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Investigating the Influence of CEO Responsible Leadership on Employee Innovative Work Behavior

by

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"I would like to dedicate my work to my beloved parents whose support and unconditional love have inspired me to reach this milestone and foundation of my every success."

CERTIFICATE OF APPROVAL

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With heartfelt appreciation,

Abstract

The aim of this study is to investigate the influence of chief executive officer responsible leadership (CEO) on employee innovative work behavior (EIWB). Furthermore, we investigated the mediating role of effective knowledge sharing behavior (EKSB) and agile project management practices (APMP) practices and moderator as project complexity (PC). A quantitative research technique, using a structural questionnaire was adopted to gather data from 320 employees of project based small and medium enterprise (SMEs) operating in Pakistan i.e Islamabad and Rawalpindi. Smart partial least squares structural equation modeling was used to test the hypotheses. The results revealed that CEO responsible leadership does not have a direct effect on employee innovative work behavior. Instead, its influence is fully mediated by effective knowledge sharing behavior and agile project management practices, both of which serve as significant mediators between CEO responsible leadership and employee innovative work behavior. Furthermore, Project complexity significantly moderates these relationships by weakening the positive effects of CEO responsible leadership as complexity increases. Information technology small and medium-sized enterprises (IT SMEs) should focus on fostering responsible leadership at the CEO level to indirectly enhance employee innovativeness through promoting knowledge-sharing behaviors and agile practices. Furthermore, organizations operating in high-complexity environments should design interventions to mitigate the dampening effects of complexity on leadership influence. This study contributes to the responsible leadership literature by uncovering its indirect pathways to employee innovation through dual mediators. It also adds novel insights by introducing project complexity as a boundary condition, offering a deeper understanding of when and how responsible leadership enhances innovative work behavior in dynamic IT settings.

Keywords: CEO responsible leadership; Employee Innovative Work Behavior; Effective Knowledge Sharing Behavior; Agile Project Management Practices; Project Complexity.

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Abbreviations

APMP	Agile Project Management Practices
CRL	CEO Responsible Leadership
EIWB	Employee Innovative Work Behavior
IT	Information technology
PC	Project Complexity
SMEs	Small and Medium Enterprise
UET	Upper Echelon Theory

Chapter 1

Introduction

The introduction sector includes the background of study, gap analysis, problem statement, research significance, research question, research objective, hypotheses and definition of variables.

1.1 Background

Leadership shows a fundamental part in shaping an organization's achievement by guiding employee behavior, influencing decision-making processes, and impacting overall performance (Eduzor, 2024; Waseem et al., 2025). In the rapidly evolving business environment, strong leadership helps build a culture rooted in trust, collaboration, and innovation (Nooshabadi et al., 2024). Responsible leadership has enlarged prominence finished other leadership styles due to its emphasis on ethical decision-making, stakeholder engagement, and corporate social responsibility (Maak et al., 2016). In contrast to conventional leadership models, responsible leadership highlights aligning business goals with moral values and long-term sustainability, ensuring that organizations pursue profitability while also considering ethical and cultural responsibilities (Wang, 2025).

Within this framework, Chief Executive Officer Responsible Leadership (CRL) stands out as a key factor in driving sustainable business success. CRL is defined by moral decision-making, innovation, stakeholder engagement, and a devotion to social responsibility (Chen et al., 2025a). Such CRL is essential to the creation of an setting that supports employee, which includes coming up with, promoting, and

implementing new ideas inside the company. According to research (Khanam et al., 2023) EIWB benefits from responsible leadership since it fosters an atmosphere of ethics and trust. Moreover, CRL expressively impacts effective knowledge sharing behavior (EKSB) then the approval of agile project management practices (APMP) (Zulfiqar et al., 2023).

CRL that place a high value on accountability and morality often encourage candid dialogue and teamwork, which improves employee knowledge exchange (Matos et al., 2025). The successful application of agile approaches, which call for flexibility and quick response to change, depends on this facilitation of knowledge exchange EIWB is directly linked with employees who have EKSA (Dong et al., 2025; Marampa et al., 2025). Free knowledge sharing among staff members encourages innovation and the generation of fresh concepts. Likewise, APMP, which list adaptability, ongoing enhancement, and customer focused methodologies, have been linked to increased levels of employee creativity (Solga, 2021). In this context, project complexity (PC) acts as a moderating element, affecting how agile project management practices, CRL, and EKSA result in creative solutions. To manage uncertainties and interdependencies in complex project environments, strong knowledge sharing systems and good leadership are necessary. Successful innovation can be greatly increased when agile approaches are matched with the requirements of complex projects.

Upper Echelons Theory (UET), the ideals, experiences, and thinking biases of an organization's top management appear in its outcomes (Chen et al., 2024) CRL orientations are more likely to implement strategies that foster knowledge sharing, ethical behavior, and innovation (Wang et al., 2024). In highly complex IT project environments, the need for adaptive, ethical, and responsible leadership is essential. This study investigates how CRL influences EIWB, primarily through the mediating roles of EKSA and APMP, as direct influence is less evident. It also explores PC as a moderating factor. This study goals to offer insights into in what way responsible leadership at the executive level can drive innovation by encouraging knowledge sharing and fostering agility, particularly in complex (Syamsir et al., 2025).

With rapid technological changes, the constant need for innovation, and the complexity of IT projects, it's essential for organizations to adopt leadership styles that encourage creativity, knowledge sharing, and flexibility, which is crucial for enabling the conditions that support innovative work behaviors, even though its direct influence may be among IT employees (Zulfiqar et al., 2023). Adopting agility techniques and efficient knowledge-sharing systems is essential for promoting innovation in IT projects because of their frequent changes and interdependencies (Solga, 2021). Improving insight into how CRL affects these dynamics in the IT industry will help leaders better manage project complexity, foster employee creativity, and support the long term viability if IT companies (Zulfiqar et al., 2023).

1.2 Gap Analysis

Haider et al. (2022) studied the influence of responsible leadership on knowledge sharing behavior in higher educational institutions through person organization fit, their study was limited to explaining knowledge results and did not cover to behavioral innovation. Their model, while strong in creating responsible leadership impact on knowledge sharing, does not examine its potential impact on creative act outcomes like innovation. Furthermore, their focus on educational institutes restricts generalizability across other organizational settings. This highlights a gap, as this study aims to examine employee innovative work behavior (EIWB) as a core outcome, which is vital for organizational effectiveness in dynamic environments (Haider et al., 2022; Doh and Quigley, 2014). This study clearly looking to CRL and is directly impact on EIWB, the need to discover how responsible CEO can shape innovative actions at the employee level remains underexplored.

Wang et al. (2024) studied how CRL effects company public concern and organizational outcomes by seeing CEO founder status and ethical climates. Similarly, conceptualized responsible leadership within strategic and ethical dimensions but did not delve into internal cognitive and psychological mechanisms. These studies focus primarily on external outcomes or organizational-level constructs, neglecting employee-level mediators like effective knowledge sharing behavior. While (Haider

et al., 2022) measured knowledge sharing behavior, the internal motivational readiness or willingness to share i.e., the attitudinal aspect was overlooked. Therefore, our study addresses this gap by examining knowledge sharing not just as an action, but as an internal psychological disposition shaped by responsible leadership (Qing et al., 2020). While the mediating roles of knowledge sharing and team efficacy have been studied in the context of other leadership styles (Marampa et al., 2025) the specific mediating effect of effective knowledge sharing attitude in the link between CRL and EIWB remains underexplored. This gap suggests need for research to determine whether EKSA serves as a conduit through which CRL influences EIWB, thereby enhancing our comprehension of the mechanisms underlying this relationship.

While previous studies have discovered the role of APMP practices in enhancing firm performance, they often focus on specific industries or contexts (Haider et al., 2022). For instance, (Idrees et al., 2024) This gap suggests the need for research to determine whether EKSA serves as a conduit through which CRL influences EIWB, thereby enhancing our comprehension of the mechanisms underlying this relationship.

By investigating the relationship between responsible leadership and APMP practices, our study purposes to bridge this gap, offering insights into in what way CEO responsible leadership can foster agile project management practices and employee innovation work behavior across diverse organizational settings. project complexity (PC) arises from factors like technological uncertainty, stakeholder diversity, and evolving project requirements, which often challenge leadership effectiveness (Zhong et al., 2020). However, despite the growing recognition of project complexity as a critical contingency factor, the aforementioned moderating impact on the relationship among CRL plus employee EIWB remains underexplored in the literature.

The majority of earlier research has mostly concentrated on the effects of project complexity on team dynamics (Rauniar and Cao, 2025). Rather than how it influences the influence of leadership on individual employee behaviors like innovation. Knowing this moderating role could help determine whether CRL is more successful

in promoting EIWB in high-complexity situations, where ethical guidance and responsible leadership may be crucial, or low-complexity situations, where there may be less need for such leadership (Zhong et al., 2020).

1.3 Problem Statement

In many project based IT SMEs, project execution often suffers due to limited employee innovation and weak knowledge-sharing culture (Lebon and Jarszak, 2025). Even when employees have valuable ideas, they may hold back from sharing them due to fear of criticism, lack of trust, or internal competition. These practical challenges are common in high-pressure environments where quick delivery is expected, and innovation is critical for survival (Queirós et al., 2025). Unfortunately, this hesitation often leads to missed opportunities, delays, and underperformance in project outcomes.

Although previous studies have discussed responsible leadership and its connection to knowledge sharing, most of the work has been limited to academic or educational settings (Wang et al., 2024). These studies largely focus on knowledge-related outcomes but rarely link responsible leadership to innovation-driven behaviors in real-world, business-focused environments. As (Haider et al., 2022) suggest, employee innovative work behavior (EIWB) is essential in dynamic settings, yet how CEO responsible leadership drives such behavior in practice is still not well understood.

At the same time, APMP are becoming more common in the IT sector (Badran and Abdallah, 2025), designed to increase flexibility, teamwork, and rapid adaptation. However, many firms fail to implement agile methods effectively because leadership does not actively support the behaviors and culture needed to make them work (Idrees et al., 2024). Without proper leadership support, agile tools do not automatically lead to innovation.

Furthermore, while knowledge sharing has been studied from a behavioral angle, the internal mindset or willingness to share knowledge the effective knowledge sharing behavior has received little attention (Qing et al., 2020). Employees often comply with knowledge sharing policies but lack the internal motivation, especially

when the organizational culture is not supportive (Chen et al., 2024). This weakens the impact of knowledge sharing on invention.

This study seeks to address these real execution-level issues by examining how CRL impacts EIWB done the mediating part EKSA and APMP practices. The goal is to offer insights that can help project based IT SMEs improve innovation and project performance by focusing on leadership-driven cultural and behavioral change (Jingwen et al., 2025).

1.4 Research Significance

This study holds substantial significance in both theoretical and practical realms, particularly with in the Islamabad and Rawalpindi context.

1.4.1 Theoretical Significance

This study adds to the academic literature by addressing some important gaps in previous research. Most earlier studies on responsible leadership have focused on how it affects knowledge sharing, mainly in academic or educational settings (Ali et al., 2025). However, they have not examined how responsible leadership from CEOs can directly influence employees' innovative behavior in real-world business environments like project based IT SMEs; (Haider et al., 2022). By shifting the focus to a practical, business-driven context, this research extends the considerate of responsible leadership and its impact on invention within organizations.

Another key influence of this study is the inclusion of effective knowledge sharing attitude as a mediating variable. While knowledge sharing has been discussed in many studies, it is often treated as an observable behavior, with little attention given to the internal motivation or attitude behind (Qing et al., 2020; Chen et al., 2024). This research fills that gap by examining how employees' willingness and mindset to share knowledge can act as a bridge between leadership and innovation.

In addition, the study highlights the role of agile project management practices, which are commonly used in IT projects to promote flexibility and creativity. Although agile methods are known to support innovation, little research has explored

how leadership particularly responsible leadership can influence the adoption and effectiveness of agile practices (Idrees et al., 2024; Voegtlin et al., 2012). This study links leadership behavior at the top with agile practices on the ground, providing a clearer understanding of how innovation can be supported in project settings.

By connecting these elements responsible leadership, knowledge sharing attitude, agile practices, and employee innovation into one framework, this research offers a stronger theoretical foundation. It also extends Upper Echelons Theory (Chen et al., 2024; Hambrick and Mason, 1984) by showing how a CEO's leadership style can influence employee behavior and innovation outcomes, especially in complex and fast-moving project.

1.4.2 Practical Significance

This study holds strong practical value for Islamabad and Rawalpindi rapidly growing IT sector, particularly among small and medium-sized enterprises (SMEs) that are navigating the challenges of innovation, employee engagement, and effective project execution (Marampa et al., 2025). Despite increasing adoption of digital tools, many Project based IT SMEs in Islamabad and Rawalpindi still struggle to make an setting where employees feel refreshed to share ideas then actively contribute to innovation during project phases (Waseem et al., 2025).

By highlighting the character of CEO responsible leadership, this research offers a framework for how top-level leaders in Islamabad and Rawalpindi project based IT firms can shape ethical, trust-based relationships with employees (Kong et al., 2025). In a business culture where hierarchical leadership is common, adopting a responsible leadership approach can promote psychological safety, open communication, and a sense of purpose among employees (Qing et al., 2020). This leadership shift is particularly critical for encouraging innovative thinking and problem-solving during complex and dynamic projects (Wang et al., 2024).

The study also addresses the often-overlooked internal mindset behind knowledge sharing. In many local IT firms, employees hesitate to share their expertise due to fear of being judged, competition, or lack of recognition (Chen et al., 2024). By emphasizing the effective knowledge sharing behavior as a key mediating factor,

this research helps organizations understand how to build a more collaborative culture from within. Moreover, agile project management practices have gained popularity in Islamabad and Rawalpindi, especially in software houses, but many firms fail to gain full benefits due to poor integration with leadership behavior (Idrees et al., 2024).

1.5 Research Questions

This study is planned to offer answers to the following questions:

Q1: Does CEO responsible leadership influence employee innovative work behavior in projects?

Q2: Does effective knowledge sharing attitude mediate the relationship between CEO responsible leadership and employee innovative work behavior?

Q3: Does agile project management practice mediate the relationship between CEO responsible leadership and employee innovative work behavior?

Q4: Does project complexity moderate the relationship between CEO responsible leadership and employee innovative work behavior, effective knowledge sharing behavior, and agile project management?

1.6 Research Objectives

Objectives of this research are as following

1. To examine the direct impact of CEO responsible leadership on employee innovative work behavior.

2. To analyze the mediating role of effective knowledge sharing attitude between CEO responsible leadership & employee innovative work behavior.

3. To assess the mediating role of agile project management practices in the CEO responsible leadership & employee innovative work behavior relationship.

4. To investigate the moderating role of project complexity in the relationship between CEO responsible leadership on employee innovative work behavior, effective knowledge sharing behavior and agile project management practices.

1.7 Research Hypotheses

H1: CEO responsible leadership has positive impact on employee innovative work behavior.

H2: CEO responsible leadership has positive impact on effective knowledge sharing attitude.

H3: Effective knowledge sharing behavior has positive impact on employee innovative work behavior.

H4: Effective knowledge sharing behavior mediates the relationship between CEO responsible leadership and employee innovative work behavior.

H5:CEO responsible leadership has positive impact on agile project management practices.

H6: Agile project management practices have positive impact on employee innovative work behavior.

H7: Agile project management practices mediate the relationship between CEO responsible leadership and employee innovative work behavior.

H8: Project complexity moderates the relationship between CEO responsible leadership and effective knowledge sharing behavior.

H9: Project complexity moderates the relationship between CEO responsible leadership and employee innovative work behavior.

H10: Project complexity moderates the relationship between CEO responsible leadership and agile project management.

1.8 Definitions of Variables

1.8.1 Independent Variable: CEO Responsible Leadership

CEO responsible leadership is the independent variable in this study. CEO stands for Chief Executive Officer. It is defined as *"ethical, stakeholder-focused leadership that balances profit with social responsibility"* (Hock-Doepgen et al., 2025). In this context, CEO responsible Leadership refers to how top executives guide their organizations by considering the benefits of several stakeholders, including employees, customers, and society, while maintaining ethical conduct. This leadership approach creates a supportive environment that encourages trust, open communication, knowledge sharing, and innovation among employees, especially during the execution of complex projects in IT SMEs.

1.8.2 Dependent Variable: Employee Innovative Work Behavior

Employee Innovative Work Behavior (EIWB) is the Dependent Variable. It refers to how "*employees come up with, support, and apply new ideas in their work*" (Janssen, 2000b). This kind of behavior includes thinking creatively, suggesting improvements, and finding better ways to complete tasks or solve problems. In Islamabad and Rawalpindi project based fast-paced IT sector, innovative work behavior is essential for helping companies adapt, compete, and succeed in demanding project environments.

1.8.3 Mediating Variables: Effective Knowledge Sharing Behavior

Effective Knowledge Sharing Behavior (EKSB) is the mediating variable in this study. It describes "*an employee's inner willingness and positive mindset to share their knowledge in ways that support innovation*" (Chen et al., 2025a). Rather than focusing only on visible actions, EKSA looks at the internal drive that encourages people to communicate ideas, offer help, and exchange useful information with

others. In the Islamabad and Rawalpindi project based IT sector, where trust and collaboration are sometimes lacking, fostering this kind of mindset can help organizations build a more innovative and team-oriented culture.

