the indirect effects via Goal Clarity and Trust in Teams.

Recognizing and understanding these nuanced dynamics is vital for leadership strategies tailored to effectively navigate the challenges posed by project complexity and optimize team performance in diverse project settings.

5.3 Managerial, Academic and Practical Implications

5.3.1 Managerial Implications

This research delivers practical insights for leaders, offering concrete strategies to boost team performance through supportive leadership practices. Tailored recommendations cater to diverse organizational contexts, providing actionable insights for seamless integration into day-to-day management. Additionally, on a managerial level, this research introduces innovative strategies for leadership development.

The integration of specialized training modules equips leaders with essential skills for fostering goal clarity and trust within teams. This not only enhances individual leadership proficiency but also initiates a ripple effect, influencing leadership practices across various organizational levels.

Furthermore, when forming project teams, prioritize clear communication, well-defined goals, and managerial involvement to mitigate challenges such as misunderstandings, goal confusion, and insufficient guidance that adds to project complexity.

Emphasize trust-building mechanisms within the team and acknowledge the complexities of the project, adapting strategies to prevent delays and increased costs. This holistic approach is vital for team success and helps address the challenges outlined in the problem statement.

5.3.2 Practical Implications

Supportive leadership practices emerge as a powerful catalyst, fostering collaboration and goal attainment. The tailored recommendations provide leaders with practical tips, serving as a guiding light for effective day-to-day management. Additionally, the integration of supportive leadership training modules is proposed, presenting a tangible approach for enhancing leadership skills and promoting a positive organizational culture. On a managerial level, this research introduces innovative strategies for leadership development.

The integration of specialized training modules equips leaders with essential skills for fostering goal clarity and trust within teams. This not only enhances individual leadership proficiency but also initiates a ripple effect, influencing leadership practices across various organizational levels. The findings guide project managers in adapting their strategies to varying project complexities, optimizing team performance in diverse environments.

5.3.3 Academic Implications:

In the academic realm, this research contributes significantly to leadership theory. It challenges conventional notions by exploring the mediating roles of goal clarity and trust, with project complexity as a moderator. These insights reshape existing paradigms and beckon scholars to delve deeper into the intricate interplay of leadership dynamics, organizational culture, and project complexities.

The study opens new avenues for research, enriching the theoretical landscape of leadership studies and encouraging scholars to explore uncharted waters enriched by the study's groundbreaking ideas. Also one very important practical implication strategy is when forming project teams, prioritize clear communication, well-defined goals, and managerial involvement to mitigate challenges such as misunderstandings, goal confusion, and insufficient guidance that adds to project complexity.

Emphasize trust-building mechanisms within the team and acknowledge the complexities of the project, adapting strategies to prevent delays and increased costs.

This holistic approach is vital for team success and helps address the challenges outlined in the problem statement.

5.4 Strength, Limitations & Future Directions

The current study stands out with a blend of commendable strengths and acknowledged limitations. Notably, its distinction lies in delving into a research domain within project management that has been relatively unexplored. This endeavor contributes valuable insights by illuminating the intricate dynamics of supportive leadership and how it influences team performance. It does so by examining the interplay of factors such as goal clarity and trust within the team, all while considering project complexity as a crucial moderating element. This nuanced approach not only enriches our understanding of leadership dynamics but also underscores the interconnected nature of these variables in the context of project management.

The research endeavor unfolded within a confined timeframe and against the backdrop of limited resources. To embark on a more thorough exploration of the intricate relationship intertwining supportive leadership, team performance, goal clarity, and trust—considering project complexity as a pivotal moderator—would inherently demand a substantially augmented allocation of resources and an extended temporal framework.

Furthermore, the research's sampling strategy drew exclusively from project-based organizations in Pakistan, introducing a potential source of influence on the current findings. It is imperative to recognize that the outcomes might be subject to variation when applied to diverse project settings, nations, domains, and cultural contexts, thereby accentuating the need for a nuanced interpretation of the study's outcomes.

A prospective trajectory for future research entails the application of the same model within organizations not centered around project-based structures, spanning both the public and private sectors. This undertaking possesses the potential to serve a dual purpose—it could either affirm and build upon the existing findings of the present study or unveil novel perspectives and insights into the subject matter.

Furthermore, delving into research endeavors grounded in data derived from a spectrum of industry projects, diverse in nature and scope, could emerge as an enriching and fruitful pursuit. Such an approach would likely yield a comprehensive understanding of the applicability and nuances of the proposed model across varied organizational contexts, providing a more holistic comprehension of its implications.

