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Impact of Inspirational Leadership on Project Innovation: Sequential Mediation and Moderation Effect

by

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I want to dedicate this achievement to my parents, teachers and friends who always encourage and support me in every crucial time

CERTIFICATE OF APPROVAL

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Abstract

This study's main goal was to investigate the interaction effects of inspirational leadership on employees' project innovation in education-based initiatives. The Leader-Member Exchange (LMX) theory served as the foundation for the theoretical framework used in this study and the formulation of the research's hypotheses. Employees of education projects in Pakistan's two largest cities, Rawalpindi and Islamabad, were asked to complete a survey in order to gather data for the study. Data was gathered using standardized questionnaires and the cross-sectional research. The ultimate sample size was 390 replies after incomplete surveys were removed. The study's measures were validated using confirmatory factor analysis. In this study, SPSS and AMOS were used to perform the tests. The results revealed that inspirational leadership is significantly correlated with project innovation. Employees' voice behavior and knowledge co creation completely mediate and influence the relationship of inspirational leadership and project innovation Moderation analysis results indicated that organizational support does not moderate the relationship between knowledge co creation and project innovation. The study concludes by discussing the managerial implications of the findings and suggesting potential directions for future research.

Keywords: Inspirational Leadership, Project Innovation. Employee Voice Behavior, knowledge Co Creation, LMX (Leader Member Exchange Theory).

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Abbreviations

DV	Dependent Variable
EVB	Employee Voice Behavior
H	Hypothesis
IL	Inspirational Leadership
IV	Independent Variable
KCC	Knowledge Co-creation
LMX	Leader-Member Exchange Theory
M	Mediator
N	Numbers
PI	Project Innovation
V	Moderator

Chapter 1

Introduction

1.1 Study Background

In the rapidly changing and unpredictable business environment of today, organizations are actively engaged in pursuing their survival and growth objectives (Battistelli, Montani, Odoardi, Vandenberghe, & Picci, 2014; Chowhan, Pries, & Mann, 2017). To maintain market competitiveness, organizations must prioritize creativity and innovation, as these factors are fundamental to both success and staying ahead (Battistelli et al., 2014; Chowhan et al., 2017). Academic scholars and researchers have dedicated their efforts to exploring individual and organizational innovation in this context (Chen, Lee, & Wang, 2020; Gumusluoglu & Ilsev, 2009). Organizations are continuously engaged in multiple projects to exploit and sustain their market share. Innovation drives enterprise development, and organizations now rely heavily on their employees' innovative behaviors to maintain a competitive advantage in the face of market rivalry (Odoardi, Montani, Boudrias, & Battistelli, 2015). Therefore, effective leadership is critical for managing organizational innovation, as it plays a decisive role in enhancing project creativity (Kesting, Ulhøi, Song, & Niu, 2015). Corporate top management serves as the primary source and driving force behind innovation management throughout the organization, implementing strategies and leadership styles (Somech, 2006).

Leadership style effects on employee traits, such as involvement, creativity, and commitment, ultimately shaping the climate for innovation management within

the organization (Bel, 2010). Organizational leaders are responsible for effectively communicating the company's mission and objectives, reducing employee withdrawal, and inspiring a sense of opportunity and growth (Skodvin & Andresen, 2006; Macdonald, Conroy, Eckerd, & Becker, 2023). Leaders should create an environment that inspires and motivates employees, ensuring their efforts have a positive impact (Suliman et al., 2023).

In the ever-evolving landscape of business, leaders have emerged as adept navigators, guiding their organizations through complex market environments. Leadership, in this context, serves as a means to implement sustainability practices by leveraging skills such as interpretation, prediction, and the engagement of teams and intellectuals within the dynamic framework of the changing work environment (Mone, London, & Mone, 2018).

Society places a high value on sustainable practices, with leadership at its core, driving sustainable business practices, fostering innovation, and benefiting society at large. However, contends that leadership and social sustainability are dynamic organizational constructs (Slimane, 2012).

Inspirational leadership is a leadership style known for its capacity to motivate and inspire individuals towards a shared objective or vision. It encompasses the creation of a constructive and captivating work atmosphere, the cultivation of a sense of purpose and significance, and the empowerment of individuals to realize their maximum potential (Mbazor, Aigbavboa, & Thwala, 2023).

