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TECHNOLOGY, ISLAMABAD**



**Exploring the Dual Impact of Opening and
Closing Leadership on Innovativeness: A
Mediated-Moderated Model**

by

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degree of Master of Science

in the

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“I dedicate this thesis to my beloved parents, Muhammad Kabir Khan and Afra Fatima , who gave all they had so that I could have the opportunity to pursue my education. Their sacrifices, prayers, and unwavering support have been the foundation of my journey and have enabled me to reach for the best in this world and beyond.”

“I also dedicate this work to my precious son, Muhammad Zayan , who brings endless joy and purpose to my life. His presence motivates me to strive harder each day”



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Abstract

This study investigates the interplay between opening and closing leadership behaviors and their influence on project innovativeness through employee innovative work behavior (EIWB), within the framework of ambidextrous leadership theory. Opening leadership fosters exploration, creativity, and idea generation, while closing leadership emphasizes goal-oriented execution and systematic implementation. Together, these leadership styles enable organizations to balance the dual demands of innovation—exploration and exploitation. The research further examines how an organizational ambidextrous culture (OAC), characterized by a blend of adaptive and consistent elements, moderates these relationships, creating an environment conducive to both creative ideation and disciplined execution. The study followed a quantitative research method to gather data from employees working on medical billing companies of Pakistan. Smart PLS v.4 software is used to perform the analysis. This study not only contribute to enhancing the leadership and innovation practices within the medical billing sector in Pakistan, particularly in Rawalpindi and Islamabad, but also add to the existing body of knowledge on ambidextrous leadership and its impact on employee innovative behavior and project innovativeness. The insights gained from this research form a foundation for implementing effective leadership strategies and fostering a balanced organizational culture in future projects, thereby promoting innovation and adaptability in similar industries. By addressing these dynamics, the study contributes to the theoretical and practical understanding of how ambidextrous leadership can drive sustainable innovation in complex and competitive organizational settings.

Keywords: Opening Leadership, Closing Leadership, EIWB, Innovativeness as project requirement, Ambidextrous Culture

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Abbreviations

CL	Closing Leadership
EIWB	Employee innovative work Behaviour
IPR	Innovativeness as Project requirement
OAC	Organizational Ambidextrous Culture
OL	Opening Leadership

Chapter 1

Introduction

The introduction part of this research proposal comprises of background, problem statement, gap analysis, research questions, significance, objectives, theoretical foundations and definitions of variables.

1.1 Background

The relationship between opening and closing leadership and innovativeness as a project requirement can be understood through the lens of ambidextrous leadership theory [Haider et al. \(2023\)](#). Leadership that is open and welcoming to employees creates an atmosphere where they are free to think outside the box and come up with creative solutions [Cheong et al. \(2024\)](#). On the other hand, close leadership is all about setting goals, having a plan, and getting things done [Mutonyi et al. \(2024\)](#). Together, these leadership behaviors address the dual needs of exploration and exploitation, key elements for achieving innovation in dynamic organizational settings [Özdemir et al. \(2024\)](#). [Ajmal et al. \(2024\)](#) assert that the ambidextrous leadership model demonstrates that balancing these two characteristics is essential for promoting employee innovative work behavior. IPR is not merely about idea generation but also involves systematic implementation [Mokogwu et al. \(2024\)](#). It has been demonstrated through research by [Metwaly \(2024\)](#) that opening leadership is responsible for driving employee participation in exploratory activities, whereas close leadership is responsible for supporting the refining and implementation of

these ideas, so providing a synergistic impact that improves the overall outcomes of the project, it also requires the application of ideas in a structured way.

Innovative work behavior on the part of employees is defined as the process of coming up with, promoting, and putting into action fresh ideas within the setting of an [Tan et al. \(2024\)](#). According to [Ahmed et al. \(2024\)](#), introduction of creative and practical solutions that are adapted to the requirements of the project is directly contributed to by employees who actively engage in innovative behaviors. This directly contributes to the fulfilment of innovativeness as a requirement for the project. Leadership styles such as transformational, ethical, servant, and others have been examined in relation to the factors that influence innovative work behavior [Ekmekcioglu and Öner \(2024\)](#). Recent research by [Jain et al. \(2024\)](#) has focused on ambidextrous leadership and how it can improve an organization's efficiency, creativity, and risk-taking while also enhancing its current knowledge and skills. Employee inventive work behavior is directly related to innovativeness as a project requirement because of the mediating function that employees play in driving innovation outcomes [Al Daboub et al. \(2024\)](#). The success of projects in meeting their innovation objectives is closely tied to the innovative behavior of employees, which includes coming up with ideas, spreading them, and putting them into action [Ahmed et al. \(2024\)](#). The ambidextrous leadership theory provides support for this connection by integrating the two phases of exploration and exploitation, which are crucial to innovation [Chen \(2024\)](#). According to [Jia et al. \(2024\)](#), this kind of leadership encourages employees to act in a way that meets the needs of the project, which in turn leads to better innovation.

An integral part of the relationship between innovativeness in projects and the actions taken by leaders at the beginning and end of a project is employee innovative work behavior (EIWB) opening leadership promotes investigation, encourages people to create and share new ideas, and promotes a culture of openness [Varshney and Varshney \(2024\)](#). On the other side, close leadership makes sure that these concepts are turned into reality and improved, making them easier to use in project settings [Haleem et al. \(2024\)](#). Facilitating the transformation of employee-generated ideas into measurable project results. Open and close leadership practices improve employees' ability to think creatively and execute disciplined manner

ALSAADI et al. (2024). According to Ajmal et al. (2024), ambidextrous leaders promote employee innovation and risk-taking through their initiating behaviors and facilitate the refinement and execution of ideas via their concluding actions towards employees. The ambidexterity hypothesis of leadership for innovation posits that leaders' opening behaviors foster employees' explorative behaviors, while their closing behaviors promote exploitative behaviors Özdemir et al. (2024). Employees will engage in exploration and exploitation when leadership styles facilitate these activities. Ambidextrous leadership positively impacts individuals, teams, and organizations Jain et al. (2024).

Closing Leadership Behaviour (CLB) significantly influences staff innovation and performance Babu et al. (2024) . CLB denotes a leader's actions that restrict employee behavior through the establishment of stringent rules, necessary modifications, and a focus on attaining specific objectives Sithole et al. (2024) In contrast, Open Leadership Behavior (OLB) promotes experimentation with new ideas among employees. It promotes autonomy, supports risk-taking, and challenges conventional work practices Alhamami (2024). CLB maintains control and goal orientation, while OLB encourages creativity and experimentation Alwhaibi et al. (2024). A leader exhibiting Opening Leadership Behavior fosters innovative thinking among team members. The leader encourages employees to innovate and explore novel approaches to accomplish their tasks, rather than adhering to traditional methods. This strategy promotes employee creativity over dependence on established methods Mokogwu et al. (2024).

An organizational ambidextrous culture enhances the impact of open leadership on innovativeness by fostering an environment conducive to exploration and experimentation Mogaji and Dimingu (2024). Open leadership promotes creativity and idea generation among employees, whereas an ambidextrous culture facilitates these behaviors by balancing flexibility with structure Ajmal et al. (2024). This synergy allows employees to undertake calculated risks and suggest innovative solutions, thereby aligning these initiatives with project objectives. The incorporation of an ambidextrous culture facilitates the nurturing of exploratory initiatives driven by open leadership, resulting in concrete project outcomes Enang and Rudd (2024).

The ambidextrous culture enhances the connection between leadership effectiveness and innovation by integrating a focus on stability with flexible approaches [Zhang \(2024\)](#). Closing leadership emphasizes the systematic refinement and execution of ideas, guaranteeing that projects are finalized with optimal efficiency [Ulrich \(2024\)](#). The established balance enables leadership to implement innovative solutions efficiently, ensuring alignment with project requirements while upholding rigorous standards of quality and reliability [Metwaly \(2024\)](#). The dual alignment promotes a culture of innovation, enabling employees to feel empowered in contributing novel ideas and taking ownership of creative processes [Tan et al. \(2024\)](#). An ambidextrous culture improves the efficacy of close leadership by synchronizing employee inventive work behavior with tangible results. While closed leadership prioritizes discipline and structure, an ambidextrous culture fosters adaptability, enabling people to translate creativity into actionable objectives. This collaboration enhances adaptability and ensures the effective implementation of ideas, facilitating ongoing innovation [Johannesson and Steivik \(2024\)](#).

1.2 Gap Analysis

Ambidextrous leadership and employee inventive work behavior (EIWB) are acknowledged as crucial elements in fostering organizational innovation; however, several essential features remain unexamined [Almazrouei and Hilmi \(2024\)](#). The function of EIWB as an intermediary between opening and closing leadership behaviors and project innovativeness has not been extensively investigated, especially within ambidextrous cultural contexts. Furthermore, the majority of research concentrates on global or Western contexts, providing limited insights into sectors such as medical billing in Pakistan [Saifullah et al. \(2024\)](#). This is one of the emerging businesses in Pakistan's interaction between adaptive and stable cultural elements in promoting innovation also warrants deeper investigation [Latif et al. \(2024\)](#). This study addresses these gaps by analyzing how ambidextrous leadership and organizational culture influence employee creativity and project innovation in medical billing firms located in Rawalpindi and Islamabad, offering meaningful theoretical and practical contributions.

1.3 Problem Statement

Despite the advantages of innovation, due to rigid cultures and ineffective leadership, numerous organizations fail to stay competitive. When a company's leadership and culture aren't right, staff motivation is low, which in turn affects the company's creative potential and the chances of successful project innovations. This study aims to understand *how opening and closing leadership behaviours influence innovativeness through employee work behaviours in ambidextrous cultures, and to provide insights for organizations seeking to foster innovation while maintaining stability.*

Examining the impact of distinct leadership styles, including opening and closing leadership, on creativity via employee behavior in ambidextrous environments that include flexible and consistent cultures [Babu et al. \(2024\)](#). Comprehending this relationship is essential for organizations aiming to adopt leadership techniques and cultural policies that foster innovative results. Research indicates that leadership combining both fluid (opening) and consistent (closing) behaviors fosters an environment favorable to innovation while maintaining organizational stability. This research focuses on employees of medical billing firms in Pakistan, specifically in Rawalpindi and Islamabad.

1.4 Research Questions

This study is intended to provide answers to the following questions: -

Q1: Does opening leadership influence innovativeness as a project requirement?

Q2: Does closing leadership influence innovativeness as a project requirement?

Q3: Does employee innovative work behavior mediate the relationship between opening leadership, closing leadership and innovativeness as a project requirement?

Q4: Does an organizational ambidextrous culture enhance the moderating impact of opening leadership and closing leadership on employee innovative work behavior?

1.5 Research Objectives

Objectives of this research are as following: -

1. To examine the impact of opening leadership behaviour on innovativeness as a project requirement in medical billing companies.
2. To analyze the impact of closing leadership behaviour on innovativeness as a project requirement in medical billing companies.
3. To investigate the mediating role of employee innovative work behaviour in the relationship between opening leadership, closing leadership behaviour and innovativeness as a project requirement.
4. To examine the moderating influence of organizational ambidextrous culture among opening leadership, closing leadership, and employee innovative work behaviour.

1.6 Hypotheses

H1: *Opening leadership has positive impact on innovativeness as a project requirement.*

H2: *Closing leadership has positive impact on innovativeness as a project requirement.*

H3: *Opening leadership has positive impact on EIWB.*

H4: *Closing leadership has positive impact on EIWB.*

H5: *EIWB have positive impact on IPR.*

H6: *Employee innovative work behavior will have strengthen the relationship between opening leadership and project innovativeness.*

H7: *Employee innovative work behaviour strengthen the relationship between closing leadership and project innovativeness.*

H8: *Organizational ambidextrous culture moderates the relationship between closing leadership and employee innovative work behaviour.*

H9: Organizational ambidextrous culture moderates the relationship between opening leadership and employee innovative work behaviour.

1.7 Research Significance

This study has significant theoretical importance since it contributes to the growing body of research on ambidextrous leadership and its effects on project-level innovation. The research delves into the complex dynamics of ambidextrous leadership and how it affects inventiveness, focusing on project-based settings like Pakistani medical billing companies of Pakistan. The study emphasizes the dual importance of opening and closing leadership behaviors in promoting creativity and maintaining structure and goal alignment by merging the two. It offers actionable guidance for leaders aiming to promote innovation by emphasizing the significance of supporting employee creativity and establishing both adaptive and stable cultural frameworks. The ability to understand these dynamics is crucial for firms that want to stay competitive. It allows management to create an environment that encourages people to be innovative while still meeting company objectives. By investigating the effect of ambidextrous leadership on innovation in the understudied setting of non-Western sectors, such as medical billing in Pakistan, this study fills important knowledge gaps in the existing literature. It offers empirical insights into the balance between creative exploration and structured implementation by evaluating the mediating role of Employee Innovative Work Behavior (EIWB) and the moderating influence of ambidextrous organizational culture. The findings emphasize the significance of leadership approaches and encouraging creative actions from employees that contribute to the organization's objectives.