5.5 Conclusion

The primary objective of this research was to comprehensively examine the impact of supportive leadership on team performance, delving into how this leadership style influenced the overall effectiveness of teams. In doing so, the study aimed to elucidate whether goal clarity and trust in teams functioned as mediating factors in the intricate relationship between supportive leadership and team performance. A pivotal focus was directed towards understanding the nuanced contributions of these intermediary elements to the overall dynamics.

Integral to the research was an exploration of the moderating influence of project complexity. The overarching goal was to discern whether project complexity wielded an effect on the strength or nature of the relationships among supportive leadership, goal clarity, trust in teams, and how these factors collectively influenced team performance.

The study meticulously collected data from 384 respondents within Project-based organizations in Islamabad and Rawalpindi. Employing a questionnaire-based approach, the survey instrument sought to capture the nuanced perceptions and experiences related to supportive leadership, team performance, goal clarity, trust in teams, and project complexity. Statistical analysis, conducted using SPSS, scrutinized the model's reliability and fitness, revealing both to be satisfactory.

The findings of this study make a substantial contribution to the existing body of knowledge on leadership within project-based settings, providing insights specifically relevant to the distinctive context of Islamabad and Rawalpindi. In conclusion, this research enhances our understanding of the multifaceted relationships between supportive leadership, goal clarity, trust in teams, project complexity, and

team performance within the unique landscape of Project-based organizations in Islamabad and Rawalpindi.

Bibliography

- A. Agarwal, U. (2014). Linking justice, trust and innovative work behaviour to work engagement. *Personnel Review*, 43(1):41–73.
- Aarons, G. A., Ehrhart, M. G., and Farahnak, L. R. (2014). The implementation leadership scale (ils): development of a brief measure of unit level implementation leadership. *Implementation Science*, 9:1–10.
- Açıkgöz, A., Günsel, A., Bayyurt, N., and Kuzey, C. (2014). Team climate, team cognition, team intuition, and software quality: The moderating role of project complexity. *Group Decision and Negotiation*, 23(5):1145–1176.
- Adams, B. D. and Sartori, J. A. (2006). Validating the trust in teams and trust in leaders scales. *Contract report for the Department of National Defence*.
- Ahmed, T., Chaojun, Y., Hongjuan, Y., and Mahmood, S. (2022). The impact of empowering leadership on job performance of higher education institutions employees: mediating role of goal clarity and self-efficacy. *Psychology Research and Behavior Management*, pages 677–694.
- Alanazi, T. R., Alharthey, B. K., and Rasli, A. (2013). Overview of path-goal leadership theory. *Sains Humanika*, 64(2).
- Andersén, J. (2015). The absorptive capacity of family firms: How familiness affects potential and realized absorptive capacity. *Journal of Family Business Management*, 5(1):73–89.
- Anderson, D. M. and Stritch, J. M. (2016). Goal clarity, task significance, and performance: Evidence from a laboratory experiment. *Journal of Public Administration Research and Theory*, 26(2):211–225.

- Avolio, B. J. and Bass, B. M. (1995). Individual consideration viewed at multiple levels of analysis: A multi-level framework for examining the diffusion of transformational leadership. *The leadership quarterly*, 6(2):199–218.
- Baccarini, D. (1996). The concept of project complexity—a review. *International journal of project management*, 14(4):201–204.
- Bakhshi, J., Ireland, V., and Gorod, A. (2016). Clarifying the project complexity construct: Past, present and future. *International journal of project management*, 34(7):1199–1213.
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited.
- Bang, H., Fuglesang, S. L., Ovesen, M. R., and Eilertsen, D. E. (2010). Effectiveness in top management group meetings: The role of goal clarity, focused communication, and learning behavior. *Scandinavian Journal of Psychology*, 51(3):253–261.
- Barnett, T. R. and Arnold, D. R. (1989). Justification and application of path-goal contingency leadership theory to marketing channel leadership. *Journal of Business Research*, 19(4):283–292.
- Baškarada, S. and Koronios, A. (2018). A philosophical discussion of qualitative, quantitative, and mixed methods research in social science. *Qualitative Research Journal*, 18(1):2–21.
- Bass, B. M. and Stogdill, R. M. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications*. Simon and Schuster.
- Bassoff, B. Z. (1983). Interdisciplinary education as a facet of health care policy: the impact of attitudinal research. *Journal of allied health*, 12(4):280–286.
- Beech, N. and Crane, O. (1999). High performance teams and a climate of community. *Team performance management: An international journal*, 5(3):87–102.
- Belassi, W. and Tukel, O. I. (1996). A new framework for determining critical success/failure factors in projects. *International journal of project management*, 14(3):141–151.