Rabiu and Iyaniwura (2021), define inspirational leadership is that leaders encourage critical thinking, creativity, and intellectual growth among their followers. They create an environment where individuals are encouraged to question, innovate, and contribute their ideas and insights. This stimulation of intellect leads to a more engaged and empowered team (Rabiu & Iyaniwura, 2021).

Bass and Stogdill (1990), define inspirational leadership as Leaders possess charismatic qualities that enable them to inspire followers and attract highly skilled employees who excel in their respective fields. These leadership traits have been shown to be effective across diverse cultures (Bass & Stogdill, 1990; Avolio & Bass, 2004).

These leaders play a significant role at various levels within organizations, as effective leadership is essential for implementing necessary changes. Among different leadership styles, inspirational leadership is distinct, unique, and highly effective, contributing to a competitive advantage across various disciplines, including project management (Pellegrini, Ciampi, Marzi, & Orlando, 2020).

In project-based organizations, the practice of inspirational leadership leads to outstanding results (Ghasabeh, Soosay, & Reaiche, 2015). A meta-analysis suggests that inspirational leadership is associated with openness and confidence, which positively influences ethical work outcomes. Employees tend to follow such leaders and align their tasks with ethics and honesty (Banks, McCauley, Gardner, & Guler, 2016). It is the primary responsibility of leaders or managers to facilitate their team members, create a friendly culture, and enhance their skills, enabling them to tackle modern challenges and contribute to project success (Anantatmula, 2010).

Employee voice" is a voluntary, internal form of communication within an organization that is directed upward. Its primary objective is to accomplish one or multiple goals associated with an individual's work, position, or personal requirements within the organization. Employee input might also include the job, position, or demands of other organization stakeholders, which benefits the organization's overall performance. Essentially, employee voice denotes any communication initiated by employees to articulate their thoughts, ideas, concerns, or suggestions with the aim of creating a beneficial influence within the workplace (frombeck, (Pfrombeck, Levin, Rucker, & Galinsky, 2022).

Voice behavior encompasses the act of voluntarily expressing ideas, opinions, and concerns with the aim of enhancing organizational effectiveness. The engagement of employees in voicing their thoughts and ideas on various work-related matters is essential for fostering continuous improvement and facilitating effective decision-making within the organization (McClean, Burris, & Detert, 2013).

According to Dyne, Ang, and Botero (2003), employee voice behavior includes the constructive communication of thoughts, information, and viewpoints regarding creative activity carried out as part of a project. It is essential to improving the presentation of new concepts and allowing the sharing of useful information with

decision-makers in order to enable informed choices for creative initiatives (Lee, Choi, & Kang, 2021). Employee voice behavior (EVB) may act as a key mediator in the relationship between a leader's engagement and creative work behavior, according to Lee, Lee et al. (2021). According to (Naqvi, 2020), voice conduct is proactive and seen as permissive. According to Seibert, Kraimer, and Crant (2001), individuals who are proactive tend to use their voices more frequently. This behavior is seen as a means of bringing about significant changes and fostering innovativeness (Wijaya, 2021).

Proactive individuals are characterized by their initiative, action-taking abilities, and ability to recognize opportunities (Horng, Tsai, Hu, & Liu, 2016; Chung et al., 2021). Knowledge is a synthesis of experience, attitudes, beliefs, skills, information from the context, and professional insights. This holistic comprehension empowers individuals to operate proficiently and methodically, especially in the realm of project innovation. The availability of pertinent knowledge is paramount in fostering innovation within projects, as it facilitates the generation of contextual information and the implementation of processes that enhance productivity, profitability, reliability, and resilience (Gardeazabal et al., 2023).

The organization of people with varying levels of skill into projects fosters cooperation in the pursuit of common goals. Project-based companies are positioned to be key nodes for knowledge generation and innovation because to this collaborative environment, which is typically seen in complex product and process development (Engström, Johansson, Edh Mirzaei, Sollander, & Barry, 2023).

Employee creativity refers to the creation of original and practical concepts, solutions, or innovations inside the workplace. According to the statement, employees who perceive more organizational support are more likely to show greater innovation in their job.

We now turn our attention to another viewpoint regarding knowledge co-creation, which suggest that our acquisition of knowledge and its subsequent attribution of meaning occur within the context of social activities, specifically within epistemic cultures (Z. Zhang, Min, Cai, & Qiu, 2022). According to Wenger, Community of Practice (1998) prefers using the term "knowledge creation" (or co-creation) instead of "knowledge integration." According to Wenger, mutual commitment

is characterized primarily by the participant, a collectively determined common objective, and the cultivation of a shared pool of resources developed during the project's progression. These resources serve to impart meaning to or generate knowledge, and they include practices, terminology, tools, and modes of action, narratives, symbols, and non-verbal communication This second perspective implies a view of knowledge development as a communicative process that unfolds within a communal practice. Furthermore, knowledge, communication, and behavior are interdependent; they mutually shape one another (Wenger, 1999).