1.8.4 Mediating Variable: Agile Project Management Practices

Agile Project Management practices (APMP) is the Mediating Variable in this study. It refers to "*the use of flexible, collaborative, and step-by-step project approaches that help boost innovation within organization*" (Idrees et al., 2024). These practices focus on quick adjustments, teamwork, and continuous feedback, making it easier for employees to come up with creative solutions and improve work processes. In the Islamabad and Rawalpindi project based IT sector, where market needs often shift rapidly, using agile methods can connect responsible leadership with innovative employee behavior by creating an environment that supports change and experimentation.

1.8.5 Moderating Variable: Project Complexity

Project Complexity is the Moderating Variable in this study. It describes the level of difficulty in managing a project, which can result from unpredictable conditions, large-scale tasks, or multiple interrelated activities (Shafique et al., 2023). Complex projects often involve changing requirements, diverse teams, and tight deadlines, making them harder to execute. In the context of Project based IT SMEs in Rawalpindi and Islamabad, this complexity may influence how effectively leadership and management practices impact innovation outcomes, either by amplifying or reducing their effects depending on how well they are handled.

Chapter 2

Literature Review

The literature review sector contains following supportive theory, variables relations and research frame work.

2.1 Supporting Theory- Upper Echelons Theory

This study is grounded in Upper Echelons Theory (UET), originally proposed by (Hambrick and Mason, 1984). The theory offers a strong foundation for understanding how the personal values, experiences, and decision-making styles of top executives like CEOs can shape employee behavior and influence outcomes, particularly within complex project environments such as those found in Islamabad and Rawalpindi project based IT sector. UET argues that leaders view challenges and make strategic choices through the lens of their own backgrounds and traits, and these decisions ultimately impact the direction and performance of the entire organization (Ali et al., 2023; Chen et al., 2024)

In this research, CEO responsible Leadership (CRL) is viewed as an expression of a CEO's ethical values and leadership style. These values show energetic role in creating a company values that supports employee innovation. Leaders who practice responsible leadership tend to model ethical behavior and prioritize transparency, sustainability, and the well-being of all stakeholders (Mahmoudi et al., 2025). Such leaders create a workplace environment where employees feel safe to share ideas, take risks, and engage in creative problem-solving (Nakra and Kashyap, 2025).

UET also highlights a "trickle-down effect", where the attitudes and behavior of top management influence lower levels of the organization, including middle managers and frontline employees (Liu and Ali, 2025). This effect is especially important in IT firms, where innovation depends heavily on employee engagement and knowledge sharing. The leadership tone set at the top helps establish the level of creativity and collaboration across the organization (Marampa et al., 2025).

Moreover, this study explores how the relationship between CRL, Effective Knowledge Sharing Behavior (EKSB), and Agile Project Management practices (APMP) is influenced by Project Complexity (PC). As project environments become more challenging with increasing technological uncertainty, stakeholder diversity, and task interdependencies the role of responsible leadership becomes even more critical (Trzeciak and Banasik, 2022). In such settings, responsible CEOs not only guide teams through uncertainty but also promote cooperation and adaptability key factors for innovation rapidly evolving IT industry.

2.2 Research Hypotheses

2.2.1 CEO Responsible Leadership on Employee Innovative Work Behavior

CEO responsible leadership (CRL) is expected to shape a work environment that supports EIWB, although evidence of a direct link may vary across context. When CEOs act with integrity, prioritize the interests of all stakeholders, and promote sustainable practices, they help build a culture of trust and psychological safety (Dong and Zhong, 2021). This kind of environment encourages employees to share ideas, experiment with new approaches, and engage in creative problem-solving. Employees are more likely to take initiative and suggest improvements when they believe their leaders are ethical and supportive (Kyambade et al., 2024). Moreover, CEO responsible leadership boosts employee motivation and gives them a sense of autonomy two essential elements that contribute to innovation. When employees feel empowered and see their work as meaningful, they are more likely to go beyond their job descriptions and invest effort into innovation (Xu et al., 2024). Responsible

CEOs help build this motivation by fostering trust and creating an ethical climate where people feel respected and valued. As a result, employees become more committed to generating new ideas and contributing to the organization's progress (Dong and Zhong, 2021). CEOs foster a culture of support where workers are invested in the company and the community. This inspires people to use their imaginations and offer fresh concepts that will pay off in the long run (Wang et al., 2024).

The link between CRL and EIWB is strongly supported by upper echelon theory (Hambrick and Mason, 1984), which recommends that the background, mindset, and standards of top executives significantly shape organizational outcomes (Chen et al., 2024). In this case, a CEO who consistently demonstrates ethical behavior and responsible leadership sets the tone for the rest of the organization. Their actions and decisions trickle down through the management chain, influencing how managers lead their teams and how employees behave day to day. In this way, CRL becomes a top-down influence on innovation, reflecting UET's idea that leadership at the highest level directly impacts organizational performance. This connection is especially relevant in industry, where continuous innovation is necessary to remain competitive in a fast-changing market. CEOs who practice responsible leadership can translate ethical values into company policies and working conditions that support innovation. They make it easier for employees to challenge outdated processes, work across departments, and contribute fresh ideas that help the company grow and stay ahead. Thus we develop hypothesis below,

H1: *CEO responsible leadership has impact positive impact on employee innovative work behavior.*

2.2.2 CEO Responsible Leadership on Effective Knowledge Sharing Behavior

Effective Knowledge Sharing Behavior (EKSB) plays a crucial role in encouraging innovation and continuous learning, especially in knowledge-driven sectors like the IT industry (Goswami and Agrawal, 2023). In environments where information is a key asset, the willingness of employees to share their knowledge can directly

influence an organization's adaptability and innovative capacity (Lin et al., 2020). CEO responsible leadership (CRL) helps nurture this mindset by promoting values such as openness, ethical conduct, and collaboration. When leaders act fairly, make ethical decisions, and consider the interests of all stakeholders, they help foster a workplace where employees feel respected and trusted. This trust builds psychological safety, making employees more willing to contribute their insights without fear of judgment or negative consequences (Goswami and Agrawal, 2023). CRL also promotes inclusivity and respect for diverse ideas, which encourages people to support one another and engage in shared learning. As a result, employees are further tending to contribute to the organization's knowledge base, especially when they feel their contributions align with meaningful goals and values.

This study displays that CRL has an important impact on developing EKSA. In IT settings, where fast decisions and collaborative solutions are often necessary, having employees who are open to knowledge exchange becomes essential for success (Mahmoudi et al., 2025). Therefore, it's reasonable to expect that CRL positively influences EKSA by creating conditions where employees feel committed and engaged in collective learning efforts. The Upper Echelons Theory (UET) offers further insight into this connection. UET explains the beliefs and standards of top managers play a central role in affecting organizational outcomes (Abatecola and Cristofaro, 2020). In the context of this study, a CEO who practices responsible leadership helps define the organization's culture by setting expectations for ethical behavior and mutual respect. These leadership values guide how knowledge is shared and how employees collaborate, reinforcing a top-down influence from leadership to knowledge-sharing attitudes.

Additionally, psychological safety acts as a vital link between leadership and knowledge sharing (Yasin et al., 2023). Studies have shown that leadership styles rooted in trust and ethics, like spiritual or responsible leadership, enhance psychological safety, which in turn boosts knowledge-sharing behaviors (Yasin et al., 2023). In fast-paced and innovation-driven sectors like IT, this psychological foundation is critical. Responsible leaders do more than set a tone they actively shape a workplace where open communication becomes a natural part of the culture. In doing so, they strengthen the organization's ability to adapt, solve problems, and

innovate effectively. The above literature leads us to hypothesize that:

H2: *CEO responsible leadership has a positive impact on effective knowledge sharing behavior*

2.2.3 Effective Knowledge Sharing Behavior on Employee Innovative Work Behavior

Haider et al. (2023) expressed that effective knowledge sharing behavior comprises of securing, sharing and application. They also clarified that adequacy and development are accomplished when EKSA is mulled over. Effective knowledge sharing creates opportunities for personnel to access new information, experiences, and perspectives, which are critical inputs for creativity and innovation (Wang, 2025). When employees actively exchange knowledge, they enhance their problem solving capabilities and are better equipped to generate novel ideas and solutions (Dong et al., 2025). In organizations that promote effective knowledge sharing practices, employees are often exposed to cross-functional insights, which spark employee innovative thinking and lead to the development of creative products or processes. EKSA encourages collaboration and collective learning, both of which are essential for stimulating innovation at the employee (Chen et al., 2025b). EKSA plays a pivotal role in complex project environments where the flow of information and insights among team members directly influences the ability to innovate. Hence, a strong attitude toward knowledge sharing significantly enhances EIWB. Recent empirical studies support these theoretical insights. Chen et al. (2025b) observed that organizations promoting knowledge sharing experience higher levels of innovation, particularly when cross-functional teams are involved. Similarly, Lin et al. (2020) found that employees with a strong attitude toward knowledge sharing exhibit greater levels of creativity, as they are exposed to more diverse ideas and collaborative environments that support experimentation.

Drawing upper echelon theory, Organizations are likely to generate fresh ideas and carry out fresh plans to investigate prospects when they encourage and support staff members to share their best and worst experiences in a setting that can enable them to carry out particular tasks effectively. As a result, encouraging

IWB and learning from the experiences of other employees fosters organizational learning, and people gradually start to consider better methods (Al-Zoubi et al., 2025; Haider et al., 2023). In complex project environments common in IT and software development where uncertainty and rapid change are the norms, the need for effective knowledge exchange becomes even more pronounced. EKSA enhances team agility, improves decision-making, and enables continuous improvement, all of which are essential for maintaining a culture of innovation (He et al., 2025). Therefore, Hypothesis 3 has been established as shown below:

H3: *Effective knowledge sharing behavior has a positive impact on employee innovative work behavior.*

2.2.4 Effective Knowledge Sharing Behavior Mediates the Relationship Between CEO Responsible Leadership and Employee Innovative Work Behavior

CEO responsible leadership (CRL) helps build a positive organizational environment that encourages effective knowledge sharing behavior (EKSA), which in turn supports employee innovative work behavior (EIWB). When leaders promote trust, openness, and psychological safety, employees feel more comfortable sharing their knowledge (Hoang and Le, 2025). This shared knowledge becomes a foundation for solving problems creatively and driving innovation. EKSA acts as a link between CRL and EIWB, suggesting that responsible leadership influences innovation partly through its effect on knowledge-sharing habits (Marampa et al., 2025). Leaders who act responsibly foster a workplace where people feel confident in exchanging ideas, which helps build a more innovative culture. In this way, EKSA plays an essential role in turning responsible leadership into real innovative outcomes (Le et al., 2025).

The upper echelons theory supports this relationship by explaining how the values and behaviors of top executives shape the entire organization (Ali et al., 2023). CEOs who lead with integrity and a strong sense of responsibility become role models, encouraging a culture of openness and teamwork. This leadership approach builds psychological safety and supports knowledge sharing two key ingredients

for innovation (Qu et al., 2024). As a result, EKSA becomes the channel through which responsible leadership is translated into innovative behavior at the employee level. In light of prior research, the following hypothesis is developed:

H4: *Effective knowledge sharing behavior mediates the relationship between CEO responsible leadership and employee innovative work behavior.*

2.2.5 CEO Responsible Leadership has Positive Impact on Agile Project Management Practices

Agile project management practices emphasizes adaptability, continuous learning, responsiveness to change, and close collaboration with customer's qualities that naturally align with the principles of CEO responsible leadership (Ogbeibu et al., 2024). As outlined in the Upper Echelons Theory, senior executives shape organizational strategies and behaviors (Abatecola and Cristofaro, 2020). CRL supports the adoption of agile practices by prioritizing ethical leadership, stakeholder engagement, and sustainable decision-making (Dugbartey and Kehinde, 2025). By encouraging a culture that balances business success with social responsibility, responsible leaders help build an environment where agility and responsiveness to market changes become key drivers of success (Bashir, 2025).

Responsible CEOs actively cultivate cultures rooted in openness, trust, and accountability (Abatecola and Cristofaro, 2020). These values mirror the core of agile methodologies, which promote transparency, collaboration, and incremental project development (Dugbartey and Kehinde, 2025). In line with Upper echelons theory, such leadership styles influence the wider organizational mindset. A workplace led by CRL encourages employee involvement in feedback cycles, enabling quick adjustments to evolving client needs and project requirements. Furthermore, the ethical framework that CRL provides ensures that decisions are made with long-term stakeholder and organizational impacts in mind strengthening the fit between agile practices and strategic business goals (Temitope, 2022).

A CRL driven culture also promotes cross-functional collaboration, which is central to agile team success (Adelina, 2024). When CEOs model adaptability, teamwork, and a willingness to experiment, they inspire teams to adopt agile values like

iterative development, flexible planning, and customer-centric delivery (Chukwunweike and Aro, 2024). Such leadership helps break down silos, allowing agile teams to work more closely with other departments and stay aligned with broader organizational and client priorities. Moreover, CRL fosters a learning-oriented culture, which is crucial for the successful implementation of agile methods (Ahsan, 2025). In a dynamic IT environment where project complexity and demands constantly evolve, responsible CEOs support ongoing professional development to help teams stay updated on the latest tools and agile practices (Prica and Bjelic, 2025). By investing in employee growth, these leaders lay the foundation for a more innovative and resilient workforce key quality for agile project success. We suggest this hypothesis based on earlier research:

H5: *CEO responsible leadership has a positive impact on agile project management practices.*

2.2.6 Agile Project Management Practices have Positive Impact on Employee Innovative Work Behavior

Agile project management practices (APMP) create an environment that supports rapid problem-solving, adaptability, and continuous feedback all of which are essential for fostering innovation (Waseem et al., 2025). These methodologies promote iterative development, where teams are encouraged to explore new ideas, learn from setbacks, and continuously improve their outcomes. Agile teams often enjoy greater autonomy and flexibility, which enables them to develop and apply innovative solutions. This sense of empowerment boosts employees' intrinsic motivation to think creatively and engage in innovative work behavior (Ijaz, 2025). In addition, APMP promotes cross-functional collaboration, exposing team members to diverse insights and experiences, which further enhances innovation potential.

Agile processes also incorporate regular feedback loops, which help teams identify improvement areas and encourage innovation (Savitha and Kumar, 2025). Frequent reflection on workflows, outcomes, and customer feedback provides opportunities for employees to challenge traditional practices and propose new ideas (Abid and Polo, 2025). The fast-paced nature of agile projects nurtures an environment

where questioning the status quo and experimenting with creative approaches becomes part of the norm. By promoting a mindset of flexibility and learning, agile methods not only increase the frequency of innovation but also improve the quality of innovative outcomes (Syamsir et al., 2025). From the perspective of upper echelons theory, agile practices also reflect the values and cognitive orientations of senior executives (Hambrick and Mason, 1984). When CEOs and other top leaders prioritize adaptability, collaboration, and innovation, their strategic decisions help shape an organizational culture that supports agile principles. This leadership-driven environment fosters agile thinking and encourages employees to engage more actively in innovative work behavior. Agile project management practices has been more well-liked at software development organizations, and many strategies for encouraging an innovative culture have been extensively adopted by high-tech companies (Idrees et al., 2024; Olszewski, 2023). An atmosphere that prioritizes collaboration, transparency, and continuous improvement is fostered by agile approaches. Teams working in agile frameworks are empowered and self-organizing, which leads to higher levels of engagement and productivity (Daraojimba et al., 2024). Based on previous findings, we propose:

H6: *Agile project management practices have a positive impact on employee innovative work behavior.*

2.2.7 Agile Project Management Practices Mediate the Relationship between CEO Responsible Leadership and Employee Innovative Work Behavior

Researchers have looked into the role of project agility as mediate between CEO responsible leadership and process the relationship between effective knowledge sharing behavior (Idrees et al., 2024). CRL indirectly contributes to EIWB by enabling the adoption of Agile project management. Leaders who act with ethical responsibility, encourage open communication, and empower their teams help establish a work environment that supports agile methods (Prediger and Schermuly, 2025). As explained by upper echelons theory (Hambrick and Mason, 1984), the standards plus behaviors of top managers show a vital part in modelling structural

plans and operational practices. Through the promotion of agile principles, responsible leaders foster iterative learning, team collaboration, and swift responsiveness factors essential for driving innovation. In this context, APMP acts as a mediating factor that clarifies how CRL influences EIWB (Waseem et al., 2025). Existing research shows that agile methodologies often mediate the bond between leadership styles and innovation, especially in environments characterized by complexity and rapid change. By supporting agile approaches, CEOs practicing responsible leadership enable teams to collaborate more effectively, experiment with new ideas, and respond quickly to evolving demands (Standahl Johannessen and Karlsen, 2025). This level of autonomy strengthens employees' intrinsic motivation to find solutions and engage in creative thinking. Agile frameworks, therefore, serve as a bridge between leadership intent and innovative outcomes, reinforcing the notion that leadership behaviors impact innovation through agile processes (Savitha and Kumar, 2025). Supported by the principles of Upper Echelons Theory, APMP emerges as a vital mechanism through which CRL drives innovative behavior across different levels of the organization. Agile offers the adaptability and quick feedback required to adjust to client needs, industry developments, and technology advancements. By increasing operational effectiveness and producing high-quality products quickly, this adoption aids automotive companies in maintaining their competitiveness (Hariyani and Mishra, 2022; Idrees et al., 2024).

H7: *Agile project management practices mediate the relationship between CEO responsible leadership and employee innovative work behavior.*

2.2.8 Project Complexity Moderates the Relationship between CEO Responsible Leadership and Effective Knowledge Sharing Behavior

Project complexity brings increased levels of uncertainty, ambiguity, and interdependence, making it more difficult to achieve desired outcomes. In such challenging environments, the presence of CEO responsible leadership (CRL) becomes even more vital (Wang et al., 2025). Leaders who act ethically, make thoughtful decisions, and remain sensitive to stakeholder needs are often better positioned to help teams

navigate complex scenarios. Research shows that CRL proves especially valuable in high-complexity projects by offering clear guidance, encouraging collaboration, and creating a psychologically safe atmosphere (Zhou et al., 2025).