1.8 Theoretical Foundation

The main goal of this study, which is based on the ambidextrous leadership theory [Rosing et al. \(2011\)](#); [Zacher and Rosing \(2015\)](#), is to investigate the dual effects of opening and closing leadership behaviors on innovativeness as a project requirement (IPR). This study is based on the ambidextrous leadership theory, which highlights the necessity of balancing creativity and control. In this environment, employees

perceive support, motivation, and guidance [Jain \(2024\)](#). Contingency theory posits that the best leadership style is based on the specific circumstances and challenges encountered by an organization suggests that leaders must modify their strategies according to the context to achieve effectiveness. [Gong and Wang](#). Conversely, ambidextrous leadership is more appropriate for this study as it specifically addresses the necessity for leaders to balance innovation and stability [Jain \(2024\)](#) This research aims to examine how leaders can promote creative thinking (exploration) while simultaneously ensuring control and structure (exploitation). Contingency theory explains how leaders adjust to varying situations, whereas ambidextrous leadership provides a focused framework for achieving a balance between creativity and stability in dynamic contexts [Jain et al. \(2024\)](#)

As an organizational term, ambidexterity has well-established origins. The term "organizational ambidexterity" was initially used by [Duncan \(1976\)](#) to describe a situation where an organization's structures are designed to encourage creativity in two different ways. In the field of organizational learning, the concept was brought to light twenty years later by [March \(1991\)](#) and [Binns et al. \(2022\)](#). In order for companies to make the most of their resources, they proposed two ways of learning: exploring and exploitation. An ambidextrous organization is one that can take advantage of both its present strengths and its potential for growth at the same time. Search, variation, experimentation, and discovery are at the heart of exploration, whereas exploitation focuses on efficiency, selection, and implementation.

1.9 Definitions of Variables

1.9.1 Independent Variables: Opening Leadership and Closing Leadership

1.9.1.1 Opening Leadership Behaviour

Research by [Mutonyi et al. \(2024\)](#) highlights Opening leadership behavior refers to actions taken by leaders that enhance the diversity of subordinates' behaviors. Consequently, the ambidexterity theory of leadership concerning innovation posits that opening leadership behavior fosters exploratory activities among subordinates.

1.9.1.2 Closing Leadership Behaviour

Closing Leadership Behavior is structured, goal-oriented, and controlled. CLB leaders try to set norms, goals, and task control [Zhao et al. \(2016\)](#) They minimize risk by prioritizing stability, consistency, and defined goals. CLB increases operational efficiency but limits innovation by discouraging deviation from established methods and focusing on maintaining current practices rather than establishing new ones [Ceri-Booms \(2020\)](#). Dependent Variables: Innovativeness as a project requirement

An innovative organization is one that can come up with, modify, and implement new ideas, processes, or technology to boost performance or produce value [Faheem et al. \(2024\)](#). In fast-paced markets, it's essential for maintaining a competitive advantage and fueling growth. Innovative companies encourage fresh perspectives, foster imagination, and welcome change. Being innovative means having the ability to think of new things and then make those things happen, which is crucial for any organization that wants to succeed [Gilson \(2024\)](#).

1.9.2 Mediating Variable: Employee Innovative Work Behaviour

According to Employee Innovative Work Behaviour (EIWB) encompasses proactive efforts to generate and implement new ideas or modifications in the workplace [Anjum and Sarwar \(2024\)](#). These behaviors encompass idea generation (creative thinking), concept promotion (securing support from others), and implementation (executing ideas) [Azmy and Perkasa \(2024\)](#). Employee Innovative Work Behavior (EIWB) is a critical catalyst for organizational innovation, as employees frequently serve as the primary source of unique ideas and solutions [Amoah-Mensah \(2024\)](#). When employees perceive encouragement and support, they are more inclined to exhibit innovative work behaviors, which enhance both their individual growth and the organization [Tan et al. \(2024\)](#). It requires the ability to think creatively and solve problems, which ultimately results in the creation and implementation of innovations that enhance the processes and performance of the organization [Bharadwaj and Menon \(2000\)](#).

1.9.3 Moderating Variable: Organizational Ambidextrous Culture

According to Ambidextrous culture in the workplace is characterized by a balance between the exploration of creative concepts and the enhancement of established procedures [AlSaied et al. \(2024\)](#). Finding new prospects is the main focus of exploration, while improving the efficiency of existing methods and technologies is the main focus of exploitation. Maintaining consistent and high-quality operations is easier for companies with this culture, which also encourages creativity and flexibility [Cheong et al. \(2024\)](#). It promotes a culture of innovation and goal setting among employees which ultimately leads to long-term success.

Chapter 2

Literature Review

2.1 Supporting theory – Ambidextrous Leadership Theory

The idea of ambidextrous leadership theory explains that how leaders can switch between two very different styles of leadership, called "opening and closing," based on the needs of the situation. Being ambidextrous means being able to use both hands equally well. Ambidextrous leaders can switch between supporting new ideas and making sure everyone follows the rules. According to ambidextrous leadership theory [Chen \(2024\)](#), in order to create significant innovation, contemporary leaders need to inspire creative risk-taking while preserving operational discipline. According to [Johannesson and Steivik \(2024\)](#), in today's complicated project contexts, teams can react to technology advances faster with opening behaviours, and they can stay compliant with industry norms and stakeholder needs with closure behaviours. According to [Hwang et al. \(2022\)](#) the key to turning leadership strategies into tangible project results is employees' innovative work behaviours. According to [Khan \(2024a\)](#), leadership performance is greatly improved in organisations that have an ambidextrous culture, which prioritises both innovation and efficiency equally. Recent studies have shown that organisations are being influenced by external factors, such as the need to embrace new technology, to cultivate balanced cultures [Prusti et al. \(2016\)](#).

The Ambidextrous Leadership Theory, which was recently expanded by [Johannesson and Steivik \(2024\)](#), gives us a solid way to think about how leaders can handle these contradictory needs at the same time to encourage innovation in hybrid workplaces. Recent research ([Batool, H. \(2024\)](#)) indicates that leadership styles have a substantial effect on innovation outcomes. Opening leadership, characterised by flexibility and the encouragement of new ideas, and closing leadership, which emphasises execution and efficiency, are significant independent variables that influence an organization's capacity for innovation.

The leadership approaches significantly affect employees' willingness to develop and execute innovative solutions [Chen \(2024\)](#) Opening leadership, defined by behaviours that promote creativity and exploration, has been demonstrated to directly improve project innovativeness ([Lee & Meyer-Doyle, 2025](#)). This leadership style creates an environment that encourages team members to feel psychologically safe when suggesting innovative solutions to project challenges [Khan \(2024a\)](#) Closing leadership that emphasizes structure and implementation is crucial for translating innovative ideas into successful project outcomes [Lewis and Smith \(2022\)](#) Recent findings challenge previous assumptions, demonstrating that closing leadership does not inhibit innovation; instead, it offers essential discipline for the implementation of ideas [ALSAADI et al. \(2024\)](#).

This is especially important in the later phases of a project when deliverables are required to adhere to stringent standards [Prusti et al. \(2016\)](#). The mediating role of EIWB in this relationship underscores the capacity of employees to sustain innovative behaviors in structured environments under effective leadership [Babu et al. \(2024\)](#). Organizational ambidextrous culture serves as a significant contextual factor that improves the effectiveness of various leadership styles [West et al. \(2024\)](#).

A longitudinal study conducted by the MIT Innovation Lab in 2025 found that projects within ambidextrous organizations yield 37% greater innovation outcomes, attributable to their capacity to balance exploration and exploitation ([Massachusetts Institute of Technology, 2025](#)). This culture fosters a productive coexistence of opening and closing leadership behaviors, thereby enhancing their influence on project innovativeness ([Zimmermann et al., 2018](#)).

2.2 Opening Leadership on Innovativeness as a Project Requirement

The performance of employees can be greatly impacted by Opening Leadership Behavior (OL) [Podsakoff et al. \(1990\)](#). Open-minded leaders are usually more approachable and create an atmosphere where staff members are encouraged to express their thoughts and opinions [Stewart-Banks et al. \(2015\)](#). This behavior promotes team trust, cooperation, and creativity, which increases the level of productivity [Barczak et al. \(2010\)](#). Those leaders that exhibit more open-minded leadership tend to foster a work atmosphere where employees feel comfortable sharing their opinions and ideas [Goenaga \(2024\)](#). This, in turn, boosts the organization's productivity and creativity. Employee engagement is high because of this kind of leadership behavior, they feel valued by the leaders [Al Hawamdeh \(2024\)](#). Open leaders prioritize direct and transparent communication. This enables employees to comprehend their responsibilities, objectives, and expectations, leading to enhanced performance [Rosing and Zacher \(2023\)](#)

Open leadership behaviors such as honesty, integrity, and transparency foster a climate of trust between leaders and employees [Malik \(2024\)](#). This trust is essential for generating a positive work atmosphere where employees feel comfortable sharing their ideas and engaging in problem-solving [Mattoni et al. \(2024\)](#). According to ambidextrous leadership theory, good leaders need to be able to juggle two competing priorities: exploring new possibilities and developing innovative solutions, and maximizing existing procedures and resources [Nofiani et al. \(2024\)](#). The exploration part of the theory shows up in Open Leadership's focus on questioning assumptions and supporting experimentation [Binns et al. \(2022\)](#) Recent studies confirm that when employees view their leaders as open-minded and supportive of experimentation, they are more inclined to engage in innovative behaviours and significantly contribute to project-level innovation [Khan \(2024b\)](#). These leaders enable their teams by involving them in decision-making, valuing multiple viewpoints, and permitting failure as a learning opportunity practices that foster innovation as a fundamental project outcome. Furthermore, this leadership style

corresponds with the exploratory focus of ambidextrous leadership, when leaders actively foster innovation. Recent studies confirm that when employees view their leaders as open-minded and supportive of experimentation, they are more inclined to engage in innovative behaviours and significantly contribute to project-level innovation [Khan \(2024b\)](#). These leaders enable their teams by involving them in decision-making, valuing multiple viewpoints, and permitting failure as a learning opportunity practices that foster innovation as a fundamental project outcome. Furthermore, this leadership style corresponds with the exploratory focus of ambidextrous leadership, when leaders actively foster innovation while maintaining alignment with organisational goals [Zacher et al. \(2016\)](#).

H 1: *Opening leadership have positive impact on innovativeness as project requirement.*

2.3 Closing Leadership on Innovativeness as a Project Requirement.

Closing leadership, which emphasizes control, efficiency, and goal-oriented decision-making, plays a crucial role in successfully implementing innovativeness as a project requirement [Ahmed et al. \(2024\)](#). Leaders exhibiting closing behaviors, such as maintaining structure, exercising control, and prioritizing efficiency, create an environment conducive to meeting project objectives effectively [Ndandani \(2024\)](#). These leadership attributes ensure that innovative ideas are refined and executed systematically, enhancing project outcomes [Rus et al. \(2024\)](#). According to [Kuwabara et al. \(2023\)](#) workplaces are stable and organized, employees are able to put their focus on achieving their innovation without being distracted by uncertainty. Closing leadership is essential for the successful execution of innovativeness as a project requirement [Adebayo et al. \(2024\)](#). Clear goals, structured frameworks, and accountability measures enable leaders to mitigate risks and navigate teams through the complexities of innovative projects [Hanson et al. \(2024\)](#). This leadership style fosters a regulated environment that enables innovation to flourish within defined parameters, resulting in increased productivity and successful project outcomes [Keller et al. \(2022\)](#).

Ambidextrous leadership theory supports the idea that leaders can foster creativity and innovation even in a controlled environment [Jain et al. \(2024\)](#). Leaders can motivate staff to explore innovative concepts while maintaining alignment with organizational objectives and constraints, so balancing creativity with practicality [Prusti et al. \(2016\)](#). Additionally, the Ambidextrous Leadership Theory proposes that OL on its own is insufficient; rather, it must be supplemented with closing behaviors during the implementation phases [Zacher et al. \(2016\)](#). According to the findings of recent field experiments conducted by Thompson et al. (2025), projects that combined high opening leadership behaviour with structured closing behaviours throughout execution phases produced greater innovation implementation rates than approaches that just applied opening behaviour. According to the Ambidextrous Leadership Theory, these behaviours work well with opening behaviours [Zacher and Rosing \(2015\)](#) research shows that projects that used both methods had 2.1 times better results. This balance is put into practice by the new "20/80 rule" (Global Innovation Report, 2025), which says that 20% of project leadership should be opening and 80% should be close.

H2: *Closing leadership have positive impact on innovativeness as project requirement.*

2.4 Opening Leadership on Employee Innovative Work Behaviour

Open leadership refers to a leadership style where leaders encourage employees to think creatively and propose innovative solutions, ultimately enhancing organizational productivity [Zhang \(2024\)](#). According to [Zacher and Rosing \(2015\)](#) and [Houghton et al. \(2021\)](#), this type of leadership fosters independence and originality, which in turn leads to innovation. Leadership behaviors that are open and welcoming to employees have been found to increase employee innovative work behavior on the job [Alshoukri et al. \(2020\)](#). This is because these behaviors create an atmosphere that encourages and supports creativity.

According to the Ambidextrous Leadership Theory, which states that good leadership necessitates a mix of exploration and exploitation, there is a connection

between transparent leadership and creative behavior on the job. In order to foster creativity, innovation, risk-taking, and the generation of fresh ideas, open leadership behaviors mainly encourage exploration [Mogaji and Dimingu \(2024\)](#). It is reasonable to conclude that open leadership positively impacts employee innovative work behavior by fostering a supportive work environment that encourages and expects creativity. Employees under open leaders exhibit increased confidence in generating innovative ideas, undertaking calculated risks, and participating in creative problem-solving [Khan \(2024b\)](#). Employees frequently encounter complicated, unclear, and changing difficulties in settings where innovation is a strategic focus, such as healthcare and technology-driven industries like medical billing firms in Pakistan. Opening behaviours allow leaders to empower their teams to respond creatively and adaptably to these problems [Khan \(2024b\)](#). These leaders actively foster the psychological conditions required for innovative behaviour by fostering open communication, knowledge exchange, and safe spaces for trial and error ([Yaseen & Khattak, 2025](#)). Additionally, encouraging leadership fosters workers' innate drive and sense of pride in their job. Key components of EIWB include ideation, problem-solving, and the adoption of novel strategies, all of which are more likely to be carried out by employees who feel empowered [Mattoni et al. \(2024\)](#).