Hinds and Zhu (2022) underlined knowledge co-creation is the significance of businesses thinking about the best way to transmit knowledge and skills from experts to beginners. Organizations should place a strong emphasis on knowledge-based resources Knowledge co-creation in the context of project innovation is bringing together members of the project team from various backgrounds, experiences, and viewpoints in order to share information, exchange ideas, and jointly produce new solutions or products (Damodaran & Olphert, 2000).

Knowledge co-creation in project innovation adopts a collaborative approach to problem-solving and decision-making, encouraging team members to contribute their unique knowledge and skills to create value for the project. This approach involves various activities, such as brainstorming, prototyping, experimenting, and testing, that facilitate the generation and sharing of knowledge among team members (Z. Zhang et al., 2022).

Achieving a competitive edge in the projects industry heavily relies on the ability to innovate (Yuan & Cao, 2022; Stefan, Hurmelinna-Laukkanen, & Vanhaverbeke, 2021; Spanuth & Wald, 2017; Matos, Viardot, Sovacool, Geels, & Xiong, 2022). Consequently, the discussion of innovation in academic research has significantly increased in recent times (Govindan, 2022). Innovation has become increasingly important, especially in information technology-based projects (ITPs) (Yang, Song, Cheung, & Guan, 2023; Tarafdar & Tanriverdi, 2018; Hernández, Nieto, & Rodríguez, 2022). In this context, adopting an innovative approach becomes crucial for project success (Nurjaman, Marta, Eliyana, Kurniasari, & Kurniasari, 2019; Bratianu, Stănescu, & Mocanu, 2022).

On the other hand, to gain highly competitive and challenging business environment is difficult for organizations without embracing innovation (Odoardi, Battistelli, Montani, & Peiró, 2019; Chowhan et al., 2017; Purwanto, Bernarto, Asbari, Wijayanti, & Hyun, 2020; Vuong, Tushar, & Hossain, 2022). However, only a few studies have identified specific attributes that enhance innovativeness (Hogan & Coote, 2014; Akram, Lei, & Haider, 2016; Tseng, Lim, Helmi Ali, Christianti, & Juladacha, 2022). Leadership style is one such attribute that exerts influence and has gained popularity in recent research (Arici & Uysal, 2022; Al-Subaie, Faisal, Aouni, & Jabeen, 2021; Barr & Nathenson, 2022). Among the various leadership styles, the inspirational leadership style is particularly important in fostering innovative work behavior among employees in ITPs (Somech, 2006; Wang et al., 2019).

Project innovation has become increasingly important (Smith, Sochor, & Karlsson, 2019). According to Johnson project innovation involves not only meeting project objectives but also finding inventive ways to deliver results more efficiently.

Brown and Leigh (1996) define project innovation as; Project innovation often involves the adoption of new materials and technologies to improve the quality and sustainability of construction projects. Project innovation can be defined as the rapid integration of artificial intelligence and machine learning algorithms to optimize processes and decision-making (Chen et al., 2020).

Project innovation is essential for staying competitive in a rapidly changing market (Porter & Kramer, 2018). Companies are continually seeking innovative project management strategies to achieve a competitive edge (Smith et al., 2019). Employee job engagement and inventiveness are substantially impacted by how employees perceive their organizations' support. According to (Aldabbas, Pinnington, & Lahrech, 2023), organizational support is where employees are more likely to actively participate in their job and demonstrate better levels of creativity when they feel that their business is strongly supporting them.

Hutchison and Steven define Organizational support refers to employees' beliefs and views regarding the level of support they receive from their organization. This perception, rather than the actual support provided, impacts their attitudes and behaviors in the workplace. Work engagement refers to employees' emotional

investment, focus, and enthusiasm towards their work. Employees are therefore more likely to be engaged at work if they sense higher levels of organizational support (Hidayat et al., 2023).

Additionally, the comparison between workers who perceive high levels of support and those who feel low levels of support is highlighted by the statement "More so than employees with low levels of perceived organizational support". It suggests that employees who perceive higher levels of organizational support would experience more beneficial effects on job engagement and employee innovation (Wang et al., 2019).