Drawing from UET (Hambrick and Mason, 1984), an organization's response to strategic challenges is shaped by the personal values, thinking patterns, and experiences of its top leaders. In complex project settings, a responsible CEO's long-term vision and ethical mindset become even more influential. These leaders support their teams in managing uncertainty while aligning project efforts with broader organizational goals. Under such conditions, the outcome of CRL on EIWB is heightened, teams depend more on strong, responsible leadership to handle complexity and sustain innovation (Gray, 2025).

Effective leaders not only align team efforts with strategic objectives but also ensure a unified direction across the organization. By modeling ethical behavior and thoughtful decision-making, they provide a steady framework for navigating difficult project environments (Nucci et al., 2025). According to Upper Echelons Theory, during complex initiatives, the CEO's ethical stance and cognitive style significantly shape how adaptive teams respond. This stability and clarity reduce confusion and stress, allowing employees to focus more on innovation and creative problem-solving (Davari and Kim, 2025). CEOs are considerably more crucial when projects are extremely complicated.

To sustain team cohesion and productivity in complex situations, leaders must be adaptable, moral, and visionary (Ruan et al., 2025). In these situations, responsible leadership provides the flexibility and moral foundation required to deal with uncertainty. Employees are able to concentrate more on creativity and innovative problem-solving because of the stability and clarity that lessen uncertainty and stress (AlKheder et al., 2025).

H8: *Project complexity moderates the relationship between CEO responsible leadership and employee innovative work behavior*

2.2.9 Project Complexity Moderates the Relationship between CEO Responsible Leadership and Employee Innovative Work Behavior

Project complexity often demands increased collaboration, knowledge sharing, and cross-functional teamwork to effectively manage uncertainty and dynamic challenges (Laurila and Ahola, 2021). In these conditions, CEO responsible leadership (CRL) becomes essential in cultivating a culture that supports Effective Knowledge Sharing Behavior (EKSB). Leaders who act ethically and inclusively help create a safe environment where employees feel encouraged to share insights and learn from each other (Lin et al., 2025). This process aligns by the ethics of Upper Echelons Theory (Hambrick and Mason, 1984), which recommends that managerial values, thinking styles, and leadership behavior significantly influence organizational processes and outcomes.

As project complexity increases, the need for responsible leadership to foster EKSA becomes more critical. Employees working on complex initiatives are more inclined to share knowledge and collaborate when they are led by CEOs who exhibit responsible and ethical leadership (Lin et al., 2025). Hence, project complexity is likely to act by way of moderating aspect, support the relationship among CRL plus EKSA in more demanding project environments. When responsible leaders are present, employees feel less overwhelmed by complexity and more confident in communicating across teams and departments (Palmucci et al., 2025).

In such settings, moral and inclusive leadership reassures employees that their voices matter and their input contributes to project success. Complex projects often bring together diverse teams with a wide range of skills and backgrounds (Ahmad, 2025), making knowledge sharing essential to effective performance. A CEO who promotes continuous learning and open exchange of ideas nurtures an environment where employees feel motivated to collaborate, adapt, and support each other through change (Ahsan, 2025). According to Upper Echelons Theory, these positive behaviors reflect the leader's deeper beliefs and values, which are echoed in daily practices and team interactions. Therefore, in highly complex

projects, CRL not only enhances collective problem-solving but also supports the integration of different perspectives, ultimately contributing to better outcomes.

H9: *Project complexity moderates the relationship between CEO responsible leadership and effective knowledge sharing behavior.*

2.2.10 Project Complexity Moderates the Relationship between CEO Responsible Leadership and Agile Project Management

Agile project management practices (APMP) are especially effective in managing project complexity (PC), particularly in environments marked by rapid change and uncertainty (Kaufmann et al., 2020). CEO responsible leadership (CRL) supports the effective adoption of agile practices by encouraging flexibility, collaboration, and active stakeholder engagement. Grounded on upper echelons theory (UET) values, experiences, and cognitive styles of top leaders significantly shape organizational strategies and processes. In complex and uncertain project settings, the mindset of a responsible CEO shows a crucial part in modelling the strategic direction and guiding the implementation of agile methods. Through ethical leadership, long-term thinking, and sensitivity to stakeholder needs, CRL helps align leadership decisions with the adaptive, iterative nature of agile approaches.

In highly complex projects, CRL is instrumental in reducing resistance to agile adoption and in building a project culture focused on adaptability and continuous learning (Guckenbiehl et al., 2023). As project complexity increases, the need for agile practices becomes more evident, and responsible leadership makes it easier for teams to transition into agile frameworks and apply them effectively (Bhatti et al., 2025). Thus, project complexity is seen as a moderating influence that supports the positive influence of CRL on the implementation of APMP in complex project environments.

Agile approaches become more essential as complexity grows, especially during initial phases where resistance to change is most likely (Prica and Bjelic, 2025). CRL plays a vital role during this stage by offering a clear vision, promoting collaboration, and supporting teams as they adapt to new ways of working (Ayyaswamy et al.,

2025). Responsible leaders help ease concerns about agile practices by fostering an environment where employees feel supported and motivated to embrace change. This kind of leadership creates the conditions necessary for agile methods to take root and thrive (Dugbartey and Kehinde, 2025). In line with UET, these outcomes reflect how a responsible CEO's ethical stance and cognitive framing shape the organization's ability to manage complexity and adopt innovation-driven practices.

H10: *Project complexity moderates the relationship between CEO responsible leadership and agile project management practices.*

2.3 Research Framework

Research framework reflects variables relations; CEO responsible leadership as independent variable, employee innovative work behavior as dependent variable, effective knowledge sharing behavior and agile project management practices as mediator and project complexity as moderator.

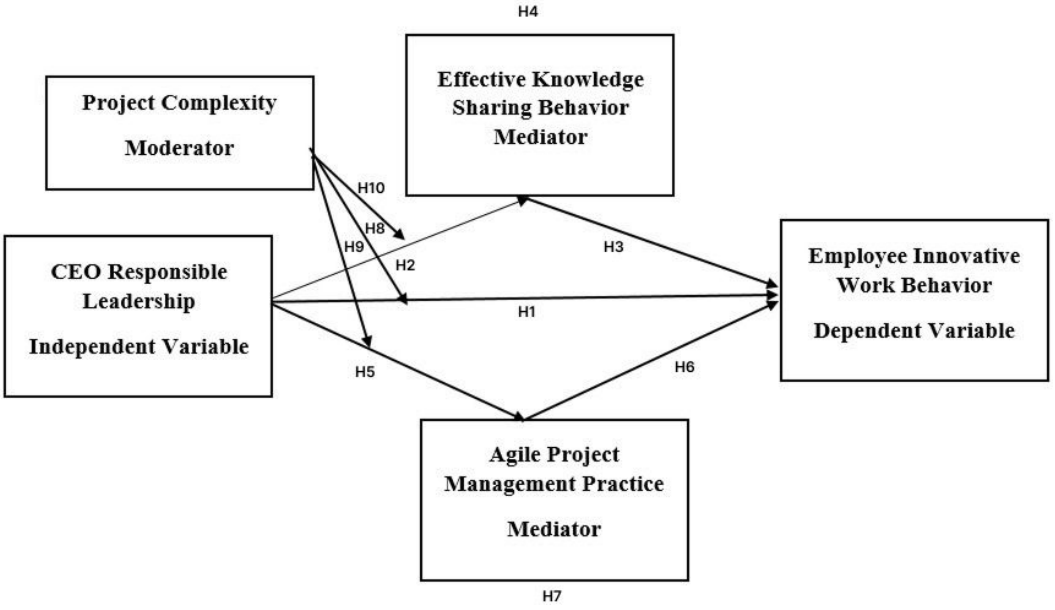

FIGURE 2.1: Conceptual Model

Chapter 3

Research Methodology

The research methodology, including the overall design, research philosophy, time horizon, unit of analysis, ethical issues, target population, sampling strategy, variable measurement, data collection procedure, and analysis tools, is presented in this part. The study discovers the relationship between CRL and EIWB, emphasizing the mediating functions of EKSA and APMP, and PC as a moderating variable.

3.1 Research Philosophy

The foundation of positivism is the idea that reality is real and independent of people, allowing researchers to observe and evaluate data and draw conclusions from the findings using statistical and quantitative methods (Weyant, 2022). Using scientific techniques like surveys, tests, and statistical analysis, it presumes that reality is objective (Catterall, 2000; Chatzichristos, 2025). Using this methodology, the study focuses on obtaining actual information and evaluating it completely and objectively. Data is collected through structured tools and analyzed systematically to ensure that findings are based on empirical evidence rather than subjective interpretation. In order to test hypotheses and identify correlations between variables, positivism advocates the use of quantitative approaches (Miccio et al., 2025). According to this theory, reality is objective and amenable to measurement, observation, and generalization using appropriate scientific techniques. This method helps generate trustworthy, objective results and enhances the study's validity.

3.2 Research Design

In the current study finding of correlation between CRL, EIWB, EKSA, APMP, PC were assessed using quantitative research methodology. The study procedures quantitative research design, chosen for its perceived scientific rigor and structured methodology (Miccio et al., 2025). This design involves clearly defining variables and hypotheses before data collection begins.

3.3 Time Horizon

This study employed a cross-sectional survey design, meaning that data was collected all at once (Tsuge et al., 2025). This method works well for analyzing the connections between factors like employee innovative work behavior, CEO responsible leadership, and the functions of agile project management practices, project complexity, and an effective knowledge sharing behavior.

3.4 Unit of Analysis

The study's primary participants are the CEOs, project managers, and employees of project-based companies in Rawalpindi and Islamabad. The primary source of information for understanding how top-level leadership influences employee behavior in project contexts is this group of people. Their observations will be useful in analyzing how innovation is shaped by responsible leadership, information sharing, agile methodologies, and project complexity.

3.5 Ethical Issues

At all times, research ethics remained the first priority during the conduct of research. Following important steps were undertaken to address ethical issues before data collection.

1. Ethics approval (Ref: CUST/FMSS/REC/2023-56) was undertaken from CUST University Ethics Approval Committee after deliberately submitting

the committee provided checklist, questionnaire and participants consent form.

2. Each participant was asked to provide "informed consent"

3. Research instrument, ethics committee checklist, ethics approval letter and consent form are attached as Appendix.

3.6 Sampling Technique

Convenience sampling technique was used to select participant as it focuses on people who are accessible and willing to be part of the study, due to limitations of time and accessibility (Bell et al., 2022; Trianasari et al., 2025). Participants were selected based on their availability and willingness to participate. The sample consisted of CEOs, project managers, and employees working in project-based software organizations located in Islamabad and Rawalpindi.

3.7 Population

The study's primary focus is on the CEOs, project managers, and employees of project based companies in Rawalpindi and Islamabad. Their direct experience in project work and their capacity to offer useful insights into leadership, innovation, and project management techniques led to the selection of these individuals. Examining how responsible leadership influences employee behavior in actual project settings is made possible by the chosen organizations.

3.8 Sample Size

G*Power use model settings and the maximum number of predictors to calculate sample size instead of gathering the complete population and has been used to assess a number of statistical tests in the fields of social science, behavioral research, biomedicine (Faul et al., 2009).

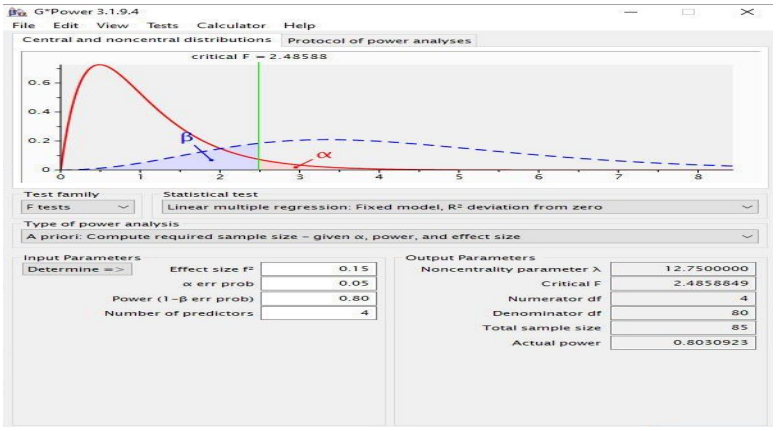

FIGURE 3.1: G* POWER (POWER=0.80)

The G*Power software was used to compute the minimum number of participants required. With four predictors in the model, a medium effect size (f2 = 0.15), a significance threshold of 0.05, and a power level of 80%, the first analysis was conducted. The outcome demonstrated that in order to identify significant findings at this level, a minimum of 85 participants would be required. This sample size provides a useful balance between accuracy and effort and satisfies the generally recognized norm in social science research.

A second study was conducted with a 95% power level while maintaining the same other values in order to increase the findings' reliability. This calculation indicated that in order to reliably identify effects in the model, a minimum of 129 individuals would be required. The study intends to gather information from a minimum of 300 participants. The findings' accuracy and generalizability will be enhanced by this bigger sample, particularly when examining the model's mediation and moderation effects.

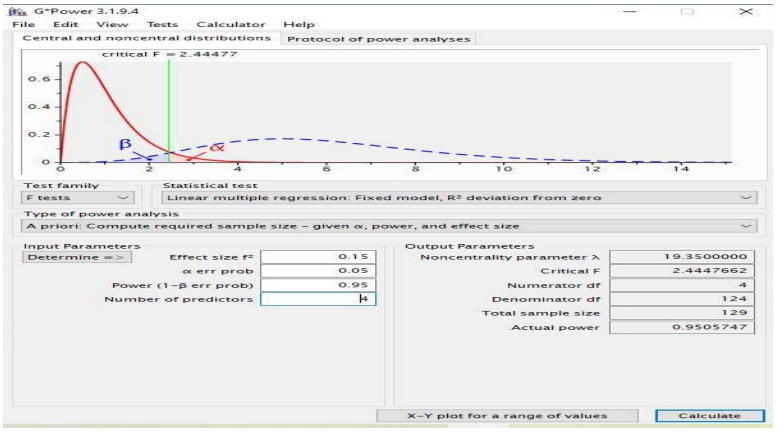

FIGURE 3.2: G*POWER (POWER=0.95)

3.9 Data Collection

This Data were collected using a convenience sampling method from employees of software houses located in Islamabad and Rawalpindi. A structured questionnaire was designed and spread online using Google Forms. The survey included items related to CEO responsible leadership, effective knowledge-sharing attitude, agile project management practices, employee innovative work behavior, and project complexity. Responses were recorded on a 5-point Likert scale ranging from *Strongly Disagree* to *Strongly Agree*.

To support the data collection process, the researcher contacted HR representatives from various software houses through LinkedIn. With their cooperation, the questionnaire was shared within their organizations. The survey link was disseminated through email and messaging platforms, and follow-up messages were sent to encourage participation. All participants were assured of confidentiality, and their involvement was entirely voluntary.

3.10 Sample Characteristics

The total number of responses was 326. The demographics used in the surveys included gender, age, experience, education, position. The characteristics of the respondents from whose data were obtained.

3.10.1 Gender

Gender was recorded to understand the background of the people who took part in the survey. Most of the participants were male 66.3%, while female respondents made up 33.7%. This shows the general gender mix among employees working in IT project-based organizations in Islamabad and Rawalpindi.

Table 3.1: Gender

Gender	Frequency	Percent	Valid	Cumulative
Male	216	66.3	66.3	100
Female	110	33.7	33.7	33.7
Total	326	100	100	

3.10.2 Age

Age was included to get a better idea of the background and work experience of the participants. Most respondents were 26 and 40 years, making up 56.7% of the total. The second-largest group was aged 18 to 25 years, with 38.0%. A smaller number were between 41 and 50 years 4.3% and only 0.9% were above 50. This shows that most of the people working in project-based organizations in Islamabad and Rawalpindi are young or in their mid-career stage.

Table 3.2: Age

Age	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
18-25y	124	38	38.0	38.0
26-40 y	185	56.7	56.7	84.8
41-50y	14	4.3	4.3	99.1
More than 50 years	3	9	9	100
Total	326	100	100	

3.10.3 Experience

Experience was included to understand how long the participants have been working in project-based roles. Most respondents had less than 3 years of experience 42.0%. 27.6% had 3 to 5 years of experience, while 17.8% had been working for 6 to 10 years. A smaller group, 12.6% had more than 11 years of experience.

Table 3.3: Experience

Experience	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
11 & above	41	12	12	12
3-5y	90	27.6	27.6	40
6-10y	58	17.8	17.8	58
Less than 3y	137	42.0	42.0	100
Total	326	100	100	

3.10.4 Position

Respondents were asked to indicate their job position to help understand the roles of participants within their organizations. As shown in Table 3.4, the majority were employees 76.7%, followed by project managers 15.0%. A smaller group of 8.3% identified as CEOs. This mix of positions provides a broad perspective on how leadership, innovation, and project practices are viewed across different roles in IT project-based organizations in Islamabad and Rawalpindi.

TABLE 3.4: Position

Position	Frequency	Percent	Valid Percent	Cumulative Percent
CEO	27	8.3	8.3	8.3
Employee	250	76.7	76.7	85.0
Project manager	49	15	15	100
Total	326	100	100	

3.11 Research Instruments

A structured, close-ended questionnaire was employed to collect data related to all study variables (Mishra et al., 2025). Each statement was evaluated using a 5-Likert scale. The questionnaire was organized into six section. The first section gathered basic demographic information of the respondents. The second section included items related to the CEO's responsible leadership. The section part focused on employee innovative work behavior. The fourth section assessed effective knowledge sharing behavior, while the fifth section covered agile project management. The final section included questions about project complexity.