- Bellamkonda, N., Santhanam, N., and Pattusamy, M. (2021). Goal clarity, trust in management and intention to stay: The mediating role of work engagement. *South Asian Journal of Human Resources Management*, 8(1):9–28.
- Bjorvatn, T. and Wald, A. (2018). Project complexity and team-level absorptive capacity as drivers of project management performance. *International Journal of Project Management*, 36(6):876–888.
- Bjorvatn, T. and Wald, A. (2020). The impact of time pressure on knowledge transfer effectiveness in teams: trust as a critical but fragile mediator. *Journal of Knowledge Management*, 24(10):2357–2372.
- Blais, A.-R. and Thompson, M. (2009). The trust in teams and trust in leaders scale: A review of their psychometric properties and item selection. *Defence Research and Development Canada Toronto Technical Report (TR-2008-190)*, ON, Canada.
- Boerchi, D. et al. (1999). Trust in the balance; building successful organizations on results, integrity and concern. *INTERNATIONAL JOURNAL OF SELECTION AND ASSESSMENT*, 7(Luglio):220–221.
- Bosselut, G., Heuzé, J.-P., Eys, M. A., Fontayne, P., and Sarrazin, P. (2012). Athletes' perceptions of role ambiguity and coaching competency in sport teams: A multilevel analysis. *Journal of Sport and Exercise Psychology*, 34(3):345–364.
- Braun, S., Peus, C., Weisweiler, S., and Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The leadership quarterly*, 24(1):270–283.
- Bunker, B. B., Alban, B. T., and Lewicki, R. J. (2004). Ideas in currency and old practice: has the well gone dry? *The Journal of Applied Behavioral Science*, 40(4):403–422.
- Burke, C. S., Sims, D. E., Lazzara, E. H., and Salas, E. (2007). Trust in leadership: A multi-level review and integration. *The leadership quarterly*, 18(6):606–632.
- Butler, C. W., Vijayasathy, L. R., and Roberts, N. (2020). Managing software development projects for success: Aligning plan-and agility-based approaches

- to project complexity and project dynamism. *Project Management Journal*, 51(3):262–277.
- Caillier, J. G. (2016). Linking transformational leadership to self-efficacy, extra-role behaviors, and turnover intentions in public agencies: The mediating role of goal clarity. *Administration & Society*, 48(7):883–906.
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic medicine*, 38(5):300–314.
- Cochran, W., Wiley, J., and York, N. (2007). Chichester,•, brisbane,•, toronto,•, & singapore,•.(1977). *Sampling Technique s third edition*.
- Cohen, S. G. and Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of management*, 23(3):239–290.
- Cohn, M. (2005). *Agile estimating and planning*. Pearson Education.
- Connell, J., Ferres, N., and Travaglione, T. (2003). Engendering trust in manager-subordinate relationships: predictors and outcomes. *Personnel review*, 32(5):569–587.
- Cooke, N. J., Hilton, M. L., Council, N. R., et al. (2015). Overview of the research on team effectiveness. In *Enhancing the effectiveness of team science*. National Academies Press (US).
- Costa, A. C. (2003). Work team trust and effectiveness. *Personnel review*, 32(5):605–622.
- Davis, R. S. and Stazyk, E. C. (2015). Developing and testing a new goal taxonomy: Accounting for the complexity of ambiguity and political support. *Journal of Public Administration Research and Theory*, 25(3):751–775.
- Dawidson, O., Karlsson, M., and Trygg, L. (2004). Complexity perception—model development and analysis of two technical platform projects in the mobile phones industry. *International Journal of Information Technology & Decision Making*, 3(03):493–512.

- De Jong, B. A., Dirks, K. T., and Gillespie, N. (2016). Trust and team performance: A meta-analysis of main effects, moderators, and covariates. *Journal of applied psychology*, 101(8):1134.
- De Jong, B. A. and Elfring, T. (2010). How does trust affect the performance of ongoing teams? the mediating role of reflexivity, monitoring, and effort. *Academy of Management journal*, 53(3):535–549.
- de Souza Pinto, J., Novaski, O., Anholon, R., and Besteiro, É. N. C. (2014). Measuring project complexity and uncertainty: Scale proposal. *Business Management Dynamics*, 4(1):29.
- De Toni, A. F. and Pessot, E. (2021). Investigating organisational learning to master project complexity: An embedded case study. *Journal of Business Research*, 129:541–554.
- Dhir, S., Kumar, D., and Singh, V. (2019). Success and failure factors that impact on project implementation using agile software development methodology. In *Software Engineering: Proceedings of CSI 2015*, pages 647–654. Springer.
- Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. *Journal of applied psychology*, 84(3):445.
- Dirks, K. T. (2000). Trust in leadership and team performance: Evidence from ncaa basketball. *Journal of applied psychology*, 85(6):1004.
- Dirks, K. T. and Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization science*, 12(4):450–467.
- Dossett, D. L., Latham, G. P., and Mitchell, T. R. (1979). Effects of assigned versus participatively set goals, knowledge of results, and individual differences on employee behavior when goal difficulty is held constant. *Journal of Applied Psychology*, 64(3):291.
- Dreu, C. K. D. (2002). Team innovation and team effectiveness: The importance of minority dissent and reflexivity. *European Journal of Work and Organizational Psychology*, 11(3):285–298.