The importance of organizational support in supporting project innovation and its influence on employee performance, success, and survival is examined in a similar research by (Hidayat et al., 2023). According to the study, firms that encourage their workers' ability to create innovations. The phrases also stress the value of great imagination in overcoming obstacles at work and encouraging innovation. The study's goal is to investigate the relationships between employee creativity and perceived organizational support, proactive personality, the meaning of work, and work engagement (Hidayat et al., 2023).

According to research, an employee's impression of organizational support has a significant impact on how well they perform at work. There is a sense of security and comfort within an organization when staff members feel that their employer recognizes their efforts and is concerned about their well-being. According to Hidayat et al. (2023), findings, organizational support significantly and favorably affects employee creativity, feeling of purpose in their job, and engagement at work. This suggests that workers are more likely to display innovation, feel a stronger sense of purpose in their work, and show higher levels of dedication and participation in their employment when they perceive a high degree of support from their employer. These results confirm the idea that employees who feel appreciated and supported by their employer are more motivated and fulfilled, which has a good impact on their performance and general wellbeing. Employee commitment to their job is increased when they believe that their company actually cares about them. This creates a pleasant work atmosphere that encourages creativity and instills a sense of purpose.

In conclusion, the study shows that organizational support is critical in promoting worker performance, innovation, and engagement. Organizations that prioritize the creation of a supportive and nurturing work environment are more likely to witness favorable outcomes in terms of employee motivation, satisfaction, and overall performance (Foss & Pedersen, 2019).

We are aware of no research on the mediating role of "employee voice behavior (EVB)" and knowledge co-creation or the moderating role of "organizational support on the relationship between an inspirational leadership style and project innovation. The present study suggests that if the project manager demonstrates inspirational leadership and the team members exhibit a proactive attitude with a willingness to voice their opinions, this combination may enhance the innovative work behavior of the project team members (Detert & Burris, 2007) under inspirational leadership, organizational support may encourage employees to freely express their viewpoints (Wang et al., 2019).

Several studies have investigated the relationship between inspirational leadership, employee voice behavior, and project innovation. For instance, C. Zhang, Nahrgang, Ashford, and DeRue (2020) found that inspirational leadership positively influences project innovation by fostering employee voice behavior. The study suggests that when leaders inspire and motivate their employees, it leads to increased employee engagement and a greater willingness to share ideas, which can contribute to the success of a project. Inspired leaders have the ability to inspire, personalize, and stimulate intellectual growth (Rabiu & Iyaniwura, 2021). The management approach that encourages employees to find, investigates, and takes advantage of chances in order to achieve corporate goals (Vivona, 2023). By charting a visionary route, bringing people together, encouraging them, and providing direction, leaders may create movement and support adaptive or positive change (Abbas, Ekowati, & Anwar, 2023). In a competitive and dynamic economy, knowledge is a crucial organizational resource that offers a long-term competitive advantage (Foss & Pedersen, 2019).

In today's fast-paced and highly competitive business landscape, innovation has emerged as a crucial factor for organizational success. To undertake innovative projects, employees need to collaborate, co-create knowledge, and express their

ideas to address complex problems with innovative solutions. (Vivona, 2023). Among various leadership styles, inspirational leadership has proven effective in driving innovation. Inspirational leaders foster a work environment that nurtures creativity and innovation, inspiring and motivating team members to reach their full potential. They communicate effectively and set a positive example, ultimately leading to improved project performance and innovation (Rabiu & Iyaniwura, 2021).

There is, however, little research about how inspiring leadership especially affects project creativity, as well as the balancing effects of knowledge co-creation, employee voice, and organizational support. In order to further understand the impacts of inspiring leadership on project innovation, this study also looks at the employee voice behavior and knowledge co-creation as intermediary factors, as well as the moderating effects of organizational support.

This study is important because it adds actual data to the body of information already available about the connection between innovative project management and inspiring leadership. It also clarifies the processes by which employee voice behavior and knowledge co-creation manages this relationship as well as the ways in which organizational support might do the same. This useful information may help firms improve project performance and foster an innovative culture.

1.2 Research Gap

Leadership styles have a critical role (Haider, 2021; Pham, Pham, Truong Quang, & Dang, 2023). Researchers should identify appropriate leadership styles (Mashele & Alagidede, 2022) while practitioners should adopt these styles in order to increase the likelihood of project innovation (Becker, Coussement, Büttgen, & Weber, 2022) and address the complexities in projects (Z. Zhang et al., 2022).