TABLE 3.5: Variables Scales

Variables	Sources	Items
CEO's responsible leadership	(Lin et al., 2025)	6
Employee Innovative Work Behavior	(Janssen, 2000a)	9
Effective Knowledge Sharing Behavior	(Park and Lee, 2014)	6
Agile Project Management	(Kurniawan et al., 2020)	13
Project Complexity	(Mata et al., 2023)	3

Chapter 4

Data Analysis and Results

In this chapter, the data screen section 4.1 discourses the data procedure. Section 4.2 delineates upon the findings of data analysis via assessment of the measurement mdel and the structural model. Finally, section 4.3 summarize the outcomes of all th hypotheses examined.

4.1 Data Screening

Data screening is a critical step in ensuring the dataset is complete, accurate, and suitable for analysis. It involves reviewing the data for missing values, extreme values, and distributional issues that may compromise the validity and reliability of the results (Riskin et al., 2025). Through proper screening, researchers can minimize errors and enhance the credibility of their findings by establishing a strong foundation for analysis (Ojoboh and Igben, 2024). This process ensures the measurements used in the study accurately reflect the intended constructs (Sun and Xia, 2024).

4.1.1 Data Cleaning

Data cleaning is undertaken to improve the overall quality of the dataset. It includes identifying and correcting inconsistencies, handling missing entries, and removing irrelevant or incorrect responses (Ahuja et al., 2024). This step helps ensure that the data used for analysis is reliable and valid. A well-prepared dataset contributes to more accurate interpretations and reduces the risk of biased results (Bilski,

2014). Additionally, data refinement allows for better assessment of normality and distribution characteristics before performing statistical tests.

4.1.2 Pilot Testing

Pilot testing was conducted to ensure the clarity, reliability, and appropriateness of the research instrument before proceeding to full-scale data collection. This step is essential to identify and address any potential issues early, saving time and resources (Ebekozien et al., 2025; Wang, 2025). A pilot sample of 76 respondents working in Information Technology Small and Medium-sized Enterprises (IT SMEs) was used, exceeding the commonly recommended minimum of 40–50 participants for such testing (Blomqvist et al., 2025). The data were analyzed using SmartPLS 4, and Cronbach's Alpha values for all constructs were above the acceptable threshold of 0.70, confirming internal consistency and scale reliability (Hair Jr et al., 2021). With no significant issues found, the questionnaire was finalized and used for the main study with 326 participants.

4.2 Result

SmartPLS Version 4 was used in this study to achieve Partial Least Squares Structural Equation Modeling (PLS-SEM). The analysis was conducted in two phases: the measurement model was assessed first, and then the structural model (Troiville et al., 2025) was assessed. While the structural model concentrated on the connections between the constructs themselves, the measurement model looked at how well the indicators represented each construct. Before starting the SmartPLS analysis, the Harman's single factor test was performed in SPSS to see whether common method bias was present (Zhang et al., 2025a). 16.81% of the variance was explained by the first component, which is significantly less than the acceptable 40% threshold. This demonstrates that there is no discernible common method bias in the data.

4.2.1 Measurement Model Assessment

The measuring model was assessed to make sure the constructs were valid and reliable before moving on to the structural connection analysis. It ensures that

each construct is consistently and accurately measured through its respective indicators. This section outlines the results of essential evaluations, including construct reliability, convergent validity, outer loadings, and discriminant validity.

4.2.1.1 Construct Reliability and Convergent Validity

In order to ensure the measurement quality of the constructs, it is important to assess both reliability and validity of the data. Reliability refers to whether the items or questions used for a variable are consistent with each other (Obohwemu et al., 2025). It is assessed using Cronbach's Alpha (CA) and Composite Reliability (CR). Validity refers to whether the items of a variable truly measure what they are intended to measure. It is evaluated using Average Variance Extracted (AVE). A CA and CR value above 0.70 indicates acceptable reliability, while an AVE value of 0.50 or higher indicates adequate convergent validity.

TABLE 4.1: Construct Reliability and Convergent Validity

	CA	CR(rho-a)	CR(rho-c)	AVE
APMP	0.931	0.932	0.941	0.55
CRL	0.87	0.871	0.903	0.608
EIWB	0.905	0.905	0.922	0.57
EKSB	0.901	0.902	0.922	0.628
PC	0.768	0.772	0.866	0.682

Notes: CA Cronbach's Alpha, CR(rho-a) Construct Reliability, CR(rho-c) Composite Reliability. AVE Average Variance Extracted

4.2.2 Factor Loadings

The reliability of single item was examined through their factor loadings. Strong relationships with their respective constructs were indicated by the majority of items loading above the satisfactory level of 0.70 (Hair Jr et al., 2021). Certain indicators, such APMP2 (0.627) and EIWB1 (0.674), were marginally lower but were kept because of their significance to the construct and the overall fit of the model. The dependability of the measurement tools employed in this investigation is supported by these findings.

Table 4.2: Factor Loadings

Variables	**Items**	**FL**	**Variables**	**Items**	**FL**
CRL	CRL1	0.753	APMP	APMP1	0.754
	CRL2	0.767		APMP2	0.627
	CRL3	0.817		APMP3	0.749
	CRL4	0.812		APMP4	0.751
	CRL5	0.748		APMP5	0.756
	CRL6	0.778		APMP6	0.768
EIWB	EIWB1	0.674		APMP7	0.764
	EIWB2	0.770		APMP8	0.781
	EIWB3	0.785		APMP9	0.766
	EIWB4	0.783		APMP10	0.772
	EIWB5	0.725		APMP11	0.707
	EIWB6	0.837		APMP12	0.725
	EIWB7	0.767		APMP13	0.707
	EIWB8	0.705	PC	PC1	0.814
	EIWB9	0.735		PC2	0.851
EKSB	EKSB1	0.779		PC2	0.812
	EKSB2	0.823			
	EKSB3	0.781			
	EKSB4	0.780			
	EKSB5	0.802			
	EKSB6	0.799			
	EKSB7	0.782			

4.2.2.1 Discriminant Validity

Discriminant validity defines the degree to which a specific construct in a model is obviously distinct from other construction (Hair Jr et al., 2021; Henseler et al., 2015). It demonstrates that the variables under investigation measure different ideas and don't substantially overlap. To guarantee each construct's uniqueness and the structural model's integrity, discriminant validity must be established. Two well-known methods the Heterotrait-Monotrait (HTMT) ratio and the Fornell-Larcker criterion were used in this study to evaluate discriminant validity (Henseler et al., 2015).

Agreeing to (Fornell and Larcker, 1981), The strongest correlation with any other construct should be less than the square root of the Average Variance Extracted (AVE) for each construct. This means that compared to other constructs in the model, a construct shares more variation with its own indicators. According to the table below, every construct satisfies this requirement:

TABLE 4.3: Discriminant Validity through Fornell and larcker

Constructs	**APMP**	**CRL**	**EIWB**	**EKSB**	**PC**
APMP	0.841				
CRL	0.669	0.779			
EIWB	0.776	0.630	0.785		
EKSB	0.731	0.684	0.764	0.793	
PC	-0.418	-0.270	-0.316	-0.269	0.826

All diagonal values (square roots of AVEs) are greater than their corresponding horizontal and vertical correlations, confirming acceptable discriminant validity for all constructs. The HTMT ratio is a comparison between the mean of item correlations inside a single construct (monotrait-heteromethod) and the mean of item correlations across constructs (heterotrait-heteromethod). Henseler et al. (2015) advise that in order to verify discriminant validity, HTMT values ought to be less than 0.90. This requirement is satisfied by the values in the following table:

TABLE 4.4: Discriminant Validity through HTMT

Constructs	APMP	CRL	EIWB	EKSB	PC
APMP					
CRL	0.742				
EIWB	0.843	0.708			
EKSB	0.802	0.77	0.846		
PC	0.814	0.593	0.684	0.665	

All HTMT values are below the threshold of 0.90, confirming strong discriminant validity across the model.

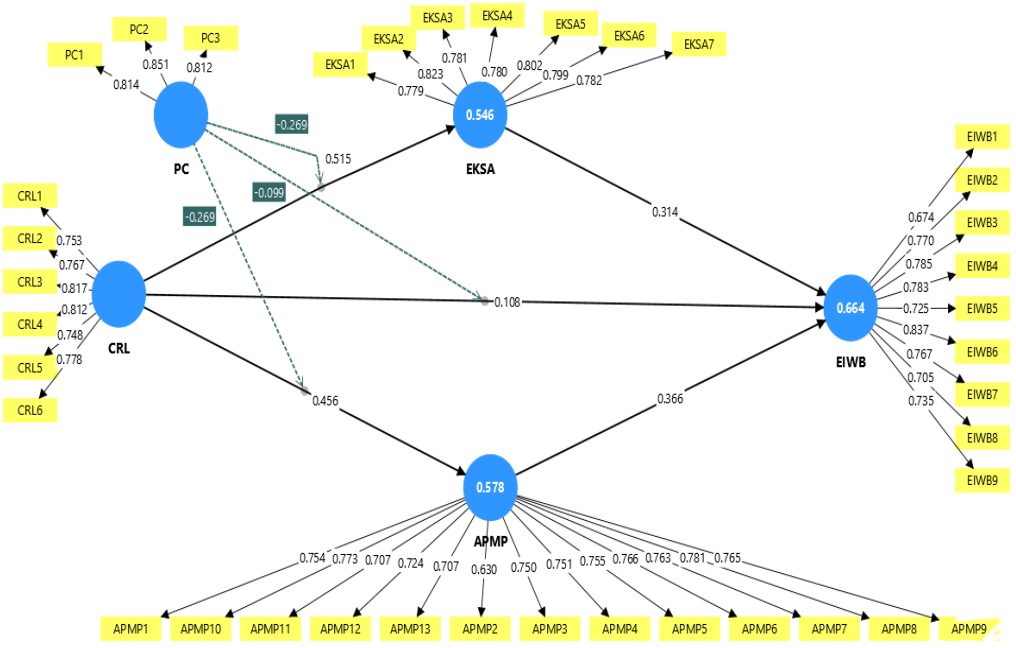

FIGURE 4.1: Measurement Model Assessment

4.3 Structural Model Assessment

This part assesses the structural model based on a number of factors, such as coefficient of determination and predictive relevance, direct and indirect path

analysis, mediator analysis and moderation effects, These evaluations support the model's accuracy and predictive power in elucidating the suggested connections.

4.3.1 Coefficient of Determination and Predictive Usefulness

To assess the structural model's ability to explain, the coefficient of determination (R^2) was employed. We looked at the structural model's predictive relevance (Q^2) and coefficient of determination (R^2) to evaluate its quality and strength. The independent and mediating factors' contribution to the variation in the dependent variable is indicated by the coefficient of determination (R^2). A higher R^2 value indicates that the model has a greater capacity to explain. Since the modified R^2 takes into consideration the amount of predictors to produce a more accurate estimate, it is also taken into account. Conventional wisdom states that an R^2 value of 0.75 or above is substantial, 0.50 is moderate, and 0.25 is weak.

The Q^2 value was used to evaluate predictive relevance, which measures how well the model forecasts future events. If the model's Q^2 value is higher than zero, it is considered predictively useful. Furthermore, to ascertain the degree of prediction inaccuracy, the Mean Absolute inaccuracy (MAE) and Root Mean Square Error (RMSE) were evaluated. Reduced RMSE and MAE values signify improved forecasting accuracy.

The study's employee innovative work behavior (EIWB) R^2 value was 0.664, indicating that agile project management practices (APMP), effective knowledge sharing a ttitude (EKSB), and CEO responsible leadership (CRL) account for 66.4% of the variance in EIWB. With a Q^2 score of 0.460 for EIWB, high predictive relevance was indicated. The R^2 and Q^2 values for APMP were 0.578 and 0.555, respectively, indicating a reasonable level of explanatory and predictive ability. In a similar vein, EKSB showed satisfactory levels with an R^2 value of 0.546 and a R^2 score of 0.529. All variables' RMSE and MAE values fell within reasonable bounds, indicating minimal prediction error. These findings show that the model can accurately describe and forecast the variables under study.

TABLE 4.5: Coefficient of Determination and Predictive Usefulness

Constructs	R^2	R^2 adjusted	Q^2predict	RMSE	MAE
APMP	0.578	0.575	0.555	0.575	0.555
EIWB	0.664	0.659	0.460	0.659	0.46
EKSB	0.546	0.542	0.529	0.542	0.529

R^2 – Coefficient of Determination, R^2 Adjusted – Adjusted Coefficient of Determination, Q^2 – Predictive Relevance, RMSE – Root Mean Square Error, MAE – Mean Absolute Error

4.3.2 Direct Relationship Analysis

This section presents the direct effects of CRL on other variables in the model, including EIWB, EKSB, and APMP. The relationships were evaluated using path coefficients, t-statistics, and p-values generated through SmartPLS.

The path coefficient (Original Sample or β) indicates the strength and direction of the relationship between variables. A positive β value shows a direct positive association. The Sample Mean (M) reflects the average value across repeated samples, while the Standard Deviation (STDEV) indicates the spread of those estimates. T-statistics determine whether the relationship is statistically significant, with values above 1.96 considered significant at the 95% confidence level. A p-value less than 0.05 confirms that the relationship is not due to chance. The confidence interval (2.5%–97.5%) provides the range within which the true value likely falls. This table shows that H1 CRL → EIWB is not supported ($\beta = 0.106$, t = 1.534, p > 0.05), indicating no significant direct relationship. However, H2 CRL → EKSB ($\beta = 0.519$, t = 11.217, p < 0.01),H3 EKSB → EIWB ($\beta = 0.314$, t = 4.255, p < 0.01), H5 CRL → APMP($\beta = 0.456$, t = 9.189, p < 0.01), and H6 APMP → EIWB ($\beta = 0.367$, t = 4.252, p < 0.01) are all supported, showing significant direct relationships. Thus, all direct hypotheses are supported except H1. Therefore H2, H3, H5 and H6 were supported.

TABLE 4.6: Direct Relationship Analysis

Hypotheses	Relationships	β	Mean	S.D.	T Values	LLCI 2.5%	ULCI 97.5%	P values
H1	CRL -> EIWB	0.106	0.106	0.069	1.534	0.025	0.244	0.125
H2	CRL -> EKSB	0.516	0.519	0.046	11.217	0.427	0.605	0.000
H3	EKSB -> EIWB	0.314	0.315	0.074	4.255	0.172	0.458	0.000
H5	CRL -> APMP	0.456	0.459	0.05	9.189	0.359	0.554	0.000
H6	APMP -> EIWB	0.367	0.367	0.086	4.252	0.193	0.535	0.000

Notes: B (Beta) – Path Coefficient, Mean – Sample Mean of Path Coefficient, S.D. – Standard Deviation, T Values – T-Statistics, LLCI 2.5% – Lower Level Confidence Interval (2.5%), ULCI 97.5% – Upper Level Confidence Interval (97.5%), P Values – Probability Value

4.3.3 Mediation Analysis

This part of the analysis was carried out to determine whether the effect of CRL on EIWB is transmitted through two mediating variables: EKSB and APMP. Mediation helps identify whether these variables explain the process through which CRL influences employee innovation. This Table 4.7 indicates that H4 CRL → EKSB → EIWB ($\beta = 0.162$, t = 4.111, $p < 0.05$) and H7 CRL → APMP → EIWB ($\beta = 0.167$, t = 3.629, $p < 0.05$) are both significantly supported as mediating factors.

TABLE 4.7: Mediating Relationship Analysis

Hypotheses	Relationships	β	Mean	S.D.	T Values	LLCI 2.5%	ULCI 97.5%	P values
H4	CRL -> EKSB -> EIWB	0.162	0.163	0.039	4.111	0.089	0.245	0.000
H7	CRL -> APMP -> EIWB	0.167	0.169	0.046	3.629	0.085	0.265	0.000

4.3.4 Moderator Analysis

The moderation analysis indicates that project complexity significantly weakens the positive effects of CRL on employee outcomes. Table 4.8 indicates that H8 PC × CRL → EIWB (β = -0.100, t = 2.755, p = 0.006), suggesting that as project

complexity increases, the positive impact of CRL on employee innovation decreases. Similarly, H9 PC × CRL → EKSB is supported (β = -0.269, t = 6.521, p < 0.001). Lastly, H10 PC × CRL → APMP is also supported (β = -0.269, t = 5.477, p < 0.001). These results confirm that project complexity acts as a negative moderator in all three relationships.

TABLE 4.8: Moderator Relationship Analysis

Hypotheses	Relationships	β	Mean	S.D.	T Values	LLCI 2.5%	ULCI 97.5%	P values
H8	PC x CRL -> EIWB	-0.1	-0.097	0.036	2.755	-0.167	-0.025	0.006
H9	PC x CRL -> EKSB	-0.269	-0.264	0.041	6.521	-0.344	-0.186	0.000
H10	PC x CRL -> APMP	-0.269	-0.262	0.049	5.477	-0.356	-0.166	0.000

4.3.5 Conditional Direct Effect of Project Complexity

The calculation of conditional direct effects for high (+1 SD), mean, and low (–1 SD) levels of project complexity was done in order to better understand the nature of the moderating effect. The influence of CRL on APMP, EKSB, and EIWB substantially diminishes with high PC, as shown in Table 4.9, suggesting that responsible leadership is more successful when complexity is minimal.