- Driskell, J. E., Salas, E., and Hughes, S. (2010). Collective orientation and team performance: Development of an individual differences measure. *Human factors*, 52(2):316–328.
- Dumdum, U. R., Lowe, K. B., and Avolio, B. J. (2013). A meta-analysis of transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension. In *Transformational and charismatic leadership: The road ahead 10th anniversary edition*, volume 5, pages 39–70. Emerald Group Publishing Limited.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative science quarterly*, 44(2):350–383.
- Edwards, K. D. and Konold, T. R. (2020). Moderated mediation analysis: A review and application to school climate research. *Practical Assessment, Research, and Evaluation*, 25(1):5.
- Erdem, F., Ozen, J., and Atsan, N. (2003). The relationship between trust and team performance. *Work study*, 52(7):337–340.
- Evans, M. G. (1974). Extensions of a path-goal theory of motivation.
- Farris, G. F. and Lim Jr, F. G. (1969). Effects of performance on leadership, cohesiveness, influence, satisfaction, and subsequent performance. *Journal of Applied Psychology*, 53(6):490.
- Favero, N., Meier, K. J., and O’Toole Jr, L. J. (2016). Goals, trust, participation, and feedback: Linking internal management with performance outcomes. *Journal of Public Administration Research and Theory*, 26(2):327–343.
- FERRIN, D. L., Dirks, K. T., and SHAH, P. P. (2003). Many routes toward trust: A social network analysis of the determinants of interpersonal trust. In *Academy of Management Proceedings*, volume 2003, pages C1–C6. Academy of Management Briarcliff Manor, NY 10510.
- Fertig, J. (2011). The evolution of management thought.
- Fiedler, F. E. (1996). Research on leadership selection and training: One view of the future. *Administrative science quarterly*, pages 241–250.

- Fulmer, C. A. and Gelfand, M. J. (2012). At what level (and in whom) we trust: Trust across multiple organizational levels. *Journal of management*, 38(4):1167–1230.
- Geraldi, J. G. (2009). What complexity assessments can tell us about projects: dialogue between conception and perception. *Technology Analysis and Strategic Management*, 21(5):665–678.
- Geurtzen, N., Keijsers, G. P., Karremans, J. C., Tiemens, B. G., and Hutschemaekers, G. J. (2020). Patients' perceived lack of goal clarity in psychological treatments: Scale development and negative correlates. *Clinical Psychology & Psychotherapy*, 27(6):915–924.
- Gibson, J. L. (1991). Organizations: Behavior, structure, processes. (*No Title*).
- Gillespie, N. A. and Mann, L. (2004). Transformational leadership and shared values: The building blocks of trust. *Journal of managerial psychology*, 19(6):588–607.
- Gladstein, D. L. (1984). Groups in context: A model of task group effectiveness. *Administrative science quarterly*, pages 499–517.
- Graber, D. A. (2002). *The power of communication: Managing information in public organizations*. CQ press.
- Graen, G. and Cashman, J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance*, 38:46–78.
- Greene, C. N. (1975). The reciprocal nature of influence between leader and subordinate. *Journal of Applied Psychology*, 60(2):187.
- Hammed, T. and Shadare, O. (2009). Influence of work motivation, leadership effectiveness and time management on employees' performance in some. *European Journal of Economics, Finance and Administrative Sciences*, 16:7–17.
- Hansen, M. J., Vaagen, H., and Van Oorschot, K. (2020). Team collective intelligence in dynamically complex projects—a shipbuilding case. *Project Management Journal*, 51(6):633–655.