Various leadership styles have been examined in a number of studies, including inclusive (A. Mir, Rafique, & Mubarak, 2021), ethical (Bhatti, Kiyani, Dust, & Zakariya, 2021), optimum (Hakkak, Nawaser, Vafaei-Zadeh, & Hanifah, 2021), shared (Imam, 2021), Humble (Ali, Li, Haider, Khan, & Mohi Ud Din, 2021), and transactional (Purnomo, Supriyanto, Dami, et al., 2021; Al-Subaie et al., 2021).

There is, however, a dearth of information on inspiring leadership in education base projects.

In addition, the sequential mediating mechanism of employee voice behavior and knowledge co-creation, with organizational support acting as a moderator, is involved in the underlying process to explain the link between project innovation and inspiring leadership. This research thus seeks to fill up the gap between inspiring leadership and project innovation through mediation and moderation. There is a void in the literature addressing the precise leadership philosophies that successfully foster project innovation, despite prior studies showing a favorable relationship between leadership and innovation. While inspiring leadership has been suggested as a leadership style that might improve project creativity, little is understood about the underlying processes that enable this.

Additionally, little study has looked at the function of employee voice and knowledge co-creation as mediators between inspiring leadership and project innovation. Although employee voice and knowledge co-creation are acknowledged as significant innovation drivers, it is unclear exactly how these two factors interact with inspiring leadership and project innovation. Finally, little research has been done on how organizational support influences the link between inspiring leadership and project innovation. The ability of inspiring leadership to translate into project innovation may be greatly aided by organizational support. By examining the effects of inspiring leadership on project innovation, the mediating function of knowledge co-creation and employee voice behavior, and the moderating influence of organizational support, this suggested study intends to close these research gaps. The study's findings help us understand how inspiring leadership may boost project innovation and have practical ramifications for businesses looking to encourage innovation in their projects.

1.3 Problem Statement

The specific mechanisms through which inspirational leadership influences project innovation remain largely unknown. It is crucial to adapt and innovate the completion of projects by incorporating the latest technology and ideas, rather than

relying on outdated methods. This necessitates the need for incentives, which can be facilitated through effective leadership.

Many employees in organizations lack motivation to showcase their skills, but with a positive leadership style like inspirational leadership, employees become motivated to demonstrate their abilities and generate fresh ideas pertaining to the project. Furthermore, while earlier studies have emphasized the importance of employee voice behavior and knowledge co-creation as major drivers of innovation, their function as intermediaries between inspiring leadership and project creativity is not well understood. Additionally, little research has been done on how organizational support may moderate the link between inspiring leadership and project innovation.

Therefore, the goal of this study is to evaluate the impact of inspiring leadership on project innovation while taking into account the mediating impacts of knowledge co-creation, employee voice, and organizational support. This study's goal is to evaluate how inspiring leadership affects project innovation while taking into account the mediating effects of employee voice behavior and knowledge co-creation.as well as the moderating role of organizational support.

With employee voice behavior and knowledge co-creation as potential mediating mechanisms, this problem statement seeks to study the link between inspiring leadership and project innovation. It also aims to investigate how organizational support influences the link between innovative project leadership and performance. By shedding light on the intricate relationships between motivating leadership, employee voice behavior, knowledge co-creation, organizational support, and project innovation, the proposed study will add to the body of literature already in existence. Organizations may strengthen their leadership techniques and support systems to promote an innovative culture and boost project outcomes by comprehending these links.

1.4 Research Questions

By examining these research inquiries, we can gain valuable insights into the precise mechanisms by which inspirational leadership influences project innovation.

Furthermore, we can explore the roles of knowledge co-creation and employee voice behavior in shaping this dynamic. The main goal of this research is to clarify the significance of organizational support in encouraging the translation of inspiring leadership into tangible results of project innovation. The study's conclusions have applications for businesses looking to improve project innovation and overall project performance. The study attempts to answer the following research questions in order to accomplish this goal:

Question: 1

Does Inspirational Leadership (IL) have impact on project innovation (PI)?

Question: 2

Does inspirational leadership positively affect Employee Voice Behavior (EVB) and Knowledge Co-Creation (KCC)?

Question: 3

Does Employee Voice Behavior (EVB) positively affect Knowledge co-creation (KCC)?