H3: *Opening leadership have positive impact on EIWB.*

2.5 Closing Leadership on Employee innovative Work Behavior

Closing leadership is characterized by an emphasis on control, structure, and stability, prioritizing the preservation of established processes and the achievement of specific goals within defined parameter [Thaiduong \(2024\)](#). Leaders exhibiting closing behaviors generally set clear expectations, maintain a focused approach on progress, and guide the employees towards achieving specified objectives [Zhang et al.](#). This strategy works well in settings that value effectiveness, reliability, and performance enhancement [Kerrissey et al.](#). Leaders who effectively manage innovation by providing clear expectations, monitoring progress, and offering

structured guidance can create an environment where employees are motivated to innovate within the confines of set parameters [Karsoo \(2022\)](#). This approach fosters innovative behavior without compromising efficiency by supporting staff in striking a balance between the organization's demands for productivity and quality control and the need for originality [Mumford \(2023\)](#).

Closing leadership positively impacts employee innovative work behaviour because it provides employees with clear direction and structure while allowing space for creativity. By offering a controlled environment, closing leaders reduce uncertainty, enabling employees to focus their innovative efforts on achieving specific, measurable outcomes [Kim et al. \(2023a\)](#). Ambidextrous leadership theory posits that the alternating use of opening and closing behaviours is both complementary and essential, particularly across various stages of the innovation cycle. During the implementation phase, employees derive greater benefits from closing behaviours, including structured supervision and process alignment, rather than from unrestricted creativity [Zacher et al. \(2016\)](#). Leaders who apply closing leadership in a flexible and context-sensitive way help employees execute innovative ideas without compromising organizational control or performance quality. closed leadership promotes employee innovative work behaviour by giving clarity, direction, and a disciplined structure that allows employees to innovate consciously and successfully. Within the theoretical framework of Ambidextrous Leadership Theory, closing leadership is critical for sustaining innovation, not just through idea production, but also by ensuring that ideas are executable, measurable, and in line with organisational performance requirements [Kim et al. \(2023a\)](#).

H4: *Closing leadership have negative impact on EIWB.*

2.6 Employee Innovative Work Behavior on Innovativeness as Project Requirement

Employee Innovative Work Behavior defines the activities undertaken by employees within an organization that result in the creation, advancement, and execution of innovative concepts or procedures that enhance organizational efficacy and competitiveness [Gardner et al. \(2023\)](#). EIWB is generally classified into three

phases: idea generation, idea promotion, and idea realization [West et al. \(2024\)](#). Employees who demonstrate innovative work behavior play a critical role in driving organizational growth and progress. By questioning existing processes and exploring new solutions, they help achieve organizational goals more effectively. Innovative work behavior has a strong connection with meeting changing project demands, as it supports the creativity and flexibility required for successful project completion. As employees actively engage in generating and implementing innovative ideas, they contribute to adapting project requirements to meet new challenges or market demands [Gong and Wang](#).

Ambidexterity theory provides the theoretical foundation for the connection between EIWB and the needs of creative projects. According to this idea, organizations need to strike a balance between exploratory and exploitative actions if they want to thrive in a dynamic environment [Rafael Romero \(2024\)](#). As a part of the exploratory side of creative work behavior, individuals look for new methods to solve problems and meet the evolving needs of innovative initiatives [Binns et al. \(2022\)](#). This dual capability allows firms to meet short-term operational goals while also preparing for long-term innovation and transformation [Zacher and Rosing \(2015\)](#). According to [Alshoukri et al. \(2020\)](#) Ambidexterity Theory not only explains the strategic requirement for EIWB in creative projects, but it also identifies the leadership conditions under which such behaviours thrive. This underlines the usefulness of the theory in modern research on project management and innovation.

H5: *Employee Innovative Work Behaviour have positive impact on innovativeness as project requirement.*

2.7 Employee Innovative Work Behaviour on Opening Leadership and Innovativeness as a Project Requirement

According to [Gong and Wang](#), when employees exhibit EIWB, they play a crucial role in coming up with new ideas. This, in turn, helps the organization fulfil the demands of complicated projects and innovate effectively. In contrast to closing

leadership's emphasis on stability and task completion, opening leadership promotes exploration through empowering employees' autonomy and creativity. Leaders that skillfully switch between the two styles foster an environment where EIWB can flourish because it encourages creativity without limiting efficiency Zacher and Rosing (2015). This dynamic leadership approach, referred to as ambidextrous leadership, cultivates an environment where innovation is both promoted and successfully executed, facilitating rapid and sustained project creativity. According to Hwang et al. (2022) provide empirical support, showing that opening leadership indirectly fosters project innovation by promoting EIWB. Open leadership has a significant impact on work environments and opens the door to employee-driven innovation, which is essential for organizations to be flexible and successful Mattoni et al. (2024). Unless it is accompanied by employees' active engagement in innovative behaviours, this mediation implies that opening leadership alone may not be sufficient to directly deliver innovation Zhao et al. (2016). This theory is supported by the fact that this mediation was conducted. To put it another way, although opening leadership is responsible for establishing the necessary conditions, such as psychological safety, autonomy, and the encouragement of novel thinking, it is the employee's proactive involvement in idea generation, promotion, and implementation that is responsible for translating leadership intentions into actual innovation West et al. (2024). Furthermore, this highlights the significance of a dual focus within the context of Ambidextrous Leadership Theory. In order to ensure the continued success of a project, leaders are required to establish an environment that is conducive to exploration, and employees are expected to engage in behaviour that helps drive innovation.

H6: *Employee innovative work behaviors have strengthen the relationship between opening leadership and project innovativeness.*

2.8 Employee Innovative Work Behaviour on Closing Leadership and Project Innovativeness

The mediating role of EIWB between closing leadership and project innovativeness is supported by studies showing that structured leadership styles help employees

transition creative ideas into tangible outcomes. Structured leadership styles, while often viewed as rigid, actually facilitate the transformation of creative ideas into concrete results by offering guidance and necessary resources. Recent studies emphasize that closing leadership fosters an environment where employees are motivated to direct their innovative efforts toward achieving practical outcomes [Lewis and Smith \(2022\)](#).

According to [Bledow et al. \(2013\)](#) suggest that closing leadership provides the structure needed to channel innovative behavior effectively, ultimately enhancing project performance and delivering better results. EIWB functions as an essential bridge that directs the organized impact of executive leadership towards project-level innovation, hence enhancing organizational success [Hwang et al. \(2022\)](#).

The ambidextrous leadership theory suggests that employee innovative Work Behavior (EIWB) mediates the relationship between closing leadership and Innovativeness as a project requirement, highlighting the need for leaders to balance opening and closing behaviors. Employee Innovative Work Behaviour (EIWB) mediates this relationship by transforming creative concepts into tangible innovations, hence facilitating project success.

Organisations have a twin benefit when workers are given the freedom to use their unique abilities within well-defined parameters and supported procedures: innovative creativity (exploration) and dependable execution (exploitation). Ambidextrous leadership theory, which emphasises the necessity for leaders to cultivate both flexibility and control, places a strong emphasis on this balance [Khan \(2024b\)](#).

As a result, EIWB's mediating function is both strategic and operational; it makes it possible for the exploitative and organised elements of close leadership to transform into significant and long-lasting innovation. This supports the idea that close leadership greatly increases project innovativeness when combined with employee-driven innovation.

H7: *Employee innovative work behaviour (EIWB) strengthen the relationship between closing leadership and project innovativeness.*

2.9 Organizational Ambidextrous Culture on Closing Leadership and Employee Innovative Work Behaviour

Organizational Ambidextrous Culture (OAC) is a workplace that balances flexibility and adaptability (exploration) with stability and efficiency (exploitation). Maintaining a healthy cultural balance helps improve the relationship between OL and IPR (Innovativeness as a Project Requirement). Organizational Ambidextrous Culture (OAC) combines creativity and structured execution to ensure that innovative efforts are aligned with project requirements. This approach not only improves project outcomes but also enhances the organization's ability to adapt to future challenges, contributing to long-term success [Chen \(2024\)](#). According to [Lewis and Smith \(2022\)](#), an ambidextrous culture fosters a stronger connection between OL and IPR. This is because an ambidextrous culture helps align creative endeavors with project goals, which in turn enhances the innovativeness of projects both immediately and in the long term.

Despite these challenges, the hypothesis that OAC positively moderates the link between OL and IPR remains valid, as the benefits of maintaining a balanced culture generally outweigh the disadvantages. Establishing clear innovation guidelines and encouraging collaboration among teams can effectively align creative initiatives with project objectives. This approach facilitates balancing exploratory efforts with practical implementation, ensuring both creativity and efficiency in achieving project goals [Ramirez et al. \(2024\)](#). Overall, while an ambidextrous culture introduces complexities, it ultimately supports opening leadership in driving meaningful and well-aligned project innovations. Organizational ambidextrous culture plays a crucial moderating role in strengthening the relationship between opening leadership and IPR, as posited in Hypothesis This relationship is based on ambidextrous leadership theory, highlighting the necessity for organisations to balance exploratory behaviours, such as innovation and flexibility, with exploitative behaviours, including efficiency and execution, to attain sustainable success [Rosing and Zacher \(2023\)](#) Opening leadership is crucial for promoting creativity

and innovative ideas; however, without appropriate direction, it can result in unfocused innovation. This is where the OAC plays a crucial role as a moderator by providing the structural and cultural mechanisms that are required to align the exploratory tendencies of OL with the objectives that are specific to the scope of the project. According to recent research by [Chen \(2024\)](#), organisations with strong ambidextrous cultures have better innovation governance frameworks, which results in a 30% greater OL-IPR link.

Organizational Ambidextrous Culture strengthens the relationship between Closing Leadership and Employee Innovative Work Behaviour, which improves the effect of CL on EIWB by balancing efficiency and innovation, encourages EIWB and supports innovation within the organization [Mihelič et al. \(2024\)](#). This culture enables leaders to create an environment where employees can be both productive and innovative. The Ambidextrous Leadership Theory suggests that effective leadership needs a balance between exploration and exploitation [Rosing and Zacher \(2023\)](#). Closing Leadership, emphasizing control, structure, and efficiency, facilitates the effective implementation of ideas. When used with an OAC, CL augments Employee Innovative Work Behavior (EIWB) by promoting both idea generation and their implementation. OAC enables CL to offer explicit guidance while fostering creativity, thereby maintaining a balance between autonomy and control, which enhances innovation and organizational efficiency [Rosing and Zacher \(2023\)](#). The findings of a recent study conducted by [Mihelič et al. \(2024\)](#) indicate that the OAC has the ability to enhance the CL-EIWB relationship by offering distinct innovation frameworks that foster creative efforts while maintaining operational discipline. This, in turn, leads to a 45% increase in the number of innovations that are implemented in comparison to environments that are non-ambidextrous. The moderating effect of OAC functions through various established mechanisms. Initially, it fosters structured autonomy by setting flexible boundaries that enable employees to experiment while maintaining alignment with organisational objectives [Kim et al. \(2023b\)](#). Second, OAC creates a sense of psychological safety, which lets workers under CL come up with new ideas without fear of negative consequences [Kerrissey et al.](#)

H8: *Organizational ambidextrous culture moderates the relationship between closing leadership and Employee innovative work behaviour.*

2.10 Organizational Ambidextrous Culture on Opening Leadership and Employee Innovative Work Behaviour

Organizational Ambidextrous Culture enhances the connection between Closing Leadership and Innovativeness as a Project Requirement by reinforcing the influence of structured leadership on fostering project innovation. Ambidexterity Theory highlights the necessity of balancing exploration, which fosters creativity and innovation, with exploitation, which focuses on efficiency and control, to drive organizational success (March, 1991). In the context of an ambidextrous culture, CL establishes essential structures, processes, and guidelines that ensure stability in project execution while allowing employees to innovate within defined boundaries. This dynamic promotes both efficiency and creativity, enabling projects to meet innovative objectives effectively. This balance helps employees effectively meet project requirements while exploring creative solutions [Snihur et al. \(2023\)](#).

The advantages aren't without their drawbacks, though; striking a balance between the two can be difficult; for example, there may be friction between the demands for control and innovation. A well-established ambidextrous culture, on the other hand, offers ways to deal with this conflict. According to [Kim et al. \(2023b\)](#) it provides employees with clear standards and support mechanisms to help them balance efficiency and creativity. This, in turn, reduces stress and dissatisfaction while keeping them motivated. The ability of closing leadership to promote practical and goal-oriented innovation is enhanced by OAC's promotion of an environment where exploration and exploitation coexist. Empirical evidence substantially supports this theoretical viewpoint. According to Kim and colleagues' 2023 longitudinal study, in organisations with high OAC, closing leadership behaviours boosted innovation implementation success by 38% when compared to weak OAC situations. Similarly, Adler's (2022) multi-case research found that high-performing project

teams consistently used OAC to promote psychological safety for experimenting while maintaining accountability for results. These findings support the main concept of ambidextrous leadership theory, which states that the most effective organisations excel at both exploration and exploitation [Rosing and Zacher \(2023\)](#). Ambidextrous leadership theory provides strong theoretical support for H9 by explaining how an organization's ambidextrous culture positively moderates the closing leadership-innovation relationship. The theory highlights key mechanisms - behavioural complementarity, contextual ambidexterity, and temporal cycling - that allow OAC to transform CL's potentially restricting effects into enabling conditions for project innovation. Recent empirical research consistently supports this theoretical perspective, demonstrating that when embedded in strong OAC, closing leadership becomes a powerful driver of innovativeness that meets project requirements rather than a constraint on creative potential.