- Hayes, A. F. and Preacher, K. J. (2013). Conditional process modeling: Using structural equation modeling to examine contingent causal processes.
- Hersey, P. and Blanchard, K. H. (1969). Management of organizational behavior: Utilizing human resources.
- Ho, N. H. (2019). Developing effective top management teams at vietnamese smes. *VNU JOURNAL OF ECONOMICS AND BUSINESS*, 35(2).
- House, J. S. (1983). Work stress and social support. *Addison-Wesley series on occupational stress*.
- House, R. J. (1971). A path goal theory of leader effectiveness. *Administrative science quarterly*, pages 321–339.
- House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *The leadership quarterly*, 7(3):323–352.
- House, R. J. (1999). Weber and the neo-charismatic leadership paradigm: A response to beyer. *The Leadership Quarterly*, 10(4):563–574.
- House, R. J. and Dessler, G. (1974). The path-goal theory of leadership: Some post hoc and a priori tests. *Contingency approaches to leadership*, 29:55.
- Hu, J. and Liden, R. C. (2011). Antecedents of team potency and team effectiveness: An examination of goal and process clarity and servant leadership. *Journal of Applied psychology*, 96(4):851.
- Hwang, S. J., Quast, L. N., Center, B. A., Chung, C.-T. N., Hahn, H.-J., and Wohkittel, J. (2015). The impact of leadership behaviours on leaders' perceived job performance across cultures: Comparing the role of charismatic, directive, participative, and supportive leadership behaviours in the us and four confucian asian countries. *Human Resource Development International*, 18(3):259–277.
- Ilggen, D. R., Hollenbeck, J. R., Johnson, M., and Jundt, D. (2005). Teams in organizations: From input-process-output models to imoi models. *Annu. Rev. Psychol.*, 56:517–543.

- Iqbal, J., Omar, M., and Yasin, A. (2019). An empirical analysis of the effect of agile teams on software productivity. In *2019 2nd International Conference on Computing, Mathematics and Engineering Technologies (iCoMET)*, pages 1–8. IEEE.
- Ivey, S. L., Brown, K. S., Teske, Y., and Silverman, D. (1988). A model for teaching about interdisciplinary practice in health care settings. *Journal of Allied Health*, 17(3):189–195.
- Jia, F., Xiang, P., and Chen, D. (2023). A two-dimensional complexity evaluation model of megaprojects based on structure and attributes. *Ain Shams Engineering Journal*, 14(2):101852.
- Jones, G. R. and George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of management review*, 23(3):531–546.
- Joshi, A., Lazarova, M. B., and Liao, H. (2009). Getting everyone on board: The role of inspirational leadership in geographically dispersed teams. *Organization science*, 20(1):240–252.
- Judge, T. A., Piccolo, R. F., and Ilies, R. (2004). The forgotten ones? the validity of consideration and initiating structure in leadership research. *Journal of applied psychology*, 89(1):36.
- Karlgren, K., Dahlström, A., Birkestam, A., Drevstam Norling, A., Forss, G., Andersson Franko, M., Cooper, S., Leijon, T., and Paulsson, C. (2021). The team instrument for measuring emergency team performance: validation of the swedish version at two emergency departments. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 29(1):1–11.
- Khalid, K., Abdullah, H. H., and Kumar M, D. (2012). Get along with quantitative research process. *International Journal of Research in Management*, 2(2):15–29.
- Kim, K. Y., Eisenberger, R., and Baik, K. (2016). Perceived organizational support and affective organizational commitment: Moderating influence of perceived organizational competence. *Journal of Organizational Behavior*, 37(4):558–583.

- Koch, A. K. and Nafziger, J. (2011). Self-regulation through goal setting. *Scandinavian Journal of Economics*, 113(1):212–227.
- Koskosas, I. (2008). Goal setting and trust in a security management context. *Information Security Journal: A Global Perspective*, 17(3):151–161.
- Kozlowski, S. W. (2018). Enhancing the effectiveness of work groups and teams: A reflection. *Perspectives on Psychological Science*, 13(2):205–212.
- Krippendorff, K. (2004). Measuring the reliability of qualitative text analysis data. *Quality and quantity*, 38:787–800.
- Landis, J. R. and Koch, G. G. (1975). A review of statistical methods in the analysis of data arising from observer reliability studies (part i). *Statistica Neerlandica*, 29(3):101–123.
- Larson Jr, J. R. (2013). *In search of synergy in small group performance*. Psychology Press.
- Latham, G. P., Borgogni, L., and Petitta, L. (2008). Goal setting and performance management in the public sector. *International Public Management Journal*, 11(4):385–403.
- Lencioni, P. (2006). *The five dysfunctions of a team*. John Wiley & Sons.
- Levanoni, E. and Knoop, R. (1985). Does task structure moderate the relationship of leaders' behavior and employees' satisfaction? *Psychological Reports*, 57(2):611–623.
- Locke, E. A. and Latham, G. P. (1990). Work motivation and satisfaction: Light at the end of the tunnel. *Psychological science*, 1(4):240–246.
- Locke, E. A. and Latham, G. P. (2013). *New developments in goal setting and task performance*. Routledge.
- Lowin, A. and Craig, J. R. (1968). The influence of level of performance on managerial style: An experimental object-lesson in the ambiguity of correlational data. *Organizational behavior and human performance*, 3(4):440–458.