Question: 4

Do Employee Voice Behavior (EVB) and Knowledge Co-Creation (KCC) positively affect Project Innovation (PI)?

Question: 5

Does Employee voice behavior (EVB) and Knowledge Co-Creation (KCC) mediate the relationship between Inspirational Leadership (IL) and project innovation (PI)?

Question: 6

Does sequential mediation of knowledge co-creation (KCC) and Employee Voice Behavior (EVB) exist between Inspirational Leadership (IL) and Project Innovation(PI)?

Question: 7

Does organizational support(OS) moderate the relationship between knowledge Co-Creation(KCC) and Project Innovation(PI) and does organizational support(OS)

plays a mediated moderation role through employees' voice behavior (EVB) and knowledge co-creation (KCC) influencing the dependent variable project innovation (PI) under the inspirational leadership(X)?

1.5 Research Objectives

The research attempts to achieve the following objectives:

RO 1:

To examine the impact of inspirational leadership (IL) on Project Innovation (PI).

RO 2:

To examine the positive affect of Inspirational Leadership (IL) on employee voice behavior (EVB).

RO 3:

To examine the positive affect of Inspirational Leadership (IL) on Knowledge co-creation (KCC).

RO 4:

To investigate the positively affect of Employee voice behavior (EVB) on Knowledge co-creation (KCC).

RO 5:

To investigate the positively affect of Employee voice behavior (EVB) on Project Innovation (PI).

RO 6:

To investigate the positively affect of Knowledge co-creation (KCC) on Project Innovation (PI).

RO 7:

To investigate the mediating role of Employee voice behavior (EVB) between Inspirational Leadership (IL) and Project Innovation (PI).

RO 8:

To investigate the mediating role of Knowledge co-creation (KCC) between Inspirational Leadership(IL) and Project Innovation(PI).

RO 9:

To investigate the sequential mediation of employee voice behavior (EVB) and knowledge co-creation (KCC) between inspirational leadership (IL) and project innovation (PI).

RO 10 a:

To investigate moderating influences of organizational support (OS) between knowledge co-creation (KCC) and Project Innovation (PI).

RO 10 b:

To investigate the mediated moderation role of organizational support through mediator (M1) Employees voice behavior (EVB) and (M2) knowledge co-creation(KCC) on dependent variable (Y) project innovation (PI) under the inspirational leadership(X).

The Objective of this study is to explore the correlation between inspirational leadership and project innovation. Specifically, we aim to investigate how leaders who inspire and motivate their employees influence project innovation within an organization.

Understanding the function of employee voice behavior as a mediator between inspiring leadership and project innovation is the main goal of this study. We seek to comprehend how employees expressing ideas, suggestions, and concerns contribute to the link between inspirational leadership and project innovation.

Another objective is to examine the mediating effect of knowledge co-creation. We focus on understanding how collaborative knowledge sharing and creation among employees mediate the relationship between inspirational leadership and project innovation. The goal is to determine whether inspirational leadership fosters a culture of knowledge co-creation that enhances project innovation.

We also want to look at how organizational support acts as a moderator. The goal of this objective is to comprehend how organizational resources, incentives, and support affect the interactions among innovative project ideas, inspiring leadership, employee voice behavior, and knowledge co-creation. Through the mediating

factors, we test the hypothesis that an encouraging organizational climate enhances the influence of inspiring leadership on project innovation.

Overall, this study aims to provide valuable insights into the intricate relationships among inspirational leadership, employee voice behavior, knowledge co-creation, organizational support, and project innovation. By examining these dynamics, we hope to add to the body of knowledge on leadership, innovation, and organizational behavior while also providing businesses with useful recommendations on how to improve project innovation through strong leadership and support systems.

1.6 Significance of Study

In order to promote enthusiasm, creativity, and innovation inside businesses, leadership is essential. One effective leadership style that emphasizes inspiration has been identified as particularly beneficial in promoting and sustaining innovation in today's dynamic landscape (Stefan et al., 2021). By inspiring their teams, leaders can ignite creative thinking and stimulate the generation of innovative ideas (Sánchez-García, Martínez-Falcó, Alcon-Vila, & Marco-Lajara, 2023).

This study will help for the successful delivery of sustainable projects, the presence of inspirational leaders is essential. These leaders possess a deep understanding of sustainability challenges and can effectively guide and motivate their teams to overcome these obstacles. This understanding enables them to steer their teams towards achieving sustainable outcomes (Pham et al., 2023).