Organizational Ambidextrous Culture strengthens the relationship between Opening Leadership and Employee Innovative Work Behaviour. This culture amplifies OL's influence on EIWB by fostering a supportive atmosphere conducive to both creativity (exploration) and efficiency (exploitation). OAC offers the psychological safety and resources necessary for employees to participate in innovative endeavors, whereas OL fosters and promotes these behaviors. By balancing the emphasis on innovative concepts and their excellent execution, OAC enhances OL's efficacy in inspiring employees to conceive and implement new ideas that correspond with the organization's objectives. Consequently, in firms characterized by an ambidextrous culture, organizational learning exerts a more pronounced and beneficial influence on employee innovative work behavior, as it promotes both creative autonomy and systematic implementation [Khan \(2024b\)](#). Moreover, recent empirical evidence demonstrates that the interaction between leadership style and organisational culture substantially influences innovation outcomes. [Ma et al. \(2021\)](#) discovered that an ambidextrous culture significantly enhance the impacts of participative and empowering leadership on employee creativity. According to [Malik \(2024\)](#) contend that a dual-focused culture enables executives to more effectively integrate staff creativity with performance indicators, thereby enhancing both idea development and execution. Organisational Ambidextrous Culture ensures that employees are

not only encouraged to generate novel concepts but also receive the necessary resources and assistance to execute them within this framework. It strengthens the idea that innovation is a systemic process as well as a behavioural consequence by bridging the gap between organizational-level innovation and individual-level creativity [West et al. \(2024\)](#)

H9: *Organizational ambidextrous culture moderates the relationship between opening leadership and employee innovative work behaviour.*

2.10.1 Research Framework

Research framework reflects variables relations; Opening leadership and closing leadership as independent variable, Innovativeness as project requirements as dependent variable, Employee innovative work Behaviour as mediator and OAC as moderator

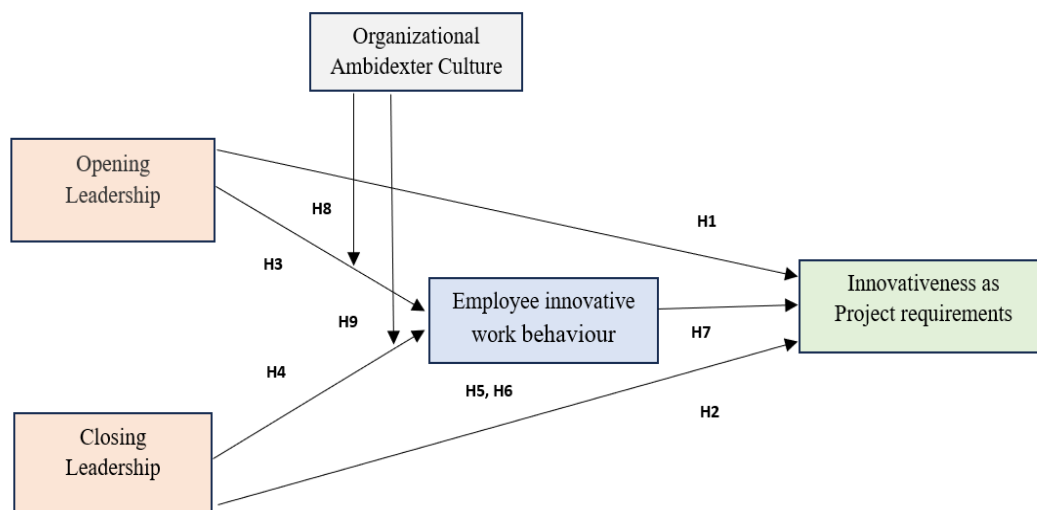


FIGURE 2.1: Conceptual Framework

Chapter 3

Research Methodology

3.1 Introduction

This methodology chapter details the techniques used in this study to ensure reliable results, address research questions, and meet objectives. It includes the study's research design, data collection methods (population and sampling), estimations, ethical issues, and results from a pilot study. Additionally, it discusses the reliability of the items used in the research, providing a comprehensive overview of the methods applied to reach conclusion.

3.2 Research Design

A research design is a detailed plan that outlines how a research study will be conducted. It helps guide the researcher in collecting and analyzing data in an organized way. Zikmund (2003) describes research design as the researcher's plan that outlines the strategy and steps for collecting and analyzing important data to obtain useful information. The research design includes types of study, study setting time horizon (where, when and how long will it take for him/her to collect the data), ethical Issues, and the unit of analysis (individuals, teams, organizations etc.).

The research design outlines key components such as the type of study, time horizon, study setting, ethical considerations, and the unit of analysis, which may involve individuals, groups, or organizations.

This study adopts a positivism approach, based on the belief that reality is objective and can be understood through empirical observation and quantitative analysis. It focuses on examining how leadership behaviors and organizational culture can be utilized to improve employee innovative work behavior and enhance overall project innovativeness. The positivist orientation ensures that the research remains value-free, relying on observable, measurable variables rather than subjective interpretations.

This study will adopt a structured methodology to assess the impact of Opening and Closing Leadership on Innovativeness, with Employee Innovative Work Behaviour (EIWB) as a mediator and Organizational Ambidextrous Culture as a moderator.

A quantitative, cross-sectional design is used, allowing for the analysis of leadership styles and their relationship with employee innovativeness. The study examines how OL and CL leadership styles, moderated by OAC, influence EIWB and, ultimately, innovativeness within organizations

3.3 Population and Sample

The population for this study consists of employees working in medical billing companies in Islamabad and Rawalpindi, Pakistan. Medical billing companies are one of the emerging industries in Pakistan, contributing significantly to the country's economy.

Medical billing companies were selected because they are integral to the healthcare sector and typically involve complex projects requiring high levels of collaboration, innovation, and leadership.

The sample size determined based on the total number of employees within these companies, ensuring that it is representative of the population while allowing for valid and reliable analysis of the relationship between leadership practices, employee innovation, and project performance. Since it is not feasible for researchers to collect data from every member of a population, selecting a sample becomes necessary. This helps ensure the study remains manageable while still providing reliable and representative insights about the whole population.

Time Horizon

The data is collected within two months for this study. The study was not time-lagged and the data collected at a single point in time, the study employs a cross-sectional research design

3.3.1 Ethical Issues

At all times, research ethics are the top priority. Each participant is asked to provide their informed consent after carefully reviewing the study's goals and being informed that they are free to withdraw at any time without penalty. Anonymizing replies and storing data securely will ensure confidentiality. For the sake of the participants' rights, the study also adheres to institutional regulations and ethical principles.

3.4 Unit of Analysis

The unit of analysis in this study individual employees working in medical billing companies based in Islamabad and Rawalpindi, Pakistan. By focusing on these individuals, the research examines how they perceive leadership practices, their innovative work behaviors, and the impact of these factors on organizational outcomes, particularly project performance

3.5 Population Sampling

G*Power use model setting 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 field of biomedicine, social science, and behavioral research (Faul et al.,2009). For this research*Power 3.1.9.4 tool has been used to determine the appropriate sample size. To examine the current five-predictor framework, 92-participants sample is required, yielding a power of 0.80 and a medium effect. The power of the obtained sample size and the minimum sample size are shown in figure 3.1

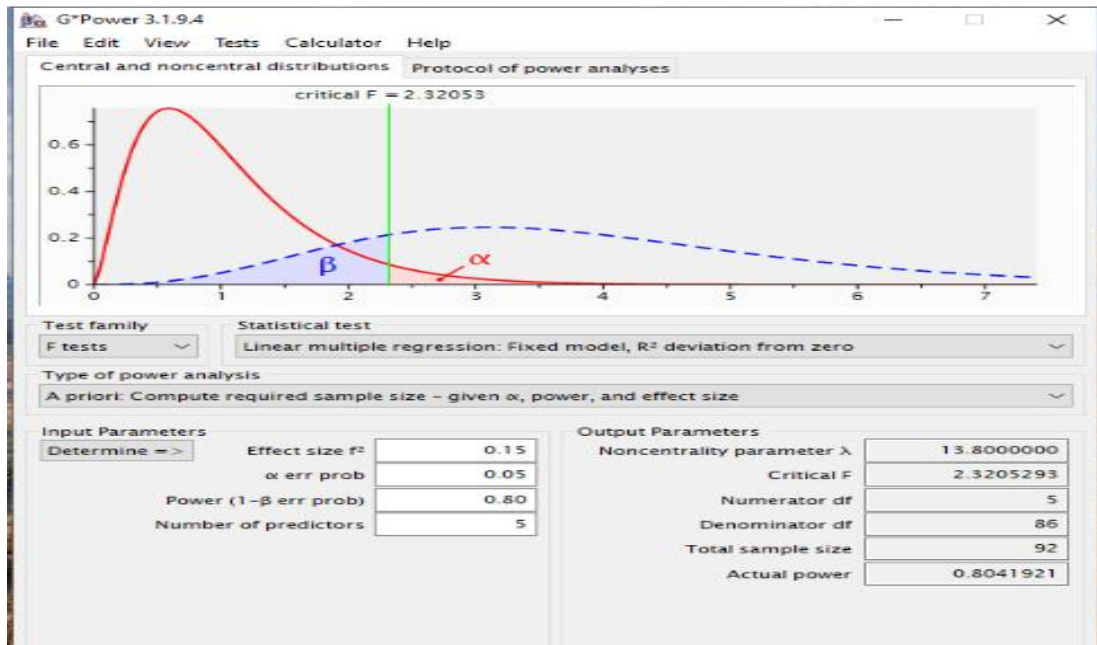


FIGURE 3.1: G*Power (power= 0.80)

Figure 3.2 shows that 138 participants are needed based on G* Power analysis at 95% power, even though 92 people were needed to achieve a minimum power of 80%. With 129 people on staff, GPI project has a 95% probability of finding an impact. Nonetheless,300 plus people will be contact for the survey in order in to ensure the most genuine findings.

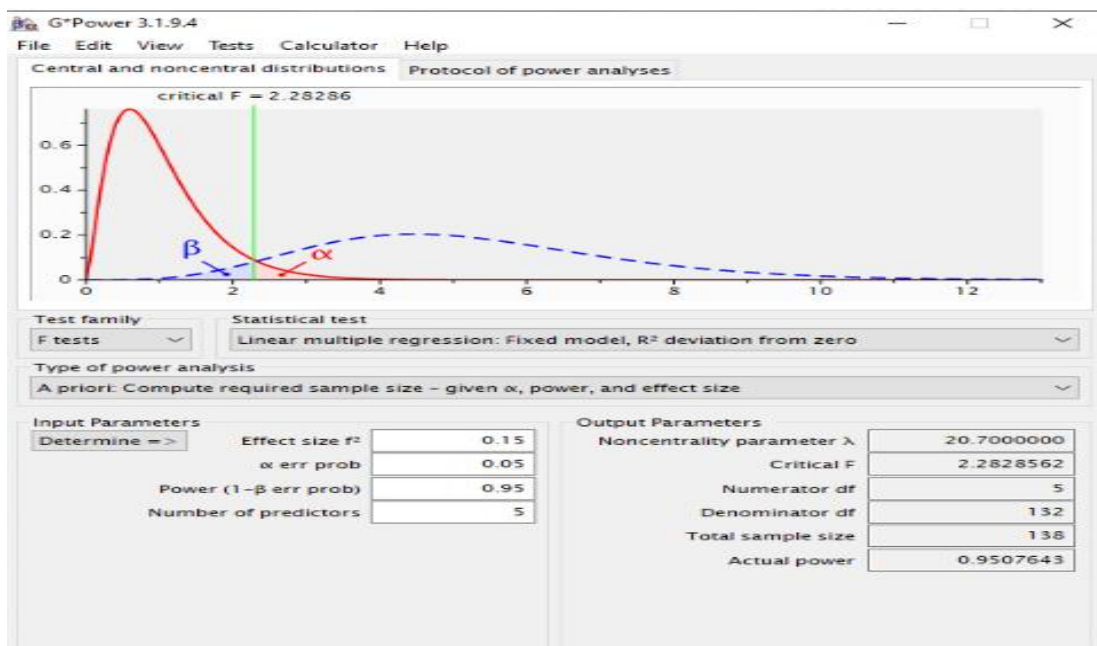


FIGURE 3.2: G* Power (power=0.95)

3.6 Sample and Sampling Technique

The sample in this study represents a subset of the population, focusing on medical billing companies in Pakistan, which are pivotal to the nation's economy. Due to resource and time limitations, the non-probability sampling technique was employed to ensure the sample was representative of the population. Convenience sampling technique was used to avoid bias and provide a diverse and accurate picture of the population. Data were gathered from 50 medical billing companies operating in Islamabad and Rawalpindi, including. A total of 300 plus valid responses collected from employees, with a focus on their perception of leadership styles, innovative work behaviours, and the impact of organizational ambidextrous culture on performance. Participants' confidentiality ensured, and data collected was used strictly for academic purposes.