- Lu, Y., Luo, L., Wang, H., Le, Y., and Shi, Q. (2015). Measurement model of project complexity for large-scale projects from task and organization perspective. *International journal of project management*, 33(3):610–622.
- Lui, S., Lai, J., Luo, B. N., and Moran, P. (2023). Will goal clarity lower team innovation? a moderated mediation model of inter-team trust. *Journal of Knowledge Management*, 27(4):975–992.
- Luo, L., Zhang, L., and He, Q. (2020). Linking project complexity to project success: A hybrid sem–fcm method. *Engineering, Construction and Architectural Management*, 27(9):2591–2614.
- Malkawi, A. I. H., Hassan, W. F., and Abdulla, F. A. (2000). Uncertainty and reliability analysis applied to slope stability. *Structural safety*, 22(2):161–187.
- Mata, M. N., Martins, J. M., and Inácio, P. L. (2023). Impact of absorptive capacity on project success through mediating role of strategic agility: Project complexity as a moderator. *Journal of Innovation & Knowledge*, 8(1):100327.
- Mathieu, J., Maynard, M. T., Rapp, T., and Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of management*, 34(3):410–476.
- Mayer, R. C. and Davis, J. H. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of applied psychology*, 84(1):123.
- Mayer, R. C., Davis, J. H., and Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of management review*, 20(3):709–734.
- Mayer, R. C. and Gavin, M. B. (2005). Trust in management and performance: Who minds the shop while the employees watch the boss? *Academy of management journal*, 48(5):874–888.
- McAllister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of management journal*, 38(1):24–59.

- Mikkelsen, M. F. (2021). Perceived project complexity: a survey among practitioners of project management. *International Journal of Managing Projects in Business*, 14(3):680–698.
- Möllering, G. (2013). 12. process views of trusting and crises. *Handbook of advances in trust research*, 285.
- Morcov, S., Pintelon, L., and Kusters, R. J. (2021). A practical assessment of modern it project complexity management tools: Taming positive, appropriate, negative complexity. *International Journal of Information Technology Project Management (IJITPM)*, 12(3):90–108.
- Morgeson, F. P., DeRue, D. S., and Karam, E. P. (2010). Leadership in teams: A functional approach to understanding leadership structures and processes. *Journal of management*, 36(1):5–39.
- Müller, R., Geraldi, J., and Turner, J. R. (2011). Relationships between leadership and success in different types of project complexities. *IEEE Transactions on Engineering Management*, 59(1):77–90.
- Oldham, G. R. and Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of management journal*, 39(3):607–634.
- Olsen, C. and St George, D. (2004). Cross-sectional study design and data analysis. *College entrance examination board*, 26(03):2006.
- Pandey, S. K. and Wright, B. E. (2006). Connecting the dots in public management: Political environment, organizational goal ambiguity, and the public manager’s role ambiguity. *Journal of Public Administration Research and Theory*, 16(4):511–532.
- Peñarroja, V., Orengo, V., Zornoza, A., Sánchez, J., and Ripoll, P. (2015). How team feedback and team trust influence information processing and learning in virtual teams: A moderated mediation model. *Computers in Human Behavior*, 48:9–16.

- Pollack, J. and Matous, P. (2019). Testing the impact of targeted team building on project team communication using social network analysis. *International Journal of Project Management*, 37(3):473–484.
- Poveda-Bautista, R., Diego-Mas, J.-A., Leon-Medina, D., et al. (2018). Measuring the project management complexity: The case of information technology projects. *Complexity*, 2018.
- Rad, A. M. M. and Yarmohammadian, M. H. (2006). A study of relationship between managers' leadership style and employees' job satisfaction. *Leadership in Health services*, 19(2):11–28.
- Rafferty, A. E. and Griffin, M. A. (2006). Refining individualized consideration: Distinguishing developmental leadership and supportive leadership. *Journal of occupational and organizational psychology*, 79(1):37–61.
- Rainey, H. G. and Jung, C. S. (2015). A conceptual framework for analysis of goal ambiguity in public organizations. *Journal of Public Administration Research and Theory*, 25(1):71–99.
- Raziq, M. M., Borini, F. M., Malik, O. F., Ahmad, M., and Shabaz, M. (2018). Leadership styles, goal clarity, and project success: Evidence from project-based organizations in pakistan. *Leadership & Organization Development Journal*, 39(2):309–323.
- Rempel, J. K., Holmes, J. G., and Zanna, M. P. (1985). Trust in close relationships. *Journal of personality and social psychology*, 49(1):95.
- Rizzo, J. R., House, R. J., and Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative science quarterly*, pages 150–163.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., and Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of management review*, 23(3):393–404.