This study may highlight the link between inspirational leadership and employee motivation, which, in turn, can positively impact creativity, problem-solving, and innovation within projects. Inspirational motivation, which involves conveying high expectations to employees, is a crucial aspect of inspirational leadership. By inspiring their employees, leaders aim to transform this awareness into an internal drive for outstanding performance. This approach, as highlighted by Zhou, Mingle, et al. (2023), can significantly enhance employee performance and cultivate a high-performance culture within an organization.

Innovation is crucial for maintaining a competitive edge in the project industry, as highlighted by (Yuan & Cao, 2022; Stefan et al., 2021; Matos et al.,

2022). Academic research has increasingly focused on innovation (Govindan, 2022; Sabando-Vera, Yonfa-Medranda, Montalván-Burbano, Albors-Garrigos, & Parrales-Guerrero, 2022) due to its widespread importance, particularly in projects (Tarafdar & Tanriverdi, 2018; Hernández et al., 2022). Therefore, it is vital for project employees to embrace innovation (Nurjaman et al., 2019; so organizations may use the findings to inform strategic decision-making processes related to leadership selection, training, and development. If inspirational leadership is shown to be a key factor in driving project innovation, organizations may prioritize hiring or promoting individuals with these leadership qualities (Bratianu et al., 2022).

Voice behavior, considered proactive behavior, has the potential to bring about significant changes that foster innovativeness (Wijaya, 2021), as noted by (Frese & Fay, 2001; Naqvi, 2020). However, no study has yet explored the relationship between an inspirational leadership style and project innovation, nor has any study examined the sequential mediating effect of employee voice behavior and knowledge co-creation, along with the moderating effect of organizational support. This study's significance lies in its exploration of these relationships. It suggests that an inspirational project manager, coupled with proactive team members exhibiting voice behavior, can enhance project innovation.

Studying how inspiring leadership affects project innovation is important because it takes into account the balancing effects of organizational support and employee voice behavior and knowledge co-creation. This research has the potential to enhance project innovation outcomes, drive organizational success, and provide valuable insights and guidance for leaders and organizations striving to cultivate an innovative culture.

This research will be important for the organizations in today's dynamic business environment, innovation is paramount for organizations to maintain their competitive edge and thrive. Therefore, examining the influence of inspirational leadership on project innovation directly addresses the need for effective leadership strategies that can stimulate and nurture innovation within project teams. By comprehending how inspirational leadership shapes project innovation, this inquiry can contribute to the development of practices and approaches that support and foster innovative thinking and behaviors.

Project innovation plays a critical role in enabling organizations to remain competitive and attain success. By investigating the impact of inspirational leadership and its associated factors on project innovation, this research has the potential to optimize project outcomes, drive organizational growth, and enhance overall performance.

1.7 Supporting Theory

Leader-Member Exchange (LMX) is the underlying theory of this research. leader-member exchange (LMX) theory, proposes that leaders and employees form distinctive bonds based on their social exchanges (Mir, Farooq, & Khan, 2022).

According to the Leader-Member Exchange (LMX) idea, team members that have positive, reciprocal connections with their leader are more inclined to exchange information with one another (M. S. Kim, Phillips, Park, & Gully, 2023). This approach places a strong emphasis on the value of effective leader-member interactions for maintaining and fostering relationships. The LMX theory emphasizes everyday social interactions and communication by taking a relationship-centered approach to leadership (Ribič & Marič, 2023).

The creative yet underused leader-member exchange idea, commonly known as LMX, first appeared in the 1970s . It is built on the interpersonal interactions and bonds that exist between managers and staff (Graen & Uhl-Bien, 1995). According to this LMX theory the inspirational leadership is important for each employee in order to foster meaningful social interactions and reciprocal partnerships through regular communication.The organizational atmosphere, trust, and respect between managers and employees all improve in companies that use this leadership style (Erdogan & Bauer, 2015; Hirvi, Laulainen, & Taskinen, 2021).

LMX theory highlights the importance of dyadic interactions between leaders and employees ((Rice & Cotton-Nessler, 2022). LMX theory suggests that these interactions lead to the formation of distinct bonds based on social exchanges (Mir et al., 2022). The effectiveness of these interactions within an organization can influence employee behaviors and knowledge C0-Creation. (Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997).