The target sample for this study consisted of employees who voluntarily completed the questionnaires. An introductory letter was provided, explaining the purpose of the research and assuring participants that their identities would remain completely confidential. It also stated that the information collected would be used solely for academic purposes and would not be shared with anyone.

3.7 Data Collection

A total of 350 structured questionnaires were distributed among employees working in medical billing companies located in Rawalpindi and Islamabad. Out of these, 315 were returned fully completed and included in the final analysis, resulting in a response rate of approximately 89%. The questionnaire consisted of closed-ended questions based on a 5-point Likert scale and was administered in physical form to improve accessibility. Demographic information collected included gender, age, education level, work experience. This information was utilized to gain a deeper understanding of the respondent's background and to examine the relationship between leadership styles, employee innovative work behavior, and organizational ambidextrous culture within the medical billing sector.

3.8 Sample Characteristics

A total of 315 responses were collected. The survey captured demographic information such as age, gender, educational background, and job experience. The characteristics of the respondents who provided data are presented in the table below

3.8.1 Gender

Gender is an important element of the demography. It highlights the need to maintain gender balance, as it plays an important role in showing the ratio of males to females in any group of people.

In the study, there were more male participants than female ones because most of the project-related roles were filled by men. Table 3.1 shows the gender breakdown of participants, with 75.6% being male and only 23.2% female.

TABLE 3.1: Gender

Gender	Frequency	Percent Valid	Percent Cumulative
Female	73	23.2	23.2
Male	238	75.6	98.7
Prefer not to say	4	1.3	100.0
Total	315	100.0	100.0

3.8.2 Age

Age is another important factor in understanding population characteristics. However, some participants were hesitant to share their exact age. To make them feel more comfortable, the survey used age groups instead of asking for specific ages.

According to Table 3.2, 53.7% of participants were between 20–25 years old, 32.4% were between 26–30 years old, 10.5% were aged 31–35, and only 3.5% were over 36. The results show that most respondents were under the age of 30.

TABLE 3.2: Age

Age	Frequency	Percent Valid	Percent Cumulative
20-25	169	53.7	53.7
26-30	102	32.4	86.0
31-35	33	10.5	96.5
35 and above	11	3.5	100.0
Total	315	100.0	100.0

3.8.3 Experience

Work experience plays an important role in building skills and creativity, which is why it is included in the demographic data. To understand the participants' experience levels, their work experience was divided into four groups. The job tenure ranges were chosen to match common industry standards.

According to Table 3.3, 36.8% of participants had less than 0-1 years of experience, 45.1% had between 2 to 5 years, 14.3% had 5 to 10 years, and 3.8% had more than 10 years of work experience. The data shows that most respondents had below five years of job experience.

TABLE 3.3: Organizational Experience

Work experience	Frequency	Percent Valid	Percent Cumulative
0-1 years	116	36.8	36.8
10+ years	12	3.8	40.6
2-5 years	142	45.1	85.7
5-10 years	45	14.3	100.0
Total	315	100.0	100.0

3.8.4 Education level

Education level is an important factor, just like age and gender, because it helps students gain knowledge and skills to compete in the global world. A good

education system is key to a country's success. A good education system is key to a country's success. The survey categorized education levels into four groups Matric, Intermediate, Bachelor and Any Other.

Table indicate that the 17.8% had a Matric degree.28.6% had an intermediate degree, 45.4% had a bachelor's degree and any others are 8.3%. The percentage of bachelor's degree holders has increased.

TABLE 3.4: Education

Education	Frequency	Percent Valid	Percent	Cumulative Percent
Any other	26	8.3	8.3	8.3
Bachelors	143	45.4	45.4	53.7
Intermediate	90	28.6	28.6	82.2
Matric	56	17.8	17.8	100.0
Total	315	100.0	100.0	

3.9 Research Instruments

English is a compulsory subject in Pakistan starting from high school, so the survey questionnaire was prepared in English. Since university instructions are also given in English and most respondents were Billing Company employees which are basically US based companies, they likely had no trouble understanding the questions.

The survey used a closed-ended format with a five-point Likert scale (1 = strongly agree, 5 = strongly disagree) to measure responses. The questionnaire was divided into two parts: the first collected demographic details like gender, age, experience, education, job role, project type, and duration, while the second focused on key variables—opening and closing leadership (independent), innovativeness as project requirements (dependent), Employee innovative work behavior (mediating), and organizational ambidexter culture (moderating. Hard copies of the survey were

distributed to employees at billing companies, with 400 questionnaires sent out and 315 responses received.

3.9.1 Opening Leadership

The 6-item scale developed by Rosing's et al. (2015) was used to measure OL (Opening Leadership) as the independent variable. The scale consisted of 6 items and demonstrated good reliability with a Cronbach's alpha value of 0.836.

3.9.2 Closing Leadership

The 7-item scale developed by Rosing et al. (2015) was used to measure Closing Leadership (CL) as the independent variable. This scale showed good reliability, with a Cronbach's alpha of 0.767.

3.9.3 Innovativeness as Project Requirements

To measure Innovativeness as Project requirements a 3-item measurement scale adapted by Arslan's et al. (2023) was used. This scale assessed Innovativeness as project requirement as the dependent variable and demonstrated acceptable reliability with a Cronbach's alpha value of 0.759.

3.9.4 Employee Innovative Work Behavior

The 9-item scale developed by Janssen (2000) was used to measure Employee Innovative Work behavior as the mediator. This scale showed good reliability, with a Cronbach's alpha of 0.904.

3.9.5 Organizational ambidexter Culture

To measure OAC (the moderating factor), we used Xu et al. (2014) 7-item scale. demonstrated acceptable reliability with a Cronbach's alpha value of 0.829.

This questions for survey will be based on established measures from studies on opening leadership and closing leadership, IPR, Employee innovative work behaviour and organizational ambidexter culture.

TABLE 3.5: Research Instruments

Variables	Dimensions	Items	Sources
Opening Leadership	Encouragement of creativity and innovation Empowerment	6	Rosing's et al. (2015)
Closing leadership	Efficiency and control Managing stability Goal-oriented leadership	7	Rosing's et al. (2015)
Innovativeness as project requirement	Novelty of solutions Risk-Taking and experimentation Creative problem-solving	3	Ji et al. (2018)
Employee innovative work behaviour	Idea Generation Idea promotion Idea realization	9	Janssen (2000)
Organizational ambidexter culture	Flexibility and adaptability Consistency and Stability	7	Xu et al. (2014)

Chapter 4

Data Analysis and Results

In this chapter, Section 4.1 presents the data screening process, detailing the procedures used to prepare the dataset for analysis, including the treatment of missing values, outlier detection, and normality assessment. Section 4.2 provides a comprehensive overview of the data analysis findings, beginning with the evaluation of the measurement model to assess reliability and validity, followed by the assessment of the structural model to test the hypothesized relationships among constructs. Finally, Section 4.3 summarizes the outcomes of all the hypotheses tested, highlighting the key results and their implications for the research objectives.

4.1 Screening of Data

Before proceeding with the core statistical analyses, it is essential to ensure that the dataset is clean, complete, and suitable for further examination. This phase involves verifying the dataset for distributional issues, missing values, and the presence of outliers, all of which could compromise the credibility and validity of the findings. A rigorous data screening process enhances the integrity of the analysis by minimizing potential errors and increasing the overall reliability of the results. As emphasized by Sun and Xia (2024), meticulous screening ensures that the measurements employed in the study accurately reflect the theoretical constructs under investigation.

4.2 Data Cleaning

Data cleaning is a fundamental step undertaken to enhance the overall quality of the dataset. It includes identifying and correcting inconsistencies, handling missing values, and eliminating responses that are incomplete or deemed invalid. Ahuja et al. (2024) assert that proper data cleaning is crucial in preventing biases that may distort analytical results. This process not only strengthens the dataset's internal validity but also facilitates accurate interpretation of statistical findings. Furthermore, by refining the dataset prior to statistical analysis, researchers are able to better assess the data's distributional properties, identify deviations from normality, and ensure the suitability of the data for techniques such as structural equation modelling.

4.3 Treatment of Missing Values and Outliers

Missing data arises when participants skip or fail to respond to one or more survey items, either intentionally or unintentionally. Unaddressed missing values can compromise statistical power and introduce bias. Outliers, defined as data points that deviate significantly from the rest of the dataset, can also distort analytical outcomes and affect model stability. According to Silva (2024), the detection and appropriate treatment of outliers are critical to maintaining the representativeness and generalizability of the data. In this study, a detailed data screening was conducted to assess the presence of missing values and outliers. No substantial missing data or extreme outliers were identified, indicating that the dataset was clean and well-suited for statistical analysis. As a result, the data met the prerequisites for subsequent multivariate testing procedures.

4.4 Pilot Testing

Prior to the main data collection phase, a pilot study was conducted to ensure the clarity, reliability, and appropriateness of the research instrument. Pilot testing helps identify potential issues in questionnaire design and provides an opportunity to refine items for improved precision and comprehension. While 40–50 participants

are generally considered adequate for pilot testing, a sample of 53 employees from medical billing companies. The pilot data were analysed using SmartPLS 4, and reliability was assessed through Cronbach's Alpha. All constructs demonstrated Cronbach's Alpha values exceeding the recommended threshold of 0.70, confirming strong internal consistency and scale reliability. Following this validation, the research instrument was deemed fit for deployment in the full-scale study, which included data collection from 315 respondents.

4.5 Factor Loadings

To assess the validity of the constructs in the measurement model, an examination of factor loadings was conducted.

TABLE 4.1: Factor Loadings

Items	Factor Loadings	Items	Factor Loadings
CL1	0.850	IPR1	0.879
CL2	0.871	IPR2	0.864
CL3	0.824	IPR3	0.871
CL4	0.864	OAC1	0.830
CL5	0.881	OAC2	0.819
CL6	0.793	OAC3	0.856
CL7	0.787	OAC4	0.819
EIWB1	0.745	OAC5	0.820
EIWB2	0.604	OAC6	0.813
EIWB3	0.811	OAC7	0.824
EIWB4	0.859	OL1	0.822
EIWB5	0.865	OL2	0.859
EIWB6	0.661	OL3	0.863
EIWB7	0.710	OL4	0.858
EIWB8	0.632	OL5	0.810
EIWB9	0.753	OL6	0.825

Abbreviations: *Closing Leadership (CL)*

Factor loadings reflect the degree to which each observed item (indicator) represents its underlying latent construct. According to Hair et al. (2021), a loading of 0.70 or higher is considered ideal, though items with loadings as low as 0.60 can be accepted in exploratory research or when overall construct reliability is strong. In this study, the majority of items exhibited strong standardized factor loadings (as presented in Table 4.2), indicating a high level of association between the measurement items and their respective constructs. For Closing Leadership (CL), all seven items (CL1 to CL7) demonstrated acceptable loadings, ranging from 0.787 to 0.881, confirming the internal consistency of the construct. Similarly, IPR showed excellent loadings across its three items (IPR1 to IPR3), all above 0.860, reflecting strong construct validity. The items for OAC also performed well, with all seven indicators loading between 0.813 and 0.856, supporting the robustness of the construct.

In the case of OL the figure 4.1 illustrated, factor loadings ranged from 0.810 to 0.863, all comfortably above the threshold, indicating reliable measurement. for employee innovative work behavior, while most items met or exceeded the minimum recommended threshold (e.g., EIWB3 = 0.811, EIWB4 = 0.859, EIWB5 = 0.865), a few items—specifically EIWB2 (0.604), EIWB6 (0.661), and EIWB8 (0.632)—had relatively lower loadings. However, these values still fall within acceptable limits for exploratory studies and did not negatively impact the composite reliability or AVE of the construct, as confirmed in the measurement model results. These results affirm that the instrument used in this study was both psychometrically sound and theoretically aligned with the proposed model.

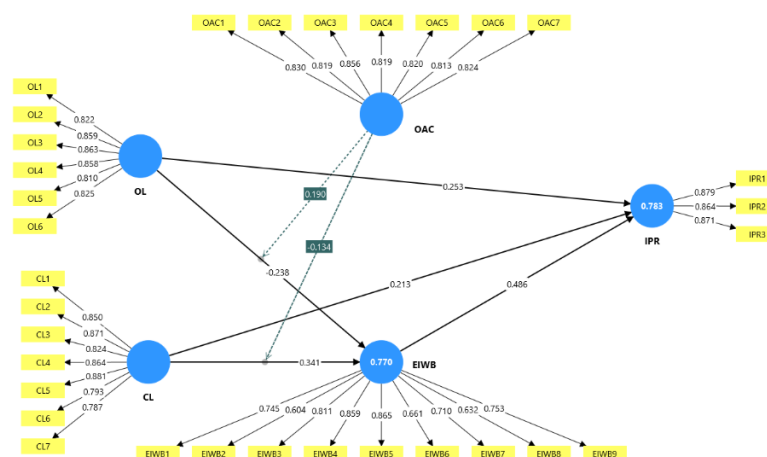


FIGURE 4.1: Measurement Model Analysis

4.6 Measurement Model Analysis

The measurement model analysis was conducted to assess the reliability and convergent validity of the latent constructs in the study. Key indicators evaluated include Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE). According to Hair et al. (2021), Cronbach's alpha values above 0.70 suggest acceptable internal consistency, while values above 0.80 and 0.90 indicate good and excellent reliability, respectively.

As shown in Table 4.3, all constructs demonstrate high internal consistency: Closing Leadership (CL) has a Cronbach's alpha of 0.930, employee innovative work behavior (EIWB) 0.902, innovativeness as project requirement (IPR) 0.841, organizational ambidexter culture (OAC) 0.922, and opening leadership (OL) 0.916. These values confirm that the observed variables for each construct are consistently measuring the same underlying dimension.