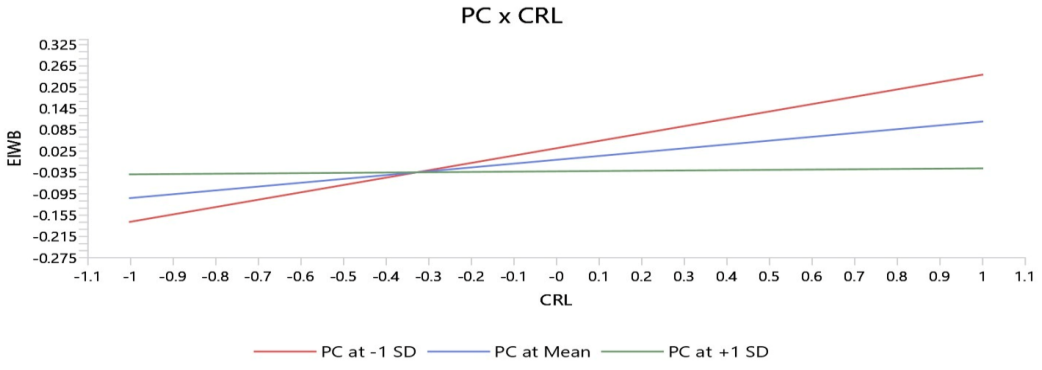

FIGURE 4.2: Conditional Direct Effect of PC on CRL and EIWB

The graph demonstrates that the positive impact of CRL on EIWB varies depending on the level of PC. When project complexity is low, responsible leadership shows

a strong and noticeable influence on employee innovation. However, as project complexity rises, this effect becomes weaker. At high levels of complexity, the influence of CRL on EIWB becomes minimal. These results suggest that CRL is more effective in encouraging EIWB among employees when the projects they are working on are less complex.

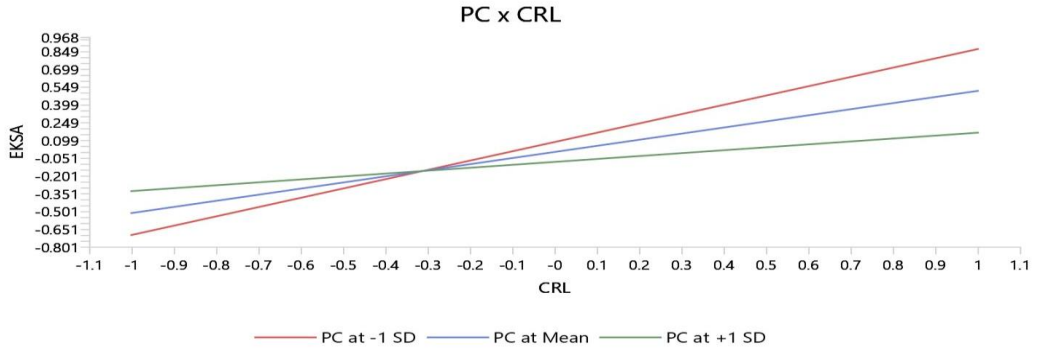

FIGURE 4.3: Conditional Direct Effect of PC on CRL and EKSB

The graph shows that the positive effect of CRL on EIWB changes depending on the level of PC. When project complexity is low, responsible leadership has a strong influence on innovation. As complexity increases, this effect becomes weaker. At high complexity, the impact of responsible leadership on innovation is very limited. This suggests that responsible leadership works better in supporting employee innovation when projects are simpler and less complex.

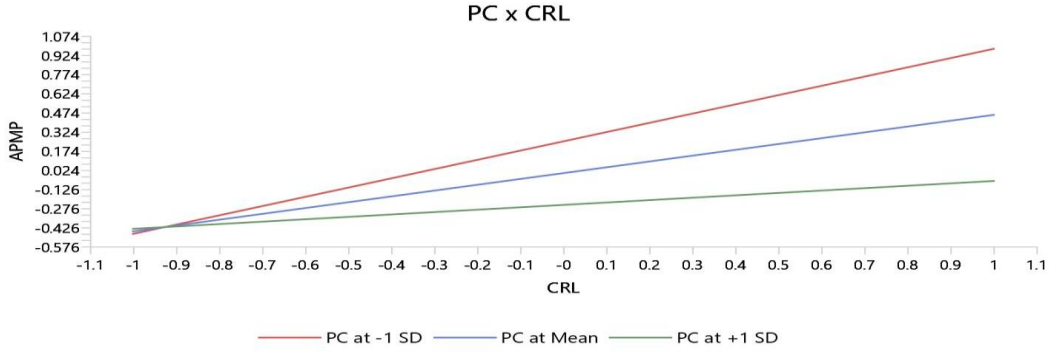

FIGURE 4.4: Conditional Direct Effect of PC on CRL and APMP

The graph shows that the effect of responsible leadership (CRL) on agile project management practices (APMP) becomes less strong as project complexity (PC)

increases. When project complexity is low, responsible leadership has a strong and clear impact on agile practices. At the average level of complexity, the effect is still positive but not as strong. When project complexity is high, the effect becomes weaker, though still present. This suggests that responsible leadership supports agile practices more when projects are less complex, and its impact reduces as the complexity increases.

TABLE 4.9: Conditional Direct Effect of Project Complexity

Relationship among variables	β	**Mean**	**S.D.**	**T Values**	**LLCI 2.5%**	**ULCI 97.5%**	**P values**
CRL -> EIWB PC at +1 SD	0.007	0.01	0.08	0.085	-0.142	0.171	0.933
CRL -> EIWB PC at -1 SD	0.206	0.203	0.076	2.715	0.054	0.355	0.007
CRL -> EKSB PC at +1 SD	0.247	0.256	0.078	3.16	0.096	0.402	0.002
CRL -> EKSB PC at -1 SD	0.785	0.783	0.039	19.975	0.697	0.852	0.000
CRL -> APMP PC at +1 SD	0.187	0.196	0.084	2.231	0.029	0.353	0.026
CRL -> APMP PC at -1 SD	0.725	0.721	0.052	13.962	0.606	0.81	0.000
CRL -> EIWB PC at Mean	0.106	0.106	0.069	1.534	-0.025	0.244	0.125
CRL -> EKSB PC at Mean	0.516	0.519	0.046	11.217	0.427	0.605	0.000
CRL -> EIWB PC at Mean	0.106	0.106	0.069	1.534	-0.025	0.244	0.125

4.3.6 Conditional Indirect Effect of Project Complexity

Conditional indirect effects provided additional information. The indirect effects of CRL on EIWB through both APMP and EKSB are more pronounced at low PC levels and decrease with increasing complexity, as indicated. In particular, the mediation effect through EKSB stays substantial at high PC, whereas the mediation effect through APMP becomes negligible (p = 0.06).

TABLE 4.10: Conditional Indirect Effect of Project Complexity

Relationship among variables	β	**Mean**	**S.D.**	**T Values**	**LLCI 2.5%**	**ULCI 97.5%**	**P values**
CRL -> EKSB -> EIWB PC at +1 SD	0.077	0.08	0.031	2.532	0.026	0.146	0.011
CRL -> EKSB -> EIWB PC at -1 SD	0.247	0.246	0.057	4.316	0.135	0.36	0.000
CRL -> APMP -> EIWB PC at +1 SD	0.069	0.072	0.037	1.876	0.01	0.152	0.061
CRL -> APMP -> EIWB PC at -1 SD	0.266	0.266	0.069	3.864	0.134	0.403	0.000
CRL -> EKSB -> EIWB PC at Mean	0.162	0.163	0.039	4.111	0.089	0.245	0.000
CRL -> APMP -> EIWB PC at Mean	0.167	0.169	0.046	3.629	0.085	0.265	0.000

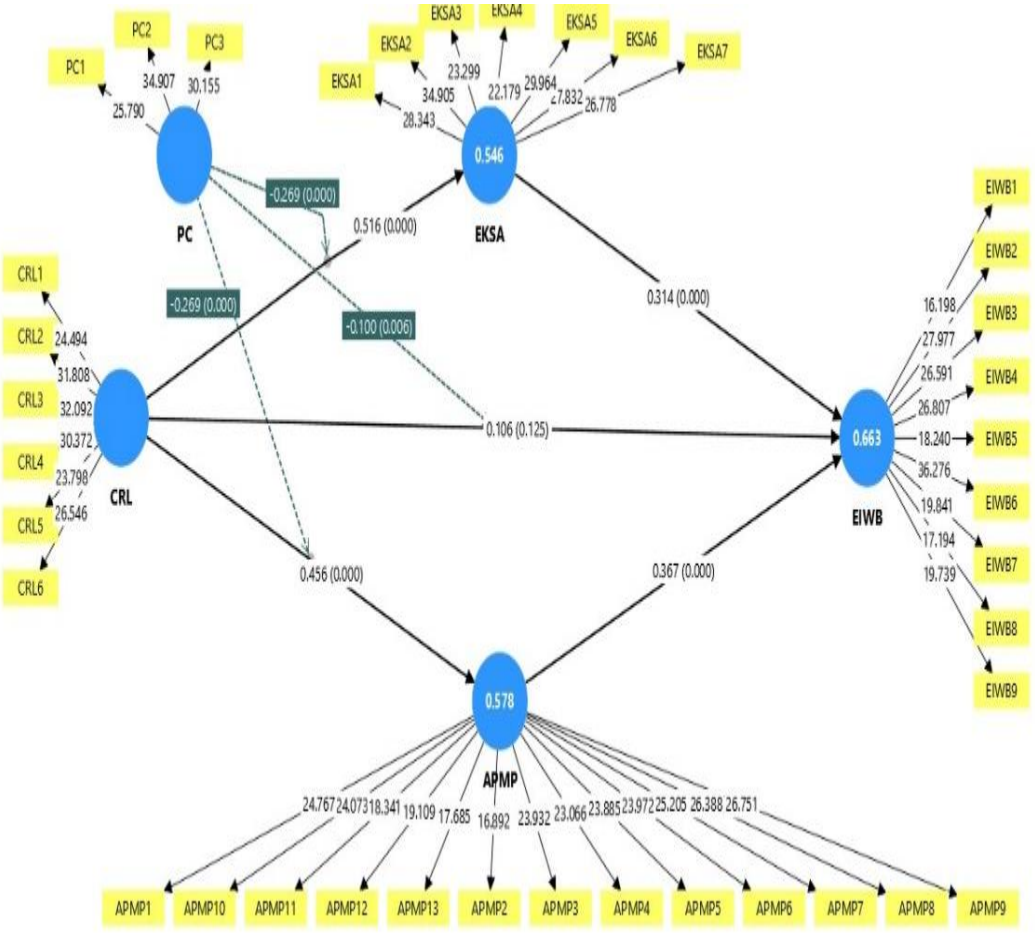

FIGURE 4.5: Structural Model Assessment

TABLE 4.11: Hypotheses Result Summary

Hypotheses	**Statement**	**Result**
H1	CEO responsible leadership has positive impact on employee innovative work behavior.	Not Supported
H2	CEO responsible leadership has positive impact on effective knowledge sharing behavior.	Supported
H3	Effective knowledge sharing behavior has positive impact on employee innovative work behavior.	Supported
H4	Effective knowledge sharing behavior mediates the relationship between CEO responsible leadership and employee innovative work behavior.	Supported

Continued on next page

Hypotheses	**Statement**	**Result**
H5	CEO responsible leadership has positive impact on agile project management practices.	Supported
H6	Agile project management practices have positive impact on employee innovative work behavior.	Supported
H7	Agile project management practices mediate the relationship between CEO responsible leadership and employee innovative work behavior.	Supported
H8	Project complexity moderates the relationship between CEO responsible leadership and effective knowledge sharing behavior.	Supported
H9	Project complexity moderates the relationship between CEO responsible leadership and employee innovative work behavior.	Supported
H10	Project complexity moderates the relationship between CEO responsible leadership and agile project management practices.	Supported

Chapter 5

Discussion and Conclusion

5.1 Introduction

This chapter interprets the empirical results mentioned in the previous chapter and further discusses their implications in relation to the existing literature, research objectives and hypotheses. The main aim of the study is to explore the impact of CRL on EIWB. The study explores the mediating role of EKSA and APMP and the moderating role of the project complexity.

The results obtained from analysis performed through the SPSS and Smart PLS-4 software provide valuable insights and practically validate the proposed conceptual model; all hypotheses except H1 have been statistically supported. The following sections discuss the hypothesis by hypothesis results of the study, duly incorporating existing the literature.

In section 5.2 all the hypotheses results are discussed in detail with providing justifications to answer the research the research the research questions of this study. Section 5.2 discusses the theoretical and practical implications on the base of the hypotheses results. Lastly section 5.3 provides the discussion on the study limitations and recommendations for future research.

5.2 Hypotheses Discussion

5.2.1 H1: CEO responsible leadership has positive impact on employee innovative work behavior

The direct path between CRL and EIWB was statistically insignificant, suggesting that CEL alone does not drive EIWB in this context, Consequently, Hypothesis H1 has been rejected. The reason behind this only CEO with knowledge sharing and agility cannot attain desire result at the workplace (Haider et al., 2023; Lee et al., 2020). Given that previous research has highlighted the significance of moral, visionary, and accountable leadership in fostering employee creativity, this result is a little unexpected (Iqbal and Parray, 2025). According to (Maak et al., 2016), responsible leaders are frequently viewed as role models who cultivate trust, empowerment, and an ethical environment elements thought to be crucial for promoting risk-taking and creativity. However, the contextual complexity in which IT project base organizations operate may be reflected in the absence of direct significance. According to (Jeong and Lee, 2025). While path was not significant, the positive direction is still in line with idea that employee behavior when supported right organizational structures. leadership influence in these kinds of settings is frequently indirect and spreads via supporting mechanisms like agile project management practices and collaborative knowledge processes. Although the direct relationship was not significant, the direction supports the idea that leadership values influence employee behavior, especially when the organizational setting allows those values to be expressed. This view is reflected in the upper echelon theory, which emphasizes that executive traits influence outcomes through strategic choices and structures (Abatecola and Cristofaro, 2020; Ali et al., 2023). In highly dynamic and fast paced sector like IT, where executive values and traits have impact on organizational outcomes through the structures, procedures, and decision-making styles they employ. Even a responsible leader may find it difficult to influence innovative behavior in highly dynamic and fast-paced businesses like IT, where innovation relies on decentralized knowledge and adaptable teams, unless those enabling mechanisms are successfully engaged (Dong et al., 2025).

Furthermore, cultural factors could also play a role. In more hierarchical or risky work place employees feel hesitate to take creative risk even under the CEOs. Despite CRL, individuals may be reluctant to demonstrate innovative behavior in more hierarchical or risk-averse workplaces (Gutiérrez-Broncano et al., 2024). Therefore, even though CRL fosters innovation, its impact on EIWB is probably mediated by mediating factors like APMP and EKSA, both of which were significant in our study.

5.2.2 H2: CEO responsible leadership has positive impact on effective knowledge sharing behavior

The findings of the study confirm that CRL has a significant and positive impact on EKSA, as evidenced by the path coefficient, This result indicates that when CEOs act with responsibility, fairness, and a clear focus stakeholder orientation, employees are more inclined to develop constructive attitudes toward knowledge sharing (Lee et al., 2020). CEOs promotes trust, openness and psychological safety, all of which are essential foe encouraging employees to share new ideas and information. This finding is supported by recent organizational behavior studies. Building high levels of psychological safety through responsible leadership encourages staff members to share information without worrying about criticism or abuse (Leal D'Avila and De Montreuil Carmona, 2025). Transparent and moral leaders create cultures of trust and promote the exchange of knowledge between roles and departments (Zhang et al., 2025a). Such leadership behaviors become crucial for promoting group learning and continual improvement, especially in fast-paced industries like IT where innovation and decision-making significantly depend on timely knowledge availability. This result is also consistent with UET (Hambrick and Mason, 1984) provides additional insight into this link by arguing that the values and leadership styles of CEOs influence the strategic and behavioral results of a business. When leaders behave morally and set an example, they have an impact on company culture that values cooperation, education, and candid communication. Employees in a healthy organization carry out their responsibilities with a common aim in mind, and they are provided with the tools, resources, and assistance they need to complete their work (Haider and Kayani, 2021). This

hypothesis support that CEOs gives freedom to their employee to think outside of the box and encourage employees to share their new ideas are then produced, and they will explore new opportunities (Haider et al., 2023; Zhang et al., 2025b). This is especially important in dynamic, knowledge-driven industries, where competitive advantage relies heavily on how quickly and openly teams can learn and adapt.