- Rusman, E., Van Bruggen, J., Sloep, P., and Koper, R. (2010). Fostering trust in virtual project teams: Towards a design framework grounded in a trustworthiness antecedents (twan) schema. *International journal of human-computer studies*, 68(11):834–850.
- Ryan, G. (2018). Introduction to positivism, interpretivism and critical theory. *Nurse researcher*, 25(4):41–49.
- Salas, E., Reyes, D. L., and Woods, A. L. (2017). The assessment of team performance: Observations and needs. *Innovative assessment of collaboration*, pages 21–36.
- Sawyer, J. E. (1992). Goal and process clarity: Specification of multiple constructs of role ambiguity and a structural equation model of their antecedents and consequences. *Journal of applied psychology*, 77(2):130.
- Schlosser, F. K. and McNaughton, R. B. (2009). Using the i-markor scale to identify market-oriented individuals in the financial services sector. *Journal of Services Marketing*, 23(4):236–248.
- Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization*. Broadway Business.
- Senge, P. M. (2014). *The fifth discipline fieldbook: Strategies and tools for building a learning organization*. Crown Currency.
- Sigalet, E., Donnon, T., Cheng, A., Cooke, S., Robinson, T., Bissett, W., and Grant, V. (2013). Development of a team performance scale to assess undergraduate health professionals. *Academic Medicine*, 88(7):989–996.
- Silverman, S. and Solmon, M. (1998). The unit of analysis in field research: Issues and approaches to design and data analysis. *Journal of Teaching in Physical Education*, 17(3):270–284.
- Silverthorne, C. (2001). A test of the path-goal leadership theory in taiwan. *Leadership & Organization Development Journal*, 22(4):151–158.

- Smith, J. B. and Barclay, D. W. (1997). The effects of organizational differences and trust on the effectiveness of selling partner relationships. *Journal of marketing*, 61(1):3–21.
- Snyder, M. (1981). Preparation of nursing students for health care teams. *International Journal of Nursing Studies*, 18(2):115–122.
- Snyman, A. and van Vuuren, J. (2024). A correlation study on project success and entrepreneurial performance, and the moderating effect of project risk. *Southern African Journal of Entrepreneurship and Small Business Management*, 16(1):1–10.
- Sousa, R. D., Carvalho, J. Á., do Amaral, L. A. M., and Palvia, P. (2020). Information technology issues in portugal. In *The world it project: Global issues in information technology*, pages 355–367. World Scientific.
- Stauffer, D. (2003). How to win the buy-in: Setting the stage for change. *Harvard Management Update*, 8(1).
- Stewart, G. L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of management*, 32(1):29–55.
- Sun, W. and Schmidt, C. (2018). Practitioners’ agile-methodology use and job perceptions. *IEEE Software*, 35(2):52–61.
- Sundstrom, E., De Meuse, K. P., and Futrell, D. (1990). Work teams: Applications and effectiveness. *American psychologist*, 45(2):120.
- Sutherland, J. and Sutherland, J. (2014). *Scrum: the art of doing twice the work in half the time*. Currency.
- Tariq, M. U. (2015). Hypothetico-deductive method: A comparative analysis. *Journal of Basic and Applied Research International*, 7(4):228–231.
- Terborg, J. R. (1976). The motivational components of goal setting. *Journal of Applied Psychology*, 61(5):613.

- Thuku, W., Kalai, J. M., and Tanui, E. K. (2018). Relationship between supportive leadership style and teachers' job satisfaction in nakuru county, kenya. *European Journal of Education Studies*.
- Turner, J. R. and Cochrane, R. A. (1993). Goals-and-methods matrix: coping with projects with ill defined goals and/or methods of achieving them. *International Journal of project management*, 11(2):93–102.
- Tyssen, A. K., Wald, A., and Spieth, P. (2014). The challenge of transactional and transformational leadership in projects. *International Journal of Project Management*, 32(3):365–375.
- Van der Hoek, M., Groeneveld, S., and Kuipers, B. (2018). Goal setting in teams: Goal clarity and team performance in the public sector. *Review of public personnel administration*, 38(4):472–493.
- van Woerkom, M. and Croon, M. (2009). The relationships between team learning activities and team performance. *Personnel Review*, 38(5):560–577.
- Varajão, J. E., Domingues, C. E., Ribeiro, P. A., and de Paiva, A. C. (2014). Failures in software project management—are we alone? a comparison with construction industry. *The Journal of Modern Project Management*, 2(1).
- Vidal, L.-A., Marle, F., and Bocquet, J.-C. (2011). Measuring project complexity using the analytic hierarchy process. *International Journal of Project Management*, 29(6):718–727.
- Wang, X. and Cheng, Z. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(1, Supplement):S65–S71. An Overview of Study Design and Statistical Considerations.
- Weber, P. S. and Weber, J. E. (2001). Changes in employee perceptions during organizational change. *Leadership & organization Development journal*, 22(6):291–300.
- Williams, T. M. (1999). The need for new paradigms for complex projects. *International journal of project management*, 17(5):269–273.