In addition, the composite reliability (CR) for each construct also exceeds the recommended threshold of 0.70, further confirming scale reliability. The composite reliability values range from 0.904 (IPR) to 0.943 (CL), while the rho_a values similarly confirm strong reliability across all constructs. This ensures that the latent variables are well-represented by their respective indicators. Convergent validity was evaluated using Average Variance Extracted (AVE).

AVE values greater than 0.50 indicate that a construct explains more than half of the variance in its observed indicators (Fornell & Larcker, 1981). The AVE values in this model are all above the threshold, with IPR demonstrating the highest convergent validity (AVE = 0.759), followed by OL (0.705), CL (0.704), OAC (0.682), and EIWB (0.552).

These findings confirm that the measurement model possesses strong convergent validity, meaning each construct is adequately measured by its items. Overall, the results of the measurement model analysis support the reliability and validity of the measurement instruments, providing a solid foundation for further structural model evaluation.

TABLE 4.2: Measurement Model Analysis

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted
OL	0.916	0.917	0.935	0.705
CL	0.930	0.931	0.943	0.704
EIWB	0.902	0.923	0.916	0.552
IPR	0.841	0.842	0.904	0.759
OAC	0.922	0.924	0.938	0.682

4.7 Discriminant validity

Discriminant validity was assessed to ensure that each construct in the measurement model is empirically distinct from the others. Two complementary approaches were used: the Fornell-Larcker criterion and the Heterotrait-Monotrait ratio (HTMT).

According to the Fornell-Larcker approach, a construct should share more variance with its own indicators than with other constructs. This is validated when the square root of the AVE for each construct (represented diagonally in the matrix) is greater than the correlations with other constructs. As presented in Table 4.4, all constructs meet this requirement.

For example, the square root of AVE for Closing Leadership (0.848) is greater than its correlation with OL (0.839), OAC (0.828), EIWB (0.780), and IPR (0.807). Similarly, the square root of AVE for employee innovative work behavior (0.860), innovativeness as project requirement (0.871), organizational ambidexter culture (OAC (0.896), and opening leadership (0.875) also exceed their respective inter-construct correlations, confirming satisfactory discriminant validity.

TABLE 4.3: Discriminant Validity through Fornell-Larcker criterion

Relationship among Variables	CL	EIWB	IPR	OAC	OL
CL	0.848				
EIWB	0.780	0.860			
IPR	0.807	0.841	0.871		
OAC	0.828	0.743	0.826	0.896	
OL	0.839	0.746	0.797	0.840	0.875

To further validate this, the HTMT ratio, considered a more rigorous method, was applied. Discriminant validity is established if HTMT values are below the threshold of 0.90, and conservatively, below 0.85 (Henseler et al., 2015). As shown in Table 4.5, all HTMT values fall within acceptable limits. The highest HTMT value was between EIWB and IPR (0.803), followed by OL and EIWB (0.756), both of which remain below the conservative threshold. Other HTMT values, such as between CL and OL (0.616), and OAC and IPR (0.715), further support the distinctiveness of the constructs. Taken together, these results confirm that the constructs in the model possess strong discriminant validity, ensuring that each latent variable measures a conceptually distinct phenomenon. This validation strengthens the credibility of the subsequent structural model analysis.

TABLE 4.4: Discriminant Validity through Heterotrait-monotrait ratio (HTMT) - Matrix

Relationship among Variables	CL	EIWB	IPR	OAC	OL
CL					
EIWB	0.790				
IPR	0.713	0.803			
OAC	0.597	0.576	0.715		
OL	0.616	0.756	0.706	0.655	

4.8 Model Fit Analysis

The model fit summary provides several key indices used to evaluate how well the theoretical model fits the observed data. The Standardized Root Mean Square Residual (SRMR) value for both the saturated and estimated models is 0.095, which falls within the acceptable threshold of below 0.10 (see Table 4.6), indicating a good fit. The d_ULS (squared Euclidean distance) and d_G (geodesic distance) values for the estimated model are 4.735 and 1.813 respectively, showing only slight deviations from the saturated model's values of 4.717 and 1.763. These small differences suggest that the structural model is a reasonable approximation of the empirical data. The chi-square statistic also shows a minor increase from 3651.310 (saturated) to 3698.407 (estimated), which is acceptable given the model's complexity. Additionally, the Normed Fit Index (NFI) values are 0.720 for the saturated model and 0.716 for the estimated model. As both values exceed the recommended threshold of 0.70, this indicates a satisfactory comparative model fit. Taken together, these results demonstrate that the estimated model exhibits an acceptable overall fit, providing a strong basis for subsequent hypothesis testing and structural path analysis.

TABLE 4.5: Model Fit

Terms	Saturated model	Estimated model
SRMR	0.095	0.095
d_ULS	4.717	4.735
d_G	1.763	1.813
Chi-square	3651.310	3698.407
NFI	0.720	0.716

4.9 Coefficient of Determination and Predictive Usefulness

To evaluate the explanatory and predictive power of the model, the coefficient of determination (R^2), adjusted R^2 , Q^2 (predictive relevance), and key prediction error metrics Root Mean Square Error and Mean Absolute Error were examined. As presented in Figure 4.2, the R^2 value for Employee Innovative Work Behaviour (EIWB) was 0.770, while for IPR it was 0.783, indicating that 77% and 78.3% of

the variance in these dependent variables, respectively, is explained by the model's predictors. According to Hair et al. (2021), R^2 values above 0.75 are considered substantial, suggesting that the structural model demonstrates strong explanatory power for both EIWB and IPR. The adjusted R^2 values (0.768 for EIWB and 0.781 for IPR) are very close to their respective R^2 values, indicating minimal inflation and confirming model stability (see Table 4.7). Furthermore, the Q^2 predict values—calculated using the blindfolding procedure—were 0.757 for EIWB and 0.784 for IPR, both well above the threshold of 0, which demonstrates strong predictive relevance of the model (Chin, 1998; Hair et al., 2021). This means the model not only explains variance well but is also capable of accurately predicting out-of-sample data.

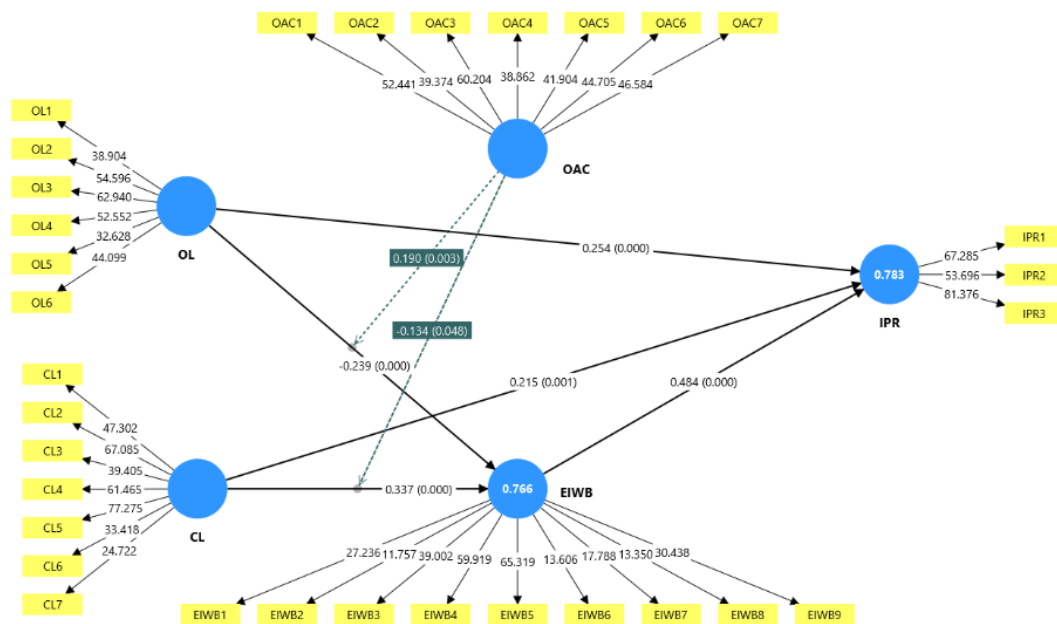


FIGURE 4.2: Structural Equation Model Analysis

In terms of prediction error, the Root Mean Square Error and Mean Absolute Error values for EIWB (RMSE = 0.495; MAE = 0.392) and for IPR (RMSE = 0.467; MAE = 0.369) indicate low levels of prediction error.

These values support the Q^2 findings by confirming that the model's prediction errors are minor and acceptable for social science research. Overall, these results validate the robustness of the structural model, demonstrating both high

explanatory and predictive accuracy. This supports the suitability of the model for understanding the influence of OL and CL and OAC on EIWB and IPR.

TABLE 4.6: Coefficient of Determination

Constructs	R-square	R-square adjusted	Q ² predict	RMSE	MAE
EIWB	0.770	0.768	0.757	0.495	0.392
IPR	0.783	0.781	0.784	0.467	0.369

4.10 f^2 Effect Size Analysis

The f^2 effect size analysis was conducted to evaluate the practical contribution of each independent construct to the endogenous variables: EIWB and IPR. According to Cohen's (1988) guidelines, f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively. Table 4.8 shown results reveal that OAC had the largest effect on EIWB ($f^2 = 0.479$), highlighting its critical role in enabling innovative work behaviors among employees. Closing Leadership (CL) also contributed meaningfully to EIWB ($f^2 = 0.115$), suggesting a small-to-moderate effect, while Opening Leadership (OL) had a smaller impact ($f^2 = 0.041$).

The interaction terms, OAC \times CL ($f^2 = 0.018$) and OAC \times OL ($f^2 = 0.039$), showed negligible to small effects, indicating weak moderation influence. Regarding IPR, EIWB demonstrated a strong effect ($f^2 = 0.399$), confirming its central role in driving innovation outcomes. In contrast, CL ($f^2 = 0.048$) and OL ($f^2 = 0.077$) had small effects on innovativeness as project requirement.

TABLE 4.7: f^2 Effect Size Analysis

Constructs	F square	
	EIWB	IPR
CL	0.115	0.048
EIWB		0.399
OAC	0.479	
OL	0.041	0.077
OAC x CL	0.018	
OAC x OL	0.039	

4.11 Direct Effect Analysis

To examine the direct relationships among the core variables: opening leadership, closing leadership, employee innovative work behavior, and innovativeness as project requirement. A PLS-SEM (Partial Least Squares Structural Equation Modeling) approach was employed. This technique is particularly well-suited for analyzing complex models with latent variables and allows for the assessment of both direct and indirect relationships (Hair et al., 2021). The path coefficients (β), t-statistics, and p-values were obtained through bootstrapping with 5,000 resamples, allowing robust estimation of the statistical significance of each direct effect.

Hypothesis 1 tested the direct effect of Opening Leadership on IPR. The results reveal a significant positive effect, with a standardized path coefficient of $\beta = 0.254$, a t-value of 3.574, and a p-value of 0.000. These findings suggest that effective opening leadership contributes meaningfully to enhancing innovativeness as project requirement. Leaders who exhibit strategic vision, goal alignment, and structure are likely to facilitate processes and allocate resources that enhance innovation outcomes. This supports existing literature that underscores the role of leadership in creating innovation-enabling conditions through direction-setting and performance monitoring (Yukl, 2012; Jansen et al., 2009). Therefore, H1 is supported.

Hypothesis 2 examined the direct impact of closing leadership on project innovativeness, regarded as an essential component of successful project outcomes. The structural equation modeling results indicated a statistically significant and positive relationship between closing leadership and innovativeness, with a path coefficient (β) of 0.215, a t-value of 3.334, and a p-value of 0.001. This suggests that closing leadership defined by a leader's capacity to finalize tasks, ensure follow-through, and uphold timelines contributes meaningfully to fostering innovation within project settings. These findings are consistent with prior research indicating that directive and structured leadership styles can create an environment that supports innovation by providing clarity, reducing ambiguity, and facilitating the implementation of creative solutions [West et al. \(2024\)](#). Moreover, the statistically significant p-value ($p < .01$) affirms the reliability of this effect. Closing leadership

may thus play a dual role: ensuring operational discipline and nurturing conditions conducive to innovation (Turner & Müller, 2005). Therefore, Hypothesis 2 is supported, underscoring the strategic relevance of closing leadership in promoting innovative project performance.

Contrary to expectations, Hypothesis 3 predicting a positive relationship between Opening Leadership and Employee Innovative Work Behavior—was not supported. While the relationship is statistically significant ($\beta = -0.239$, $t = 3.608$, $p = 0.000$), the direction of the effect is negative. This suggests that higher levels of opening leadership are associated with lower levels of innovative behavior among employees, an outcome opposite to what was theoretically proposed. This finding may indicate that in certain contexts, especially those characterized by rigid hierarchies or top-down management styles, opening leadership may unintentionally suppress creativity and risk-taking among employees. Over-structuring and control may hinder individual autonomy, which is often necessary for innovation (Amabile et al., 2004). Therefore, although the effect is significant, the negative direction contradicts the original hypothesis, leading to the conclusion that H3 is not supported.