5.2.3 H3: Effective knowledge sharing behavior has positive impact on employee innovative work behavior

The findings indicate a significant positive association between EKSA and EIWB. This suggests that employees who actively share knowledge and insights are more likely to introduce new ideas, methods, or improvements in their work. In the context of IT project base organization, where teamwork and current knowledge are frequently essential to work processes, these attitudes foster innovation and flexibility. Employees can learn from one another, build on group experiences, and develop solutions that support corporate innovation in a setting where knowledge sharing is encouraged (Bhatti et al., 2025). This kind of collaboration also builds team trust and supports a culture where innovation is not only encouraged but expected. This result also fit within the framework of upper echelon theory (Hambrick and Mason, 1984) organizational behavior is influenced by the attitudes and values of senior executives. When top management encourages knowledge sharing and models openness, it promotes a culture where team members are empowered to learn from one another and contribute novel ideas (Ali et al., 2023). Employees at all levels are inspired to act in ways that foster innovation when responsible leadership makes information sharing the standard. Thus, a major factor influencing creative results is the strategic impact of leadership on culture. In addition, the role of psychological safety cannot be overlooked. Employees who feel safe and supported are more likely to express unconventional ideas without fear of rejection. Recent research also supports that leaders who create inclusive and supportive environments increase the willingness of employees to share and experiment with ideas (Ajmal et al., 2025; Ruan et al., 2025). When this kind of atmosphere exists, innovation becomes a natural outcome of day-to-day collaboration. his relationship is especially relevant in project based IT settings,

where team agility, real-time learning, and effective collaboration determine long-term success (Malik et al., 2023; Zhang et al., 2025a)

5.2.4 H4: Effective knowledge sharing behavior mediates the relationship between CEO responsible leadership and employee innovative work behavior

The results of the mediation analysis revealed that EKSA significantly mediating role between CRL and EIWB. This means that although CRL does not have a significant direct influence on EIWB, but having significant impact on EIWB, through the mediating effect, making the mediation hypothesis supported. According to this, responsible leadership fosters a culture of open communication, trust, and shared learning, which is the main way that it fosters employee innovation. When employees observe ethical and supportive behavior from their leaders, they feel encouraged to contribute and share their knowledge without fear of judgment or hierarchy. This sense of psychological safety enables employees to explore new ideas and collaborate more openly (Le et al., 2025; Wang, 2025). In IT project-based organizations where innovation depends heavily on cross-functional knowledge and real-time decision-making, such a culture becomes a key enabler of creative outcomes. This encourages creative work practices. Employees can learn from one another, build on group experiences, and develop solutions that support corporate innovation in a setting where knowledge sharing is encouraged (Bhatti et al., 2025). This result is in line with new studies that show information sharing to be a crucial mechanism connecting innovation and leadership. According to (Zada et al., 2024) for instance, accountable leadership fosters an environment of openness and trust that encourages people to share ideas. Zhang et al. (2025a) discovered that workers who exchange knowledge are more likely to exhibit initiative and innovative problem-solving. These results validate the reasoning behind the UET (Hambrick and Mason, 1984) which posits that leadership conduct has a substantial impact on employee outcomes and organizational norms. Other academics like (Akbar et al., 2024) argue that knowledge sharing acts as a vital channel through which leadership values become embedded in day-to-day employee behavior. When

teams are encouraged to discuss their ideas and learn from each other, innovation becomes part of the organization's workflow. EKSA, therefore, acts as the bridge connecting leadership behavior with employee-driven innovation translating ethical and responsible intent into real outcomes.

5.2.5 H5: CEO responsible leadership has positive impact on agile project management practices

The statistical findings confirm a significant positive association between CRL and APMP. This suggests that CEOs who exhibit responsible leadership that is, responsibility, moral behavior, and inclusivity create an environment that is conducive to the use of agile approaches in project environments (Lakshminarasimham, 2025). These leaders encourage cooperation, team independence, and candid communication all of which are critical to the success of agile frameworks. According to recent research, organizational agility is improved by leadership philosophies based on accountability and stakeholder orientation. (Uddin and Rahman) stress that accountable leadership enhances team reactivity and permits quicker adaptation to change. In a similar manner, (Prica and Bjelic, 2025) discover that accountable leaders improve agile capabilities in unpredictable project situations by fostering trust and lowering resistance. Agile approaches thrive in cultures where leadership promotes learning and iterative improvement (Setiawan et al., 2025a). From a theoretical standpoint, the Upper Echelons Theory (Hambrick and Mason, 1984) supports this relationship by claiming that organizational systems and strategic actions are shaped by the traits and ideals of senior executives. CEOs encourage employee empowerment and ongoing feedback loops, which have a direct impact on the adoption of agile approaches. A key project management skill in fast-paced IT contexts is agility, which is fostered by such leadership. The theory argues that the characteristics and values of top leaders influence strategic actions and organizational systems. In this case, a responsible CEO's leadership style helps shape the structure and behavior of project teams toward agility. Leaders who value inclusion, adaptability, and stakeholder engagement naturally promote agile mindsets throughout the organization.

5.2.6 H6: Agile project management practices have positive impact on employee innovative work behavior

The findings confirm a significant and positive relationship between APMP and EIWB. This highlights the implementation of agile practices such as repeated development cycles, regular feedback, and adaptable planning creates a work environment that encourages experimentation, flexibility, and creative problem-solving among employees (Waseem et al., 2025). Agile methodologies help team members in knowledge-intensive industries like IT to try creative solutions without worrying about failure, respond quickly to changes, and contribute fresh ideas. Agile methods not only boost individual creativity but also team performance, according to recent research. As an illustration, (Malik et al., 2023) stress that agile frameworks boost employee ownership and engagement, two factors that are critical for creative behavior. Similarly, agile working environments foster psychological empowerment, which increases employee creativity, according to Stefanie (Prediger and Schermuly, 2025) point out that agile practices, such stand-up meetings and sprint reviews, enable staff members to continuously improve their concepts and foster creativity. According to the UET (Hambrick and Mason, 1984) which asserts that senior leaders' values and decision-making styles shape organizational processes and outcomes. When top executives actively support agile models, they send a clear message about flexibility, openness, and innovation (Guckenbiehl et al., 2023). This leadership direction trickles down and influences how employees think, interact, and perform, senior executives who formalize agile methods have an impact on the workplace culture that promotes creativity at all levels. Employees can match their innovative endeavors with strategic objectives thanks to the structural flexibility offered by agile methodologies, which improves organizational and individual results.

5.2.7 H7: Agile project management practices mediate the relationship between CEO responsible leadership and employee innovative work behavior

The results indicate that APMP significantly mediate the relationship between CRL and EIWB. Although the direct path from CRL to EIWB was not statistically significant

(H1), this mediation result shows that CRL indirectly contributes to innovation by fostering agile practices. This highlights the importance of organizational processes as a mechanism through which leadership impacts employee behavior.

In line with the upper echelon theory (Hambrick and Mason, 1984), which holds that top executives shape organizational outcomes by establishing structures and making strategic decisions. In this instance, accountable CEOs support agile frameworks that place an emphasis on teamwork, flexibility, and ongoing learning environments that are perfect for fostering creativity. This opinion is also supported by recent research. For example, (Kautish et al., 2025) discovered that team responsiveness and innovation are improved by leaders that encourage agility. Agile approaches enable staff members to think creatively, take initiative, and act on novel ideas, claim (Zaman et al., 2024). In a similar vein (Malik et al., 2023) demonstrated that accountable leadership promotes agility, which in turn boosts creative results in dynamic project settings. These results highlight the fact that agile practices are strategic tools influenced by leadership ideals that help employees reach their full creative potential. Agile project environments, when championed by responsible leaders, create the right cultural and structural conditions for innovation to emerge. Employees in such settings are encouraged to test ideas, reflect on performance through feedback loops, and collaborate across functions. This culture of agility transforms leadership intent into innovative behavior on the ground (Lakshminarasimham, 2025). Ultimately, the findings of H7 underscore that leadership alone may not be sufficient to trigger innovative actions directly. Instead, it is through well-supported, agile organizational systems that leadership values are translated into employee behavior. APMP acts as the critical link that enables responsible leadership to reach the operational level where innovation is activated, refined, and sustained.

5.2.8 H8: Project complexity moderates the relationship between CEO responsible leadership and effective knowledge sharing behavior

The results show that PC significantly moderates the relationship between CRL and EKSA. This indicates that as project complexity increases, the positive influence of CRL on EKSA becomes weaker. By contrast, responsible leadership

has a significantly greater impact on promoting knowledge sharing when project complexity is quite modest. These findings highlight how extra difficulties like job ambiguity, uncertainty, and coordination requirements may lessen the effect of leadership behaviors on staff attitudes in high-complexity projects.

This result reinforces the core premise of upper echelon theory (Hambrick and Mason, 1984) which contends that a leader's actions can be influenced by the environment in which they function. Even accountable project managers may encounter obstacles that restrict their capacity to provide transparent communication and knowledge-sharing settings. Recent research backs up this opinion. For instance, (Lin et al., 2025) discovered that structural difficulties reduce the impact of leadership on team dynamics in high-complexity contexts. In a similar vein, (Da'as, 2025) contend that task complexity may limit leadership's ability to influence knowledge processes. (Ali et al., 2025) go on to say that in order to sustain robust information flows in the face of significant uncertainty, leaders of IT-based projects must implement additional adaptive methods. As a result, although responsible leadership is still crucial, how well it improves EKSA depends on how complex the project is. As such, although CRL remains a vital factor in encouraging EKSA, its impact becomes conditional on the project's context (Trzeciak and Banasik, 2022). In simpler projects, the leadership's role in modeling ethical behavior, openness, and trust has greater traction and visibility. In contrast, in highly complex scenarios, these leadership signals can become diluted or lost amid competing challenges and uncertainties. Therefore, the effectiveness of responsible leadership is not uniform; it is shaped, and sometimes constrained, by the very complexity of the work environment in which it operates.

5.2.9 H9: Project complexity moderates the relationship between CEO responsible leadership and employee innovative work behavior

The moderation analysis confirms that PC significantly moderates CRL and EIWB. This implies that the degree of complexity in the project environment affects the beneficial effects of CRL on EIWB is strong in low complexity project environment

as complexity increase (Malik et al., 2023; Zhou et al., 2025). In highly complex environment employee often greater a ambiguity, interdependence, and uncertainty, which tend to reduce their ability to innovate and perform productively.

These findings align with UET (Hambrick and Mason, 1984) which holds that executives' choices and leadership philosophies can influence organizational results depending on the internal and external environment in which they function. Leaders are better able to directly affect employee behavior in less complicated settings, which fosters innovation and creativity. However, conflicting needs, ambiguity, and uncertainty may make it more difficult for leaders to successfully convey their vision, encourage creativity, or empower staff in extremely complex projects. Recent research supports this notion even more. When the organizational backdrop is stable and less unclear, responsible leadership is more successful in promoting innovation, according to (Ajmal et al., 2025). Similarly, in order to sustain innovative performance in tumultuous or complex project environments, (Ruan et al., 2025) contend that strong support networks must be added to leadership influence. (Ruan et al., 2025) point out that even with supportive leadership, employees frequently become task-focused when complexity is high, which limits their cognitive and psychological room for creativity.

5.2.10 H10: Project complexity moderates the relationship between CEO responsible leadership and agile project management practices

The results reveal a statistically significant moderating effect of project complexity (PC) on the relationship between CRL and agile APMP. This negative moderation implies that the beneficial effects of responsible leadership on the application of agile principles are diminished when project complexity is high. On the other hand, CRL encourages agile adoption among project teams more successfully in low-complexity settings.

This finding aligns well with the UET (Hambrick and Mason, 1984) contends that the environment in which top leaders function shapes their influence, and this conclusion is consistent with that theory. Although responsible CEOs typically encourage agility

through transparency, empowerment, and teamwork, complex circumstances like ever-changing requirements, a diverse range of stakeholders, and technological uncertainty may limit their ability to effectively apply agile approaches. CRL is still a significant driver, but its efficacy varies depending on the situation. Recent studies lend credence to this interpretation. Project complexity can reduce the benefits of moral and responsible leadership on agile techniques since it makes coordination more difficult and puts more burden on resources, according to (Lakshminarasimham, 2025). Similar findings were made by (Adobor and Kudonoo, 2025) who found that agile transformations work best in situations with low to moderate complexity because leaders can better regulate team alignment and communication flow. (Ruan et al., 2025) highlighted in another study that leaders need to combine decentralized decision-making, adaptive governance, and responsible behavior in order to preserve agility in high complexity environments. while CRL promotes agile practices, its impact weakens in highly complex projects. In such environments, responsible leadership must be supported by adaptive structures, decentralized decision-making, and strong communication systems (Ali et al., 2023; Rauniar and Cao, 2025). Without these, even ethical leadership may struggle to drive agility effectively (Setiawan et al., 2025a; Zada et al., 2024)

5.3 Implications

Implications refer to significance and contribution of the study's finding beyond just results. The help explains how the research advances theory, informs practice and supports decision making in real world contexts. These are typically categorized into both theoretical and practical contributions that extend the understanding of CEO responsible leadership and its impact on employee innovation in complex project environments. The implications are categorized into theoretical and practical aspects to demonstrate how this research advances academic knowledge and informs organizational practices.

5.3.1 Theoretical Implications

This study pays meaningfully to the existing body of knowledge on leadership, innovation, and project management. Firstly, it broadens the theoretical understanding of CEO responsible leadership by showing how it influences employee

innovative work behavior through two key mediating variables: effective knowledge sharing behavior and agile project management practices (Haider et al., 2023) . Instead of assuming a direct link between leadership and innovation, this research uncovers the underlying mechanisms that help explain how responsible leadership supports innovation within organizations. This adds depth to current leadership literature by identifying specific behavioral and process-based pathways through which leaders shape innovative outcomes (Zhang et al., 2025a). Secondly introducing project complexity as moderating factor, the finding reveal that high level of complexity can weaken the positive impact of CEOs and employee innovativeness (Shafique et al., 2023; Zhang et al., 2025a). This supports the need for adaptive and flexible approaches in environment. Moreover, this research integrates key concepts from leadership theory, knowledge management, agile methodologies, and employee behavior into a single framework. This cross-domain model contributes to theory-building by connecting separate strands of literature, encouraging a more comprehensive view of how leadership affects innovation in dynamic and complex settings (Lakshminarasimham, 2025; Setiawan et al., 2025a). The study strengthens the foundation of upper echelon theory (Ali et al., 2023; Hambrick and Mason, 1984) by illustrating that the values and thinking patterns of CEOs affect not only organization direction but also employee behavior level, the finding shows that top level management play a crucial role in shaping organization.

5.3.2 Practical Implications

This study provides several practical implications for executives and project managers working in IT-based SMEs. The findings show that CEO responsible leadership by itself does not directly enhance employee innovative work behavior, indicating that leadership alone is not sufficient to drive creativity. Lee et al. (2020) discovered that factors like information absorption capacity are necessary for leadership styles to have an impact on innovation. Similarly, Haider et al. (2022) contend that leadership without enabling behaviors frequently fails to sustain innovation, while Lakshminarasimham (2025) emphasizes that systems that encourage experimentation are necessary for long-term value development. Therefore,

it makes sense for CEOs to supplement their leadership style with systems that promote transparency, teamwork, and innovative problem-solving.

Effective knowledge exchange among employees is greatly aided by the CEO's responsible leadership. Leaders that prioritize ethics, diversity, and stakeholder orientation foster an atmosphere in which staff members are at ease expressing their opinions (Lee et al., 2020). Employees are more likely to turn shared insights into creative solutions when leadership encourages knowledge exchange, according to evidence from SMEs (Huo et al., 2022). Zhang et al. (2025a) stress that when knowledge is freely shared among teams, people are more willing to innovate in IT situations. In order to maximize creative potential, CEOs should create both official and informal channels for knowledge exchange.

The study also demonstrates how agile project management techniques are improved by the CEO's accountable leadership. CEOs can make sure that team-level innovation reflects leadership vision by encouraging adaptability, teamwork, and iterative work methods. While Setiawan et al. (2025b) demonstrate that agile structures allow for quick adaptation to changing surroundings, Waseem et al. (2025) observe that agile methodologies are now used across industries to increase responsiveness. In a similar vein, Khan et al. (2025) discovered that agile methods enhance project performance by facilitating ongoing input. In practice, IT SMEs should support cross-functional cooperation, embrace iterative tools, and spend money on agile training.

Agile methods and knowledge exchange are essential conduits that connect employee creativity with responsible leadership. Park and Lee (2014) show that information sharing improves the connection between leadership and organizational outcomes, while Haider et al. (2022) show that agile approaches backed by leadership encourage innovation and project success. Furthermore, (Abatecola and Cristofaro, 2020) contend that leadership by itself has little impact in the absence of such mediating mechanisms. Therefore, in order to fully benefit from leadership, businesses should institutionalize information exchange platforms and integrate agile methodologies.

The results also show that agile techniques and information sharing both independently improve employees' creative work habits. According to Jingwen et al. (2025)

when information sharing becomes ingrained in a company's culture, it leads to increased innovative capabilities. While Ijaz (2025) associate agile methods with increased innovation, Guckenbiehl et al. (2023) emphasize that agile approaches enable employees to tackle challenges iteratively. In order to ensure that innovation is not exclusively dependent on top executives, managers and team leaders should, in practice, promote idea sharing and iterative decision-making at all levels.

Lastly, the moderating effect of project complexity implies that the beneficial effects of responsible leadership on creativity diminish in extremely complicated initiatives. Complexity lowers the efficiency of leadership in virtual teams, according to Zhang et al. (2025a). While Zhou et al. (2024) emphasize the significance of organized coordinating mechanisms to sustain performance in such circumstances, Malik et al. (2023) contend that excessive interdependence and uncertainty reduce the effectiveness of centralized leadership. In practice, this means that in order to sustain creative results in complicated settings, leaders need decentralize decision-making, improve communication channels, and use flexible tools.

5.4 Limitations and Future Research Directions

This study pays implicitly to the accepting of how CEO responsible leadership impacts EIWB, particularly over the mediating roles of EKSA and APMP, and the moderating result of project complexity (Haider et al., 2022). However, like all empirical research, it has several limitations that also open up paths for future investigation. Firstly, the use of a cross-sectional design limits the talent to appeal fundamental suggestions between CRL and EIWB. Since leadership influence and employee behaviors develop over time, a longitudinal research design would allow future researchers to better understand how these relationships evolve. As noted by Haider et al. (2022), time-based designs provide stronger sign for cause-and-effect relationships.