- Wright, B. E. (2001). Public-sector work motivation: A review of the current literature and a revised conceptual model. *Journal of public administration research and theory*, 11(4):559–586.
- Xia, W. and Lee, G. (2005). Complexity of information systems development projects: conceptualization and measurement development. *Journal of management information systems*, 22(1):45–83.
- Yagoda, R. E. and Gillan, D. J. (2012). You want me to trust a robot? the development of a human–robot interaction trust scale. *International Journal of Social Robotics*, 4:235–248.
- Zada, M., Khan, J., Saeed, I., Zada, S., and Jun, Z. Y. (2023). Linking public leadership with project management effectiveness: Mediating role of goal clarity and moderating role of top management support. *Heliyon*, 9(5).
- Zada, S., Khan, J., Saeed, I., Jun, Z. Y., Vega-Muñoz, A., and Contreras-Barraza, N. (2022). Servant leadership behavior at workplace and knowledge hoarding: a moderation mediation examination. *Frontiers in psychology*, 13:888761.
- Zhu, J. and Mostafavi, A. (2017). Discovering complexity and emergent properties in project systems: A new approach to understanding project performance. *International journal of project management*, 35(1):1–12.
- Zolin, R., Turner, R., and Remington, K. (2009). A model of project complexity: distinguishing dimensions of complexity from severity. In *International research network of project management conference (IRNOP)*, pages 1–30.

Appendix A

**CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY
ISLAMABAD**

Dear respondent,

Respectfully, I'm a Master's student in Project Management at Capital University of Science and Technology in Islamabad. I'm researching how supportive leadership affects team performance, especially considering how project complexity as a moderator. And also considering goal clarity and team trust as mediators.

I'd greatly appreciate your insights and expertise on this topic. If you have a moment, your input would be valuable. Rest assured, your information will be kept confidential and used solely for academic purposes, with no disclosure to others. Your identity is not needed, and your privacy will be respected. Your cooperation would make a significant contribution to project management knowledge. Thank you for considering participating in this research.

Sincerely,

Samavia Hussain

Department of Management Sciences

Questionnaire:

Supportive Leadership:

S.No	Supportive Leadership	1	2	3	4	5
		SD	D	N	A	SA
1	Available to provide assistance and support as needed by project team					
2	Shows trust in project team abilities for team performance					
3	Respects all project team members contributions					

Goal Clarity:

S.No	Goal Clarity	1	2	3	4	5
		SD	D	N	A	SA
1	Project team members roles and responsibilities are well-defined					
2	The goals and objectives of the project team are clear.					
3	How individual team members work contributes to the broader goals of overall project team					
4	The anticipated outcomes of project team members					

Trust in teams:

S.No	Trust in team	1	2	3	4	5
		SD	D	N	A	SA
1	Have trust in the abilities of project team members					
2	Project team members communicate well.					
3	Project team members are good at solving problems.					
4	Project team members is good at planning.					
5	Project team members perform well even under stress.					
6	Project team members know what they are doing.					
7	Project team members are competent.					
8	Project team members are capable at their jobs.					
9	Project team members follow instructions well.					
10	Project team members are qualified to do their job.					
11	Project team members are highly skilled.					

Team Performance:

S.No	Team Performance	1	2	3	4	5
		SD	D	N	A	SA
1	The team leader directed the project team members to do what was required in project					
2	Project team leader had a broad viewpoint.					
3	Project team members communicated well.					
4	Project team members cooperated to do the tasks ks in a timely manner					
5	Project team maintained calm and control.					
6	Project team morale was positive					
7	Project team adapted to changing situations					
8	Project team monitored and reassessed the situation					
9	Project team anticipated potential actions					
10	Project team prioritized tasks					
11	The team followed approved standards and guidelines					

Project Complexity:

S.No	Project Complexity	1	2	3	4	5
		SD	D	N	A	SA
1	According to Project objectives, requirements and expectations project complexity increases					
2	Considering leadership role, teamwork, decisions, projects become complex					
3	By considering PM methods, tools and techniques, projects increase complexity					
4	Projects become complex to handle due to technological criteria					