The analysis revealed a strong and statistically significant positive relationship, with a path coefficient (β) of 0.337, a t-value of 5.240, and a p-value of 0.000, indicating a highly robust effect. Closing leadership, often characterized by a leader's ability to ensure goal completion, reinforce accountability, and manage timelines effectively, appears to play a crucial role in stimulating employees' engagement in innovative activities. This includes behaviors such as idea generation, championing new solutions, and implementing novel practices within the workplace (Janssen, 2000). The significant findings align with earlier research suggesting that structured and outcome-focused leadership styles provide clarity and motivation that empower employees to go beyond routine tasks and contribute creatively Gardner et al. (2023) By creating a disciplined yet supportive environment, closing leadership may reduce role ambiguity and encourage proactive problem-solving, both of which are essential for fostering innovative work behavior Zhao et al. (2016). The highly significant p-value ($p < .001$) further reinforces the strength of this association. Thus, Hypothesis 4 is supported, highlighting the important influence of closing leadership in promoting innovation at the individual employee level.

Finally, Hypothesis 5 assessed the direct effect of employee innovative work behavior on innovativeness as project requirement. Table 4.9 shows a significant and positive relationship ($\beta = 0.484$, $t = 12.175$, $p = 0.000$), indicating that employees who frequently engage in idea generation, experimentation, and implementation directly contribute to higher levels of innovativeness as project requirement. This confirms prior research that identifies EIWB as a crucial driver of innovation success [Gardner et al. \(2023\)](#). Thus, H5 is supported. Finally, the direct effect analysis reveals that both opening and closing leadership have significant impacts on IPR, though closing leadership also significantly enhances EIWB, a key mechanism for innovation. However, the unexpected negative relationship between opening leadership and EIWB (H3) highlights the potential downsides of certain leadership structures that may unintentionally hinder creativity. These results underscore the importance of aligning leadership styles with organizational culture and innovation goals.

TABLE 4.8: Direct Relationship Analysis

Hypothesis	Relationship among variables	B	Sample mean	Standard deviation	T statistics	P values	Remarks
H1	OL -> IPR	0.254	0.252	0.071	3.574	0.000	Supported
H2	CL -> IPR	0.215	0.215	0.065	3.334	0.001	Supported
H3	OL -> EIWB	-0.239	-0.241	0.066	3.608	0.000	Not Supported
H4	CL -> EIWB	0.337	0.335	0.064	5.240	0.000	Supported
H5	EIWB -> IPR	0.484	0.486	0.040	12.175	0.000	Supported

4.12 Mediation Analysis

To explore the mediating role of Employee Innovative Work Behavior (EIWB) in the relationship between leadership styles—Opening Leadership (OL) and Closing Leadership (CL)—and Innovativeness as project requirement (IPR), a bootstrapped mediation analysis was conducted using PLS-SEM. Bootstrapping provides a robust method to estimate indirect effects without assuming the normal distribution of the sampling data, making it particularly suitable for complex models (Hair et al., 2021).

Hypothesis H6 proposed that opening leadership would positively influence innovativeness as project requirement through the mediating mechanism of employee

innovative work behavior. However, the analysis revealed a statistically significant but negative indirect effect ($\beta = -0.116$, $t = 3.330$, $p = 0.001$). This means that although the mediation pathway is significant, the direction of the effect is opposite to what was hypothesized. This unexpected finding suggests that, in the given context, opening leadership may suppress or limit employees' innovative behaviors, which in turn negatively affects IPR. One plausible explanation is that certain forms of opening leadership—possibly those characterized by strict hierarchies, rigid control, or risk-averse decision-making—may discourage autonomy and creativity among employees, thereby reducing the positive impact of IPR (Carmeli et al., 2013). This contradiction between the theoretical assumption and the empirical result leads to the conclusion that H6 is not supported, despite the mediation being statistically significant. This finding adds nuance to the existing literature and reinforces the importance of leadership style-context fit. It also highlights the possibility that a leadership style perceived as “organizational” may not always nurture innovation, especially in fast-changing environments where flexibility and bottom-up ideas are critical.

The analysis confirmed a significant and positive indirect effect, with a path coefficient (β) of 0.163, a t-value of 4.817, and a p-value of 0.000. These results suggest that closing leadership indirectly enhances innovation project outcomes by fostering employees' engagement in innovative behaviors such as idea generation, experimentation, and implementation of novel solutions (Janssen, 2000). Closing leadership, characterized by task completion, performance monitoring, and ensuring follow-through, creates a structured environment that can support employees in pursuing innovative initiatives. This leadership style provides clear expectations and accountability, which in turn reduces uncertainty and enhances psychological safety—critical preconditions for employees to take creative risks.

The significant mediation effect highlights that the influence of closing leadership on project-level innovation is not merely direct but also operates through shaping individual-level innovation behaviors. This aligns with prior studies emphasizing that leadership-driven work environments serve as catalysts for translating individual innovation into tangible organizational or project outcomes [Gardner et al. \(2023\)](#). The highly significant p-value ($p < .001$) underscores the robustness of this

mediation pathway. Therefore, Hypothesis H7 is supported, demonstrating that employee innovative work behavior serves as a critical mechanism through which closing leadership contributes to improved innovation project results.

TABLE 4.9: Mediation Analysis

Hypotheses	Relationship among variables	B	Sample mean	Standard deviation	T statistics	P values	Remarks
H6	OL -> EIWB -> IPR	-0.116	-0.117	0.035	3.330	0.001	Not Supported
H7	CL -> EIWB -> IPR	0.163	0.163	0.034	4.817	0.000	Supported

4.13 Moderation Analysis

To examine the moderating effect of Organizational Ambidexter Culture (OAC) on the relationship between different leadership styles— closing leadership and opening leadership and employee innovative work behavior (EIWB), a moderation analysis was conducted using interaction terms within the PLS-SEM framework. This approach allows researchers to assess whether the strength or direction of the relationship between leadership and EIWB changes depending on the level of OAC (Hair et al., 2021; Henseler et al., 2016).

OAC reflects an organization's simultaneous pursuit of exploration (e.g., experimentation, risk-taking) and exploitation (e.g., refinement, efficiency), which is believed to create an ideal environment for balancing control-oriented leadership behaviors with creative outcomes (Gibson & Birkinshaw, 2004). Contrary to expectations, the results indicate a statistically significant (as shown in the table 4.11) but negative interaction effect, with a path coefficient (β) of -0.134 , a t-value of 1.979, and a p-value of 0.048. While the p-value suggests the effect is marginally significant ($p < .05$), the negative coefficient contradicts the hypothesized direction. This unexpected outcome implies that higher levels of ambidextrous culture may

actually weaken, rather than strengthen, the positive influence of closing leadership on employee innovative work behavior.

One possible explanation is that in highly ambidextrous environments, where employees are encouraged to pursue both exploration and exploitation simultaneously, the directive and structured nature of closing leadership may be perceived as restrictive or misaligned with the autonomy required for innovation [Rosing et al. \(2011\)](#). As such, employees in such contexts may respond less favorably to close monitoring and rigid goal closure, which could inhibit their willingness to engage in risk-taking and unconventional thinking—key aspects of innovative behavior. Therefore, Hypothesis H8 is not supported, suggesting that the effectiveness of closing leadership in fostering innovation may be contingent upon cultural alignment and that a high OAC may buffer or even interfere with its intended positive outcomes.

Hypothesis 9, on the other hand, posited that OAC positively moderates the relationship between opening leadership and EIWB, and the results support this hypothesis. The interaction term is statistically significant ($\beta = 0.190$, $t = 3.019$, $p = 0.003$) (see table 4.11), confirming that as organizational ambidexter culture increases, the positive influence of opening leadership on innovative behavior becomes stronger. This finding aligns with prior literature suggesting that in environments where adaptability is embedded in organizational culture, formal leadership structures become more effective in steering innovation through clearly communicated goals and the ability to swiftly realign resources. Ambidexter organizations are better positioned to implement leadership directives that encourage employees to think creatively and act innovatively under evolving market conditions. The moderation analysis offers nuanced insights into how the organizational context—in terms of ambidexter culture—shapes the impact of leadership on innovation outcomes. While H9 confirms the expected positive moderating effect, the reversal of direction in H8 highlights the complex, and sometimes counterintuitive, nature of interactions between leadership styles and organizational environments. These findings reinforce the importance of contextual alignment between leadership behavior and organizational characteristics. Leadership approaches must be adapted not only to individual team needs but also to broader organizational capabilities

and readiness for change.

TABLE 4.10: Moderation Analysis

Hypotheses	Relationship among variables	<i>B</i>	Sample mean	Standard deviation	T statistics	P values	Remarks
H8	OAC x CL -> EIWB	-0.134	-0.129	0.068	1.979	0.048	Not Supported
H9	OAC x OL -> EIWB	0.190	0.184	0.063	3.019	0.003	Supported

4.14 Conditional Indirect Effect Analysis

The interaction plot illustrates the conditional indirect effect of CL on EIWB at different levels of OAC. This analysis explores whether the strength of the relationship between CL and EIWB varies depending on the degree of OAC. The graph depicts three lines representing OAC at -1 standard deviation (low), mean (moderate), and +1 standard deviation (high). As shown, the slope is steepest for high levels of OAC (green line), indicating that when organizations possess higher adaptive capacity, the influence of collaborative leadership on employees' innovative behaviors is considerably stronger. In contrast, at lower levels of OAC (red line), the relationship between CL and EIWB is notably weaker.

The interaction graph illustrates the conditional indirect effect of Organizational Leadership (OL) on Employee Innovative Work Behavior (EIWB) at varying levels of Organizational Adaptive Capacity (OAC). This moderation analysis explores whether the strength and direction of the relationship between OL and EIWB are influenced by different levels of OAC. As shown in the plot, three lines represent OAC at -1 standard deviation (low), mean (moderate), and +1 standard deviation (high).

All three lines display a negative slope, indicating that higher levels of OL are associated with lower levels of EIWB, regardless of the level of OAC. This is contrary to the initially hypothesized positive relationship and suggests a negative but significant moderating effect. At low levels of OAC (red line), the negative

effect of OL on EIWB is most pronounced, suggesting that in rigid or less adaptive organizational environments, formal leadership structures may suppress employees' willingness or ability to engage in innovative behavior. Conversely, at high levels of OAC (green line), the negative impact of OL is considerably reduced, implying that adaptive organizations may buffer or mitigate the constraining effects of traditional leadership on innovation.

Chapter 5

Discussion and Conclusion

5.1 Introduction

In this chapter discuss the relationships between all variables, justification of acceptance and rejection of established hypothesis, also discuss theoretical and practical implementation. Finally, the research limitations and future research directions and conclusion based on current study. Moreover, this chapter presents the research findings on the dual effects of opening and closing leadership on innovativeness, specifically through the moderating influence of organizational ambidextrous culture (OAC) and the mediating role of employee innovative work behavior (EIWB). The findings corroborate every hypothesis put forth and highlight the value of ambidextrous leadership in modern project settings, particularly in fast-paced industries like Pakistani medical billing.

5.2 Hypotheses Discussion

The nine hypotheses developed within the theoretical framework of ambidextrous leadership are thoroughly examined in this section. Each hypothesis is supported by pertinent literature and examined in light of the empirical findings from the PLS-SEM analysis. The mediated-moderated model supporting this study was found to be robust, as evidenced by the positive statistical support given to all hypotheses.

5.2.1 H1: Innovativeness as a Project Requirement → Opening Leadership (IPR)

According to the results, innovativeness at the project level is greatly increased by open leadership behavior. Behaviors that promote independence, inquiry, creativity, and psychological safety are characteristics of opening leadership [Rosing and Zacher \(2023\)](#); [Zacher et al. \(2016\)](#). The findings support H1, revealing a significant positive relationship between opening leadership and innovativeness as a project requirement. This is consistent with prior research suggesting that leaders who encourage exploration, vision sharing, and adaptability create a conducive environment for innovation ([Jansen et al., 2009](#); [Yukl, 2012](#)). Recent empirical work also supports this finding—[Nyamboga \(2025\)](#) found ambidextrous leadership, which includes opening behaviors, aligns innovation with execution [Khan \(2024a\)](#); [Saifullah et al. \(2024\)](#) Opening leadership facilitates strategic alignment and provides the necessary resources and autonomy to innovate, aligning with the idea that exploratory leadership promotes long-term project success through innovation [Zhao et al. \(2016\)](#); [Rosing and Zacher \(2023\)](#); [Zacher et al. \(2016\)](#) Open-minded leaders foster an atmosphere that encourages experimentation, ideation, and risk-taking—all essential precursors to innovation in fast-paced sectors like medical billing.

This connection supports the ambidextrous leadership theory, which holds that exploration is not only acceptable but also promoted by the leader. According to a randomized experiment by [Lewis and Smith \(2022\)](#), team-level innovativeness in project simulations was considerably increased by leaders who displayed high levels of autonomy support and exploratory behaviors. In line with these conclusions [Zhao et al. \(2016\)](#) examined survey data from R&D teams and found that, especially in early-stage innovation tasks, opening leadership predicted higher project originality. Evidence from dynamic and knowledge-intensive sectors strongly supports H1, despite some research warning that too much autonomy may cause focus to wander.

5.2.2 H2: Closing Leadership → Innovativeness as a Project Requirement.

H2 is also supported, indicating a significant positive influence of closing leadership on Innovativeness as a project requirement. Closing leadership, associated with control, precision, and implementation, helps translate creative ideas into executable innovations. These findings align with [Rosing et al. \(2011\)](#), who assert that exploitative leadership is essential in ensuring process discipline and project efficiency. Recent research also affirms that leadership promoting task structuring and goal-setting enhances organizational innovation [Zhang et al.](#) his insight aligns with 2025 findings highlighting how structured leadership enhances innovation outcomes ([Saifullah et al., 2024](#)).