Secondly, this study was conducted within project base IT SMEs in Islamabad and Rawalpindi, which may affect the generalizability of the findings. Organizational structures, leadership styles, and innovation dynamics may differ significantly in other industries or cultural contexts. Future research should replicate this study in

diverse sectors such as manufacturing, healthcare, or education, and across other countries, to enhance the external validity of the results (Temitope, 2022). The data was gathered through self-reported questionnaires, there is a chance of bias, even though steps like keeping responses giving clear instructions were followed. (Goswami and Agrawal, 2023) recommend incorporating multi-source data such as supervisor evaluations or archival performance records to improve reliability and reduce bias.

Another limitation concerns the conduct of project complexity as a single dimensional construct. In reality, project complexity can involve multiple dimensions technical, managerial, and stakeholder-related that may influence leadership outcomes differently. (Khan et al., 2025) emphasize the importance of distinguishing between these aspects for a more nuanced understanding of how complexity interacts with leadership practices. Future researchers should also explore additional mediators and moderators, such as psychological empowerment, digital transformation, or organizational culture, to enrich the explanatory power of the model. Moreover, employing multilevel analysis could uncover how responsible leadership influences employee innovation across team, departmental, and organizational levels.

5.5 Conclusion

This study was aimed to investigate the influence of CEO responsible leadership on employee innovative work behavior in IT Small and Medium-Sized Enterprises (SMEs) in Islamabad and Rawalpindi, with effective knowledge sharing behavior and agile project management practices as mediators, and project complexity as a moderator. The results revealed that CEO responsible leadership does not directly enhance employee innovative work behavior; instead, its influence is fully mediated through effective knowledge sharing behavior and agile project management practices. This indicates that responsible leadership must be supported by a knowledge-sharing culture and agile work practices to drive innovation among employees. Additionally, Project Complexity was found to weaken these indirect relationships, suggesting that in highly complex project environments, leadership

strategies need to be adapted to remain effective. These findings offer practical insights for IT SMEs to align internal processes with leadership efforts, ensuring that innovation can thrive even in challenging and dynamic project settings.

Bibliography

Abatecola, G. and Cristofaro, M. (2020). Hambrick and mason's "upper echelons theory": Evolution and open avenues. *Journal of Management History*, 26:116–136.

Abid, K. and Polo, F. (2025). Talent development through intrapreneurship: a human-capital approach in french smes. *European Journal of Training and Development*.

Adelina, C. (2024). *Orchestrating Innovation: Leaders' Strategies of Aligning Cross-Functional Teams within an Indonesian Startup*. Thesis.

Adobor, H. and Kudonoo, E. C. (2025). Antifragility and organizations: an organizational design perspective. *Leadership & Organization Development Journal*.

Ahmad, M. O. (2025). Effective handling of large scale agile secure solution development teams. *Journal of Decision Systems*, 34(1):2458875.

Ahsan, M. J. (2025). Cultivating a culture of learning: the role of leadership in fostering lifelong development. *The learning organization*, 32(2):282–306.

Ahuja, L., Singh, B., and Simon, R. (2024). Data cleaning: Paving a way for accurate and clean data. *Global Journal of Enterprise Information System*, 16(1):18–25.

Ajmal, M., Sareet, Z., and Islam, A. (2025). Unleashing innovation through employee voice behavior in the hotel industry: the impact of ambidextrous leadership on innovative work behavior. *Journal of Hospitality and Tourism Insights*, 8(2):448–471.

Akbar, A., Chen, S., Akhtar, M. W., Usman, M., Tariq, A., Frija, L., and Shabbir, S. A. (2024). Responsible leadership and sustainable outcomes: a multi-study perspective of individual ambidexterity and knowledge sharing culture. *Current Issues in Tourism*, pages 1–20.

Al-Zoubi, M. O., Masa'deh, R., and Twaissi, N. M. (2025). Exploring the relationship among structured-on-the job training, mentoring, job rotation, work environment factors and tacit knowledge transfer. *VINE Journal of Information and Knowledge Management Systems*, 55(1):240–267.

Ali, A., Jiang, X., Ali, A., and Qadeer, A. (2023). A moderated mediation model linking entrepreneurial leadership to green innovation: An upper echelons theory perspective. *Creativity and Innovation Management*, 32(1):41–57.

Ali, H. F., Chaudhary, A., and Islam, T. (2025). How does responsible leadership enhance work engagement? the roles of knowledge sharing and helping initiative behavior. *Global Knowledge, Memory and Communication*, 74(3/4):613–629.

AlKheder, S., Al Otaibi, H., Al Baghli, Z., Al Ajmi, S., and Alkhedher, M. (2025). Analytic hierarchy process (ahp) assessment of kuwait mega construction projects' complexity. *Engineering, Construction and Architectural Management*, 32(3):1903–1946.

Ayyaswamy, K., Kathirvel, N., Gobinath, V., and Maheswaran, C. (2025). *Effective Leadership Strategies for Enhancing Student Success in Higher Education*, pages 61–92. IGI Global Scientific Publishing.

Badran, S. S. and Abdallah, A. B. (2025). Lean vs agile project management in construction: impacts on project performance outcomes. *Engineering, Construction and Architectural Management*, 32(5):2844–2869.

Bashir, Z. (2025). *Determining the Relationship of Agility, Innovation and Corporate Social Responsibility on the Competitiveness in Telecommunication Service Sector*. Thesis.

Bell, E., Harley, B., and Bryman, A. (2022). *Business research methods*. Oxford university press.

Bhatti, S. H., Jabeen, F., Ahmed, A., Romano, M., and Pascucci, F. (2025). How do knowledge-intensive business services improve innovation? a resource-based model for antecedents of innovation in a developing country. *Journal of Knowledge Management*, 29(1):92–112.

Bilski, P. (2014). Data set preprocessing methods for the artificial intelligence-based diagnostic module. *Measurement*, 54:180–190.

Blomqvist, A., Bäck, M., Klompstra, L., Strömberg, A., and Jaarsma, T. (2025). Testing the recruitment frequency, implementation fidelity, and feasibility of outcomes of the heart failure activity coach study (healthy): Pilot randomized controlled trial. *JMIR Formative Research*, 9:e62910.

Catterall, M. (2000). Research methods for business students. *Qualitative Market Research: An International Journal*, 3(4):215–218.

Chatzichristos, G. (2025). Qualitative research in the era of ai: A return to positivism or a new paradigm? *International Journal of Qualitative Methods*, 24:16094069251337583.

Chen, C., Lv, L., and Xu, C. (2024). Family successor ceo and innovation investment: a study based on the theoretical upper echelons and conflict theory. *Business Process Management Journal*.

Chen, C., Song, H., Wang, D., and Wang, B. (2025a). How does perceived organisational support restrain social loafing of employees? the mediating role of self-efficacy and entrepreneurial bricolage. *Journal of Innovation & Knowledge*, 10(1):100634.

Chen, X., Chen, Y., Zhang, X., and He, Q. (2025b). Green transformational leadership and green innovation in megaprojects: is green knowledge sharing a missing link? *Engineering, Construction and Architectural Management*, 32(1):194–213.

Chukwunweike, J. and Aro, O. (2024). Implementing agile management practices in the era of digital transformation. *World Journal of Advanced Research and Reviews*, 24(1).

Da'as, R. (2025). Principals' attentional scope and teacher creativity: The role of principals' ambidexterity and knowledge sharing. *International Journal of Leadership in Education*, 28(3):510–532.

Daraojimba, E. C., Nwasike, C. N., Adegbite, A. O., Ezeigweneme, C. A., and Gidiagba, J. O. (2024). Comprehensive review of agile methodologies in project management. *Computer Science & IT Research Journal*, 5(1):190–218.

Davari, D. and Kim, S. (2025). Navigating workplace technological challenges: the role of technology curiosity and peace of mind in enhancing employee work-life wellbeing and work pleasure. *Journal of Hospitality Marketing & Management*, pages 1–24.

Doh, J. P. and Quigley, N. R. (2014). Responsible leadership and stakeholder management: Influence pathways and organizational outcomes. *Academy of Management Perspectives*, 28(3):255–274.

Dong, W. and Zhong, L. (2021). Responsible leadership fuels innovative behavior: The mediating roles of socially responsible human resource management and organizational pride. *Frontiers in Psychology*, 12.

Dong, X., Tian, Y., He, M., and Wang, T. (2025). When knowledge workers meet ai? the double-edged sword effects of ai adoption on innovative work behavior. *Journal of Knowledge Management*, 29(1):113–147.

Dugbartey, A. N. and Kehinde, O. (2025). Optimizing project delivery through agile methodologies: Balancing speed, collaboration and stakeholder engagement.

Ebekozien, A., Aigbavboa, C. O., and Thwala, W. D. (2025). *A Practical Research Process for Developing a Sustainable Built Environment in Emerging Economies*. Taylor & Francis.

Eduzor, N. C. (2024). Leadership styles and organizational performance: Examining the impact of transformational leadership on employee engagement and business success leadership styles and organizational performance: Examining the impact of transformational leadership on em. *International Journal of Development, Sustainability and Environmental Management*, 1:16–24.

Faul, F., Erdfelder, E., Buchner, A., and Lang, A.-G. (2009). Statistical power analyses using g* power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, 41(4):1149–1160.

Fornell, C. and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1):39–50.

Goswami, A. K. and Agrawal, R. K. (2023). It's a knowledge centric world! does ethical leadership promote knowledge sharing and knowledge creation? psychological capital as mediator and shared goals as moderator. *Journal of Knowledge Management*, 27(3):584–612.

Gray, P. A. (2025). *Transforming Chaos Into Compassion: Emotional Intelligence and Trauma-Informed Practices for Holistic Change Management in Libraries*, pages 21–41. Emerald Publishing Limited.

Guckenbiehl, P., Krieg, A., Brandt, S., and Theobald, S. (2023). On agile leadership and project sustainability. In *Projektmanagement und Vorgehensmodelle 2023-Nachhaltige IT-Projekte*. Gesellschaft für Informatik eV.

Gutiérrez-Broncano, S., Linuesa-Langreo, J., Ruiz-Palomino, P., and Silva, G. M. (2024). How and when ceo servant leaders fuel firm innovation: the role of social capital and knowledge absorptive capacity. *International Entrepreneurship and Management Journal*, 20(4):2729–2761.

Haider, S. A., Akbar, A., Tehseen, S., Poulova, P., and Jaleel, F. (2022). The impact of responsible leadership on knowledge sharing behavior through the mediating role of person–organization fit and moderating role of higher educational institute culture. *Journal of Innovation & Knowledge*, 7(4):100265.

Haider, S. A. and Kayani, U. N. (2021). The impact of customer knowledge management capability on project performance-mediating role of strategic agility. *Journal of Knowledge Management*, 25(2):298–312.

Haider, S. A., Zubair, M., Tehseen, S., Iqbal, S., and Sohail, M. (2023). How does ambidextrous leadership promote innovation in project-based construction

companies? through mediating role of knowledge-sharing and moderating role of innovativeness. *European Journal of Innovation Management*, 26(1):99–118.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., and Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature.

Hambrick, D. C. and Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, 9(2):193–206.

Hariyani, D. and Mishra, S. (2022). Drivers for the adoption of integrated sustainable green lean six sigma agile manufacturing system (isglsams) and research directions. *Cleaner engineering and technology*, 7:100449.

He, P., Zhou, H., Jiang, C., Anand, A., and Zhou, Q. (2025). Responsible leadership and deceptive knowledge hiding: the mediating role of moral reflectiveness and the moderating role of leader-follower value congruence. *Journal of Knowledge Management*, 29(1):49–71.

Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43:115–135.

Hoang, T. N. and Le, P. B. (2025). The influence of transformational leadership on knowledge sharing of teachers: the roles of knowledge-centered culture and perceived organizational support. *The Learning Organization*, 32(2):328–349.

Hock-Doepgen, M., Montasser, J. S., Klein, S., Clauss, T., and Maalaoui, A. (2025). The role of innovative work behavior and organizational support for business model innovation. *R&D Management*, 55(1):7–26.

Huo, T., Cao, R., Xia, N., Hu, X., Cai, W., and Liu, B. (2022). Spatial correlation network structure of china's building carbon emissions and its driving factors: A social network analysis method. *Journal of Environmental Management*, 320:115808.

Idrees, H., Xu, J., and Haider, S. A. (2024). Impact of knowledge management infrastructure and processes on automobile manufacturing firm innovative performance through the mediating role of agile project management practice. *Journal of Knowledge Management*, 28(10):3046–3074.

Ijaz, S. (2025). The linkage between agile project management practices and sustainable project performance: Mediating role of agile value creation and moderating role of innovation capabilities. *Bulletin of Management Review*, 2(1):164–197.

Iqbal, J. and Parray, Z. A. (2025). Leading with integrity: illuminating the pathway to positive job outcomes through ethical leadership and csr. *Social Responsibility Journal*, 21(2):320–336.

Janssen, O. (2000a). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology*, 73(3):287–302.

Janssen, O. (2000b). Job demands, perceptions of effort-reward fairness and innovative work behaviour journal of occupational and organizational psychology 73 (3): 287–302. *DOI: https://doi. org/10.1348/096317900167038 Retrieved from: http://onlinelibrary. wiley. com/doi/10.1348/096317900167038/full.*

Jeong, J. and Lee, J. H. (2025). Corporate social responsibility and employee green behavior: The mediating role of moral attentiveness and moderating effect of ethical leadership. *Internet Jeonja Sanggeorae Yeon-gu.*

Jingwen, Y., Rahman, A. A., Tong, T., Kamarulzaman, N. H., and Sidek, S. B. (2025). A study of chinese enterprises' business models to determine the impact of dynamic capabilities on innovation and performance. *PloS One*, 20(1):e0310854.

Karunarathna, I., Gunasena, P., Hapuarachchi, T., and Gunathilake, S. (2024). Comprehensive data collection: Methods, challenges, and the importance of accuracy. *Uva Clinical Research*, pages 1–24.

Kaufmann, C., Kock, A., and Gemünden, H. G. (2020). Emerging strategy recognition in agile portfolios. *International Journal of Project Management*, 38(7):429–440.

Kautish, P., Sarangi, S., Lan, S., Mehrotra, A., and Simillidou, A. (2025). Integrating smes market and technology orientation: an exploration of digital technological opportunism, agility, future focus and performance. *International Marketing Review*.

Khan, K. K. A., Badshah, S. I., Rahman, H., and Amjad, A. (2025). The role of agile project management in driving innovation: Exploring the impact of knowledge management and the moderating effect of organizational culture. *Social Science Review Archives*, 3(3):32–46.

Khanam, Z., Tarab, S., and Khan, Z. (2023). Examining the link between responsible leadership and employee sustainable performance: the mediating role of ethical climate. *Journal of Economic and Administrative Sciences*.

Kong, D. T., Gillespie, N. A., and Dirks, K. T. (2025). Human resource practices and employee trust: A systematic review with a guiding framework. *Journal of Management*, page 01492063251324500.

Kurniawan, R., Budiastuti, D., Hamsal, M., and Kosasih, W. (2020). The impact of balanced agile project management on firm performance: the mediating role of market orientation and strategic agility. *Review of International Business and Strategy*, 30(4):457–490.

Kyambade, M., Namuddu, R., Mugambwa, J., and Namatovu, A. (2024). Psychological safety and innovative work behavior: Does socially responsible leadership matter? *SEISENSE Business Review*, 4(1):1–13.

Lakshminarasimham, K. C. (2025). *Technology Leadership for Program Success: Integrating AI and Agile Methods for Modern Enterprises*, pages 489–506. IGI Global Scientific Publishing.

Laurila, J. and Ahola, T. (2021). Vanguard projects as relay races: A historical case study on the building of eurocan pulp and paper mill, 1965–1970. *International Journal of Project Management*, 39(5):520–535.

Le, P. B., Thai Phong, L., and Vu, K. D. (2025). Leadership practices for pursuing frugal innovation in hotels and restaurants: the roles of knowledge sharing and information technology utilization. *Journal of Hospitality and Tourism Insights*, ahead-of-print(ahead-of-print).

Leal D'Avila, A. E. S. and De Montreuil Carmona, L. J. (2025). Enhancing service innovation and organizational performance in knowledge-intensive business services firms: the role of leadership and communication. *Management Research Review*, 48(8):1290–1320.

Lebon, C. and Jarszak, A. (2025). The impact of team selection on inter-project knowledge transfer: A qualitative approach in a project-based it company.

Lee, J. Y., Taras, V., Jiménez, A., Choi, B., and Pattnaik, C. (2020). Ambidextrous knowledge sharing within r&d teams and multinational enterprise performance: The moderating effects of cultural distance in uncertainty avoidance. *Management International Review*, 60(3):387–425.

Lin, C.-P., Huang, H.-T., and Huang, T. Y. (2020). The effects of responsible leadership and knowledge sharing on job performance among knowledge workers. *Personnel Review*, 49(9):1879–1896.

Lin, W., Wang, G., Ning, Y., Ma, Q., and Dai, S. (2025). The effects of performance measurement on megaproject performance: the moderating effects of project complexity. *Engineering, Construction and Architectural Management*, 32(1):172–193.

Liu, Z. and Ali, D. A. (2025). Exploring the impact of ceo entrepreneurial orientation on corporate innovation. *GBP Proceedings Series*, 2:93–98.

Maak, T., Pless, N. M., and Voegtlin, C. (2016). Business statesman or shareholder advocate? ceo responsible leadership styles and the micro-foundations of political csr. *Journal of Management Studies*, 53(3):463–493.

Mahmoudi, I., Banimahd, B., Ohadi, F., and Yaghoobnezhad, A. (2025). The effect of the ceo's narcissism on zombie firms performance: A test of upper echelons theory. *Journal of Investment Knowledge*, 15(59):473–489.