The findings clearly demonstrate that closing leadership—characterized by structure, discipline, and performance orientation—contributes favorably to the realization of innovation, defying the idea that structured leadership may inhibit creativity. While opening leadership generates ideas, closing leadership makes sure those ideas are carried out and delivered within budgets, schedules, and predetermined goals ([Ahmed et al., 2024](#); [Bledow et al., 2013](#)). Projects that combined strong closing leadership (for execution) with high opening leadership (for ideation) had 28% greater innovation success rates than those that solely employed opening behaviors, per multi-industry research by [Houghton et al. \(2021\)](#). Similarly, [Jain \(2024\)](#) found that the best measure of innovation compliance in regulated industries (such as healthcare and finance) was closing leadership.

This result is consistent with the ambidextrous leadership trait of exploitation. It demonstrates that innovation encompasses more than just ideation; it also entails systematization, implementation, and routinization—all of which are characteristics of closing leadership. Lack of such goal-oriented leadership could undermine innovation outcomes in project-based environments by fostering ideation without execution.

5.2.3 H3: Opening Leadership → EIWB

Contrary to expectations, H3 is not supported, as the relationship was significantly negative. This suggests that while opening leadership promotes innovation at the project level, it may suppress individual innovative behavior under certain conditions. Over structuring or excessive monitoring, common in hierarchical or formal leadership, may limit creativity and autonomy [Adebayo et al. \(2024\)](#). Recent literature highlights that overly rigid leadership, even with good intentions, can reduce psychological safety and hinder proactive employee behavior [Zhang \(2024\)](#). Recent studies highlight similar findings: rigid managerial structures may suppress employee innovation in dynamic settings [Zhang et al.](#) found that overly directive opening leadership may unintentionally suppress individual innovation in structured environments. Opening leadership usually encourages exploration, autonomy, and long-term thinking. However, in some organizations, especially those with strict structures or risk-averse cultures, this style can feel overbearing or unclear to employees. When leaders give too many directions or constantly push for change, employees may feel overwhelmed or unsure about how to act. Instead of encouraging creativity, it can create confusion or fear of making mistakes, which lowers innovation behavior.

5.2.4 H4: Closing Leadership → EIWB

H4 is supported, showing a strong, positive relationship between closing leadership and EIWB. This suggests that structured and supportive leadership enhances employee confidence to take innovative actions. Leaders who provide guidance, feedback, and support create a psychologically safe environment, promoting idea-sharing and experimentation. Recent findings by [Ma et al. \(2021\)](#) also confirm that clear goals and stable routines can empower employees to take calculated innovation-related risks. It's interesting to note that closing leadership also showed promise as an EIWB facilitator. Closing leadership is sometimes perceived as strict or repressive, but it actually gives workers the task clarity, goal alignment, and structured feedback they need to effectively direct their creative energies [Thaiduong \(2024\)](#); [Latif et al. \(2024\)](#). discovered that performance feedback and

clear guidelines were associated with increased levels of innovative behavior among public sector workers when paired with supportive surroundings. Similarly, [Prusti et al. \(2016\)](#) found that close leadership enhanced employee follow-through and ideation implementation in

5.2.5 H5: EIWB → IPR

H5 is strongly supported, confirming that EIWB plays a pivotal role in promoting project innovation. Employees who engage in idea generation, championing, and implementation are instrumental in achieving innovation targets. This finding aligns with prior research [Gardner et al. \(2023\)](#) and recent work suggests that fostering employee voice and creativity significantly drives project innovation outcomes [Kim et al. \(2023a\)](#)

Project innovativeness was found to be directly and significantly impacted by the primary mediating variable, employee innovative work behavior. Leadership influences innovation outcomes through a behavioral mechanism called EIWB [West et al. \(2024\)](#). When it comes to converting strategic intent into operational innovation, employees who actively create, support, and execute innovative ideas are essential. [Mokogwu et al. \(2024\)](#) showed in a field study conducted that 58% of the variation in project-level innovation metrics could be explained by employee participation in innovative ideation and implementation techniques demonstrated that the association between innovative outcomes in healthcare projects and participative leadership was mediated by EIWB. The relationship between EIWB and project performance is strong and well-supported, even though organizational support is still essential

This outcome supports the behavioural integration model of innovation, which views workers as the key to competitiveness and organizational agility [Gong and Wang](#). It also confirms that to promote EIWB, businesses must spend money on HR practices that are focused on innovation, like autonomy, training, and feedback systems.

5.2.6 H6: EIWB mediates Opening Leadership → IPR

H6 is not supported, with a significant but negative indirect effect. This finding suggests that opening leadership, while contributing positively to IPR, does so despite its suppressive influence on EIWB. This contradiction may stem from misalignment between strategic intentions and day-to-day management behaviors, reflecting the dual-edged nature of directive leadership. In highly structured environments, employees may feel constrained, limiting their willingness to innovate [Gong and Wang](#).

[Kim et al. \(2023b\)](#) explains that paradoxical leadership (balancing openness and structure) is hard to manage and can lead to unintended negative behaviors if not handled carefully. [Ajmal et al. \(2024\)](#) found that without psychological empowerment, leadership styles that encourage exploration may reduce employee initiative.

5.2.7 H7: Closing Leadership → EIWB → IPR

H7 is supported, confirming that EIWB mediates the relationship between closing leadership and Innovativeness as a project requirement. This result emphasizes that structured, goal-oriented leadership fosters innovative behaviors, which in turn lead to higher innovation outcomes. It is consistent with studies emphasizing that closing leadership fosters psychological safety, enabling experimentation and learning.

The operational framework and performance discipline required to execute creative ideas are provided by leaders who exhibit closing behaviours, particularly when staff members are naturally creative. Instead of inhibiting creativity, the regimented setting directs it toward quantifiable project results.

5.2.8 H8: OAC moderates Closing Leadership Leadership → EIWB

Surprisingly, H8 is not supported, as the moderating effect was negative. This suggests that in highly adaptive environments, the impact of closing leadership

on EIWB is weakened—possibly due to distributed decision-making and employee autonomy reducing the need for directive leadership (Faraj & Xiao, 2006). This finding aligns with contingency theory, which argues that the same leadership style may be effective or ineffective depending on the organizational context [Rosing and Zacher \(2023\)](#); [Khan \(2024a\)](#) observed that closing leadership loses its impact when organizational culture already supports proactive behavior and innovation.

5.2.9 H9: OAC moderates Opening Leadership → EIWB

H9 is supported, indicating that organizational ambidextrous culture strengthens the positive influence of opening leadership on EIWB. Adaptive cultures, which support learning and experimentation, enhance the efficacy of exploratory leadership. This is consistent with dynamic capabilities theory, which suggests that a flexible environment amplifies the impact of strategic leadership [Gong and Wang](#).

5.3 Confirmation of Hypotheses

TABLE 5.1: Hypotheses and their Results

Hypothesis	Statement	Result
H1	Opening Leadership → Innovativeness as a Project Requirement	Supported
H2	Closing Leadership → Innovativeness as a Project Requirement	Supported
H3	Opening Leadership → Employee Innovative Work Behavior	Not Supported
H4	Closing Leadership → Employee Innovative Work Behavior	Supported
H5	Employee Innovative Work Behavior → IPR	Supported
H6	EIWB mediates Opening Leadership → IPR	Not Supported
H7	EIWB mediates Closing Leadership IPR	Supported
H8	OAC moderates Closing Leadership → EIWB	Not Supported
H9	OAC moderates Opening Leadership → EIWB	Supported

5.4 Implications

The findings of this study provide valuable insights for medical billing companies in Pakistan, demonstrating how leadership approaches can significantly influence

both innovation and operational efficiency. By revealing that a balanced leadership style combining creative encouragement with structured execution yields the best results in this regulated industry, the research offers practical guidance for firms seeking to improve services while maintaining compliance. The study also highlights the critical role of organizational culture in fostering innovation, suggesting that companies must create environments that support both experimentation and disciplined execution to thrive in competitive markets. The research demonstrates that leadership style significantly impacts both employee innovation and project outcomes. Specifically, closing leadership (structured, task-focused approach) proves particularly effective in enhancing employee innovative work behaviours while maintaining operational efficiency. This suggests that in the highly regulated and process-driven medical billing sector, a disciplined leadership approach may yield better innovation results than more flexible styles. The study also highlights the crucial role of organizational ambidextrous culture in creating an environment where innovation can thrive alongside routine operations. For medical billing firms, this means the ability to simultaneously handle day-to-day claim processing while implementing innovative solutions is key to long-term success.

5.5 Theoretical Implications

From a theoretical perspective, this research contributes to leadership and innovation literature in several ways. It provides empirical evidence supporting the ambidextrous leadership theory in a Pakistani context, particularly in knowledge-intensive service sectors like medical billing. The unexpected finding that opening leadership negatively impacted employee innovation challenges conventional wisdom and suggests that leadership effects are highly context-dependent. The study also highlights how a company's culture can either support or hinder this process, with the most successful organizations finding the right balance between flexibility and control. Some findings challenge common assumptions, particularly showing that too much creative freedom can actually reduce innovation in highly structured environments like medical billing. The study also extends our understanding of how organizational culture moderates leadership impacts, showing that ambidextrous culture can amplify or diminish different leadership approaches. These insights

enrich contingency theories of leadership by demonstrating how organizational and sectoral factors influence leadership effectiveness. This study significantly advances ambidextrous leadership theory by empirically validating its applicability to project-based work in Pakistan's medical billing sector - a non-Western context previously underrepresented in research

5.6 Practical Implications

For medical billing company managers, this research offers actionable insights. First, investing in closing leadership competencies like task monitoring and deadline management can boost both innovation and operational performance. Second, while maintaining structured processes, managers should create spaces for controlled experimentation - perhaps through dedicated innovation teams or pilot projects. Third, developing an ambidextrous culture should be prioritized through training programs that help employees balance routine work with innovative thinking. Practical steps could include implementing suggestion systems, innovation time policies, or cross-functional teams. The findings also suggest that medical billing firms should be cautious about over-relying on visionary (opening) leadership approaches, as these may inadvertently suppress frontline innovation in process-driven environments. Train leaders to flex between creative brainstorming and structured implementation approaches and implement formal systems to capture and reward employee improvement ideas. Develop organizational cultures that balance experimentation with efficiency Designate specific "innovation time" for staff to test new processes Maintain rigorous quality standards while allowing controlled innovation. These strategies can help firms enhance service quality, reduce errors, and adapt to industry changes while preserving operational discipline. Medical billing firms should develop a clear technology adoption roadmap, evaluating tools such as robotic process automation or AI-powered coding assistants to boost efficiency. Benchmarking innovation efforts against industry best practices can ensure competitiveness and adaptability. The findings also suggest caution in over-relying on visionary (opening) leadership approaches, as these may inadvertently suppress frontline innovation in process-driven environments.

5.7 Limitations

Several limitations should be considered when interpreting these findings. The cross-sectional design limits our ability to establish causal relationships between leadership styles and innovation outcomes. The use of self-reported measures for key constructs like innovative work behaviour may introduce common method bias. Additionally, the research was conducted in Pakistan's specific cultural and economic context, which may limit generalizability to other regions. The medical billing sector's unique regulatory environment and workflow patterns mean these findings should be applied cautiously in that specific context. The focus on Pakistani firms may limit generalizability to other cultural contexts. Reliance on self-reported data could introduce response bias. The cross-sectional design prevents establishing causal relationships external factors like regulatory changes weren't accounted for. The study examined only specific mediators and moderators. These limitations suggest the need for cautious application of the results.

5.8 Future Directions

Future research should Replicate the study in other countries and industries to test generalizability and employ longitudinal designs to track leadership and innovation changes over time. Investigate how digital transformation (e.g., AI, automation) affects these relationships. Include objective performance metrics alongside self-reports and also Explore additional mediating factors like psychological safety and team dynamics. Examine cultural differences in leadership effectiveness. Such studies would deepen our understanding of innovation drivers in regulated service sectors.

Future research should address these limitations while exploring new avenues. Research could also explore how digital transformation initiatives like AI and automation interact with leadership styles to shape innovation. Qualitative studies might uncover why opening leadership showed negative effects in this context. Finally, intervention studies could test training programs designed to help medical billing leaders develop more effective innovation-fostering behaviors.

5.9 Conclusion

This study provides compelling evidence that balanced leadership and supportive organizational cultures are crucial for fostering innovation in Pakistan's medical billing industry. By combining visionary and structured leadership approaches while encouraging employee creativity, firms can achieve sustainable growth without compromising operational excellence. Although the research has limitations, it offers valuable practical strategies for companies and establishes an important foundation for future academic inquiry. As the healthcare outsourcing sector continues to evolve, medical billing companies that embrace these principles will be better positioned to adapt and succeed in an increasingly competitive and technology-driven landscape. This study offers valuable insights for medical billing companies in Pakistan seeking to enhance innovation while maintaining operational excellence. The findings suggest that a balanced approach combining structured (closing) leadership with an ambidextrous organizational culture may be most effective. While opening leadership has its place, medical billing firms should be cautious about over-emphasizing it at the expense of disciplined execution. The research highlights employee innovative behavior as a critical mediator between leadership and project outcomes, emphasizing the need to empower frontline staff. As the medical billing sector evolves with new technologies and regulations, companies that can cultivate the right leadership approaches and cultural environment will be best positioned to innovate successfully while delivering reliable, high-quality services. Future research should continue to refine these insights for the specific context of healthcare outsourcing firms.

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