Malik, S. J., Ahmed, W. S., Awan, T. M., Farooq, N., and Khalid, M. (2023). *Linking Agile Methodology and Transformational Leadership to Project Success through interplay of Team Building*, pages 309–330. Apple Academic Press.

Marampa, A. M., Pongtuluran, A. K., and Pariyanti, E. (2025). From sharing to success: enhancing innovative work behavior through psychological empowerment and kinship employee engagement. *Industrial and Commercial Training*, 57(1):99–117.

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.

Matos, H., Santos, N. R. d., Pais, L., Sousa, B. d., and Vasconcelos, F. (2025). Empirical research on responsible leadership: a literature review. *School Leadership & Management*, 45(1):7–29.

Miccio, L. A., Agapitos, P., Gamez-Perez, C., González, F., Suarez, J. L., and Schwartz, G. A. (2025). Wikipedia as a cultural lens: a quantitative approach for exploring cultural networks. *Humanities and Social Sciences Communications*, 12(1):1–13.

Mishra, A., Sethi, K. K., Srivastava, S., Mishra, R., Tuteja, A., and Dubey, A. (2025). Knowledge, awareness, attitudes of radiation hazards and protection among dentist: A questionnaire survey. *Journal of Pharmacy and Bioallied Sciences*, 17(Suppl 1):S281–S283.

Nakra, N. and Kashyap, V. (2025). Responsible leadership and organizational sustainability performance: investigating the mediating role of sustainable hrm. *International Journal of Productivity and Performance Management*, 74(2):409–426.

Nooshabadi, J. E., Mockaitis, A. I., and Chugh, R. (2024). Chief executive officer's dark triad personality and firm's degree of internationalization: The mediating role of ambidexterity. *International Business Review*, 33(4):102296.

Nucci, R., Byrne, O., and Dimov, D. (2025). Influenced by the lives of others: narratives of role modelling throughout the start-up process. *Entrepreneurship & Regional Development*, 37(1-2):38–66.

Obohwemu, K. O., Tayo, O. R., Olusunmola, O., Chauhan, R., Sharma, S., Motupalli, D., Olori, F. E., Kachitsa, C. L., Lawal, I. O., and Adejuyitan, S. O. (2025). The self-comforting and coping scale (sccs): Validity and reliability of a measure of self-comforting behaviours. *European International Journal of Multidisciplinary Research and Management Studies*, 5(05):87–107.

Ogbeibu, S., Pereira, V., Burgess, J., Gaskin, J., Emelifeonwu, J., Tarba, S. Y., and Arslan, A. (2024). Responsible innovation in organisations–unpacking the effects of leader trustworthiness and organizational culture on employee creativity. *Asia Pacific Journal of Management*, 41(3):947–977.

Ojoboh, T. M. and Igben, H. G. (2024). Impact of research methodology on data quality and research findings. *JPPUMA: Jurnal Ilmu Pemerintahan dan Sosial Politik UMA (Journal of Governance and Political Social UMA)*, 12(1):34–42.

Olszewski, M. (2023). Agile project management as a stage for creativity: a conceptual framework of five creativity-conducive spaces. *International Journal of Managing Projects in Business*, 16(3):496–520.

Palmucci, D. N., Giovando, G., and Vincurova, Z. (2025). The post-covid era: digital leadership, organizational performance and employee motivation. *Management Decision*.

Park, J.-G. and Lee, J. (2014). Knowledge sharing in information systems development projects: Explicating the role of dependence and trust. *International Journal of Project Management*, 32(1):153–165.

Prediger, S. and Schermuly, C. C. (2025). How agile working increases innovative work behavior: The role of psychological empowerment and communication media. *Project Management Journal*, page 87569728251314457.

Prica, F. and Bjelic, N. (2025). Enhancing project efficiency: The role of agile project management in a dynamic corporate landscape. *Journal of Policy Options*, 8(1):1–10.

Qing, M., Asif, M., Hussain, A., and Jameel, A. (2020). Exploring the impact of ethical leadership on job satisfaction and organizational commitment in public sector organizations: The mediating role of psychological empowerment. *Review of Managerial Science*, 14(6):1405–1432.

Qu, Y., Zhu, J., and Goddard, R. D. (2024). Modesty brings gains: Linking humble leadership to knowledge sharing via psychological safety and psychological empowerment in professional learning communities. *Educational Studies*, 50(6):1444–1465.

Queirós, R. P., González-Angulo, M., and Tonello-Samson, C. (2025). *Challenges and innovations in high pressure processing commercial implementation*, pages 513–553. Elsevier.

Rauniar, R. and Cao, R. (2025). An empirical study on the role of authentic leadership in strategic agile operations, organizational sustainability, and business performance. *Global Journal of Flexible Systems Management*, pages 1–20.

Riskin, D. J., Monda, K. L., Gagne, J. J., Reynolds, R., Garan, A. R., Dreyer, N., Muntner, P., and Bradbury, B. D. (2025). Implementing accuracy, completeness, and traceability for data reliability. *JAMA Network Open*, 8(3):e250128–e250128.

Ruan, F., Feng, N., Wei, F., Zhao, R., and Yang, S. (2025). How do risks affect innovation performance in cops projects? a configurational perspective based on a technology–organization–environment framework. *Management Decision*.

Savitha, M. and Kumar, S. P. (2025). Building an agile organizational structure to drive innovation and technology. *Cuestiones de Fisioterapia*, 54(2):2321–2334.

Setiawan, B., Pamungkas, B., Mekaniwati, A., and Kusuma, P. M. (2025a). The strategic role of digital transformation, dynamic and agile capabilities for the performance of micro, small, and medium enterprises (msmes). *The Bottom Line*, 38(2):130–153.

Setiawan, B., Pamungkas, B., Mekaniwati, A., and Kusuma, P. M. (2025b). The strategic role of digital transformation, dynamic and agile capabilities for the performance of micro, small, and medium enterprises (msmes). *The Bottom Line*, 38(2):130–153.

Shafique, M., Khan, M. Z., and Rahman, A. (2023). The impact of project complexity on project success with the mediating role of team performance. *International Journal of Business and Management Sciences*, 4(1):181–202.

Solga, M. (2021). The align-empower model of agile leadership. *CID Partners, https://cidpartners. de/files/downloads/Whitepaper/The*, 20.

Standahl Johannessen, S. and Karlsen, J. T. (2025). Agile transformation in the energy sector: empowering autonomous teams. *International Journal of Energy Sector Management*, 19(2):389–411.

Sun, J. and Xia, Y. (2024). Pretreating and normalizing metabolomics data for statistical analysis. *Genes & Diseases*, 11(3):100979.

Syamsir, S., Saputra, N., and Mulia, R. A. (2025). Leadership agility in a vuca world: a systematic review, conceptual insights, and research directions. *Cogent Business & Management*, 12(1):2482022.

Temitope, A. O. (2022). Agile and organizational culture: Fostering agile values and mindset. *International Journal of Science and Research Archive*, 7(2):672–681.

Trianasari, N., Sari, P. K., and Prasetio, A. (2025). Peningkatan kualitas penelitian di bidang kesehatan melalui pelatihan penentuan teknik sampling dan besar sampel di stfi bandung. *Jurnal Pengabdian Masyarakat: Pemberdayaan, Inovasi dan Perubahan*, 5(1).

Troiville, J., Moisescu, O. I., and Radomir, L. (2025). Using necessary condition analysis to complement multigroup analysis in partial least squares structural equation modeling. *Journal of Retailing and Consumer Services*, 82:104018.

Trzeciak, M. and Banasik, P. (2022). Motivators influencing the efficiency and commitment of employees of agile teams. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4):176.

Tsuge, T., Yamamoto, N., Tomita, Y., Hagiyama, A., Shiratsuchi, D., Kato, Y., Taito, S., and Yorifuji, T. (2025). Reporting and methodological qualities of systematic reviews in rehabilitation journals after 2020: a cross-sectional meta-epidemiological study. *Physical Therapy*, 105(4):pzaf032.

Uddin, M. J. and Rahman, T. The impact of agile leadership behavior on employees'organizational citizenship behavior. In *A Compilation of ISTD 6th Eastern Regional Conference Papers-Leveraging Sustainability through Technology for Agile Organizations*, page 106.

Voegtlin, C., Patzer, M., and Scherer, A. G. (2012). Responsible leadership in global business: A new approach to leadership and its multi-level outcomes. *Journal of business ethics*, 105:1–16.

Wang, H., Gu, Y., Wan, P., and Zheng, J. (2025). Linking informal leadership emergence to project performance: the role of leader-member exchange and ethical leadership. *Current Psychology*, pages 1–15.

Wang, Z. (2025). Linking innovative knowledge sharing and employees' innovative behaviour: the mediating role of thriving at work. *Knowledge Management Research & Practice*, 23(1):52–62.

Wang, Z., Ye, Y., and Liu, X. (2024). How ceo responsible leadership shapes corporate social responsibility and organization performance: the roles of organizational climates and ceo founder status. *International Journal of Contemporary Hospitality Management*, 36(6):1944–1962.

Waseem, H., Maiwand, K., Sanaullah, K., Ameer Muhammad, K., Dr. Noor, A., and Naseebullah (2025). Servant leadership in agile frameworks: A catalyst for

collaboration and innovation. *Policy Journal of Social Science Review*, 3(1):172–184.

Weyant, E. (2022). Research design: Qualitative, quantitative, and mixed methods approaches: by john w. creswell and j. david creswell, los angeles, ca: Sage, 2018, $38.34, 304pp., isbn: 978-1506386706.

Xu, H., Hui, J., , and Li, H. (2024). The relationship between leaders' long-term orientation and employees' innovative behaviors. *Creativity Research Journal*, 36(2):309–323.

Yasin, R., Yang, S., Huseynova, A., and Atif, M. (2023). Spiritual leadership and intellectual capital: mediating role of psychological safety and knowledge sharing. *Journal of Intellectual Capital*, 24(4):1025–1046.

Zada, M., Khan, J., Saeed, I., Zada, S., and Yong Jun, Z. (2024). Linking sustainable leadership with sustainable project performance: mediating role of knowledge integration and moderating role of top management knowledge values. *Journal of Knowledge Management*, 28(6):1588–1608.

Zaman, S., Chaman, S., Hameed, F., and Liaquat, A. (2024). Servant leadership in project-based organizations of pakistan: The role of affective commitment and perceived organizational support. *Journal of Business and Management Research*, 3(3):262–279.

Zhang, Q., Abdullah, F., Sibghatullah, A., Sohail, M., Mashahadi, F., and Yusof, Y. L. M. (2025a). Technology exploring the impact of digital transformation on sustainable performance in the retail industry: the moderating role of market turbulence and innovative culture. *Future Technology*, 4(3):269–280.

Zhang, X., Yu, P., Ma, L., and Liang, Y. (2025b). How the human-like characteristics of ai assistants affect employee creativity: a social network ties perspective. *International Journal of Human–Computer Interaction*, 41(10):6431–6449.

Zhong, J., Shen, G., Yang, H., Huang, A., Chen, X., Dong, L., Wu, B., Zhang, A., Su, L., and Hou, X. (2020). Covid-19 in patients with rheumatic disease

in hubei province, china: a multicentre retrospective observational study. *The Lancet Rheumatology*, 2(9):e557–e564.

Zhou, R., Xu, J., Zhai, J., and Kong, Q. (2025). The influence mechanism of responsible leadership on sustainable reconfiguring in multi-tier supply chains. *Business Process Management Journal*.

Zhou, Y., Aryal, S., and Bouadjenek, M. R. (2024). Review for handling missing data with special missing mechanism. *arXiv preprint arXiv:2404.04905*.

Zulfiqar, S., Khan, Z., and Huo, C. (2023). Uncovering the effect of responsible leadership on employee creative behaviour: from the perspective of knowledge-based pathway. *Kybernetes*, 52(11):5503–5529.

Appendix-I

CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

ISLAMABAD

Department of Management Sciences

Survey Questionnaire

Dear respondent,

As a master's degree candidate in project management at Islamabad's Capital University of Science & Technology, I want to write my thesis on the following topic: "Investigating the influence of CEO responsible leadership on employee innovative work behavior."

For this purpose, I have drafted a survey. I assure that we will protect the confidentiality of you identify as the responder. You are free to speak your mind on the reality you encounter on the ground. The survey should take no more than ten to fifteen minutes of your time, and we promise to utilize the data we collect for only academic purposes.

For more queries, please email chaudhrymadiha73@gmail.com. I really appreciate your time for filling up this questionnaire.

Thanks, in anticipation for your help and support,

Sincerely Regards

Madiha Ashiq

Demographics

Demographics - Please tick (✓) the relevant box

Gender	
Male	
Female	
Age	
18 - 25 years	
26 – 40 years	
41 to 50 years	
More than 50 years	
Experience	
Less than 3 years	
3 to 5 years	
6 to 10 years	
11 and above	
Education Level	
Matric	
Intermediate	
Bachelor	
Masters	
MS/M.Phil	
Position	
CEO	
Project Manager	
Employee	

Keeping in view, please indicate the extent of your agreement and disagreement by entering the appropriate option.

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

Section-A

	CEO's Responsible Leadership	**1**	**2**	**3**	**4**	**5**
1	The CEO often enables communication by exemplifying talks during complex projects.					
2	The CEO is concerned about employee emotions during project challenges.					
3	The CEO develops quality social relationships to support project teams.					
4	The CEO is capable of inspiring employees during project execution.					
5	The CEO is responsible for achieving positive change through project outcomes.					
6	The CEO shows the importance of being responsible during complex project management.					

Keeping in view, please indicate the extent of your agreement and disagreement by entering the appropriate option.

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

Section-B

	Employee Innovative Work Behavior	**1**	**2**	**3**	**4**	**5**
1	Employee create new ideas for difficult project issues.					
2	Employee make important organizational members enthusiastic about innovative project ideas.					
3	Employee mobilize support for innovative ideas within project teams.					
4	Employee search out new working methods or tools to improve project work.					
5	Employee transform innovative ideas into useful project applications.					
6	Employee introduce innovative ideas into the project work environment systematically.					
7	Employee evaluate the utility of innovative ideas in project activities.					
8	Employee acquire approval when I come up with new ideas for project tasks.					
9	Employee generate original solutions for project-related problems.					

Keeping in view, please indicate the extent of your agreement and disagreement by entering the appropriate option.

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

Section-C

	Effective Knowledge Sharing Attitude	**1**	**2**	**3**	**4**	**5**
1	Team members shared project meeting minutes or discussion records in an effective way.					
2	Team members provided technical documents, manuals, and training materials to each other during projects.					
3	Team members shared project plans and project status updates effectively.					
4	Team members provided know-where or know-whom information to each other effectively in projects.					
5	Team members shared expertise gained from education or training effectively in projects.					
6	Team members shared work experience and know-how responsively and effectively in project teams.					
7	Team members shared project meeting minutes or discussion records in an effective way.					

Keeping in view, please indicate the extent of your agreement and disagreement by entering the appropriate option.

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

Section-D

	Agile Project Management Practices	**1**	**2**	**3**	**4**	**5**
1	Project work is organized in a lean, empowered team.					
2	Management does not interrupt the project team during a work cycle.					
3	Project work goals are defined by the team before each cycle starts.					
4	The project team is responsible for creating its functional structure.					
5	The project team systematically inspects its performance for continuous improvement.					
6	The project team contains all key skills to deliver customer requirements.					
7	The project team delivers solutions with minimal dependency on other teams.					
8	The project team ensures efficient delivery with minimal communication delays and handovers.					
9	The project team consistently owns and delivers the solution from design to completion.					
10	The organization equips project teams with a corporate philosophy to maintain focus on long-term survival or profitability.					
11	The organization stresses project teams to focus on a core set of strategic priorities.					
12	The organization emphasizes cooperation to avoid internal competition between project teams.					
13	The organization has a dedicated team to provide advice on strategic priorities during projects.					

Keeping in view, please indicate the extent of your agreement and disagreement by entering the appropriate option.

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

Section-E

	Project Complexity	**1**	**2**	**3**	**4**	**5**
1	The project had a high degree of complexity concerning its content.					
2	The project had a high degree of complexity due to inter-disciplinary participants.					
3	The project was characterized by high risk and uncer-tainty.					

Appendix-II

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Ref: CUST/FMSS/REC/2023-56

June 23, 2025

RESEARCH ETHICS COMMITTEE CERTIFICATE OF REVIEW AND SUPPORT

This is to certify that Project titled: ***"The Impact of CEO Responsible Leadership on Employee Innovative Work Behavior in IT SMEs"*** submitted by ***Madiha Ashiq,*** and/ supervised by: ***Dr. Syed Arslan Haider*** reviewed by the Research Ethics Committee of Faculty of Management and Social Science, meets the requirements of the American Psychological Association's Ethical guidelines for Human Research and is **REVIEWED** and **APPROVED** by Research Ethics Committee of Faculty of Management and Social Sciences.

It is the Scholar's responsibility to ensure that all researchers associated with this project are aware of the conditions of approval and which documents have been approved.

The Scholar is required to notify the Research Ethics Committee in case of any amendment in the project, specifically:

- Any significant change to the project and the reason for that change, including an indication of ethical implications (if any)
- Serious adverse effects on participants and the actions taken to address those effects
- Any other unforeseen events or unexpected developments that merit notification
- The inability of the Principal Investigator to continue in that role, or any other change in research personnel involved in the project
- A delay of more than 12 months in the commencement of the project; and,
- Termination or closure of the project.

Dr. Sabahat Haqqani

Convener, Research Ethics Committee
Faculty of Management and Social Sciences
Capital University of Science and Technology
Islamabad