The Leader-Member Exchange Theory (LMX) proposes that leaders who exhibit supportive behavior expect their employees to demonstrate a similar level of engagement, responsibility, and innovation, leading to overall organizational success. Blau (1968) also emphasized the importance of exchange relationships, suggesting that strong connections foster dedication. Regular and effective communication plays a crucial role in building and maintaining such relationships. LMX, also known as the Vertical Dyad Linkage Theory, originated in the 1970s and examines the dynamic relationship between managers and team members. It explores how leaders and managers establish connections with team members, which can either facilitate growth or impede progress.

In this study, it was found that inspirational leadership significantly influences the behavior of individual employees. It has the potential to motivate them to express their opinions and foster innovative project ideas. Inspirational leadership promotes high-quality exchanges, where employees put in more effort and develop personal loyalty towards their leaders. Such exchanges also grant employees greater control and influence over their work (Dionne, Sayama, Hao, & Bush, 2010).

According to B. H. Kim and Bang (2021), inspirational leadership has a stronger influence on the exchange of ideas, suggestions, and thoughts among employees. This exchange further supports the development of employees' voice behavior, fostering an environment conducive to innovative work. Additionally, an individual's personality also plays a crucial role in these exchanges (Yoon & Bono, 2016).

For instance, in this case, we are examining the relationship between inspirational leadership, proactive personalities of employee their voice behavior and Knowledge Co-Creation. These exchanges with an inspirational leader and the proactive personality of an employee contribute to employee voice behavior and innovation in projects. Encouraging employees to go beyond their formal roles and express their opinions is vital for the survival of organizations (W. Liu, Zhu, & Yang, 2010).

Numerous studies have investigated how leadership behavior predicts employee voice, consistently showing that leadership significantly influences employees' willingness to speak up, share creative ideas, and provide constructive insights. Leadership behavior plays a critical role in influencing employees' voluntary decision to contribute suggestions for organizational improvements (Gao, Janssen, & Shi,

2011). Leaders should also pay close attention to employees' expressions of voice, as they are the intended recipients of such feedback (Detert & Burris, 2007).

According to the Leader-Member Exchange (LMX) idea, organizational support has a big influence on interactions between leaders and members. It speaks to how the staff members feel they are treated in terms of support, consideration, and appreciation by the company. According to (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002), organizational support encompasses elements including the availability of resources, opportunity for advancement, work-life balance, and employee well-being.

Organizational support is considered a crucial contextual factor in LMX theory, interacting with leader-member relationships. When high levels of organizational support are present in high-quality exchanges, positive outcomes are further enhanced. Employees who perceive high levels of organizational support experience greater job satisfaction, organizational commitment, and performance (Hoffman, Woehr, Maldagen-Youngjohn, & Lyons, 2011). This support can manifest in providing necessary resources, recognition, and growth opportunities, reinforcing positive leader-follower relationships and contributing to a positive work environment.

Organizational support serves as a buffer against unfavorable impacts when leaders and followers interact and support each other infrequently. Employee perceptions of strong organizational support levels can help make up for a direct leader's lack of support. Higher levels of work satisfaction and organizational commitment arise from this impression of organizational support, which attenuates the adverse effects of out-group contacts (Harris & Kacmar, 2018).

Chapter 2

Literature Review

2.1 Introduction

The study model's goal is to investigate how inspiring leadership affects project innovation. The study specifically looks at the moderating impacts of organizational support as well as the mediation effects of employee voice behavior and knowledge co-creation. By analyzing these connections and considering the interactions between variables, this research aims to enhance our understanding of effective leadership practices and their influence on innovation in project settings.

The study looks at how the aforementioned factors have a direct, mediating, and moderating influence. This chapter also contains a thorough analysis of pertinent literature that explores the interconnections between these factors. This literature review establishes a solid theoretical foundation for the study and situates the research within the broader academic discourse.

In this research model, the focus is on understanding how inspirational leadership drives project innovation. Inspirational leadership entails motivating and inspiring employees through the creation of a vision, establishment of high expectations, and cultivation of enthusiasm. The creation and use of new concepts, procedures, or products inside the framework of a project is referred to as project innovation.

The research model proposes that employee voice behavior (EVB) and knowledge co-creation act as sequential mediators between inspirational leadership and project innovation. This means that employee voice behavior and the subsequent

knowledge co-creation process play vital roles in transmitting the influence of inspirational leadership to project innovation outcomes.

2.2 Definitions of Variables

2.2.1 Inspirational Leadership

Inspirational leadership is a leadership style known for its capacity to motivate and inspire individuals towards a shared objective or vision. It encompasses the creation of a constructive and captivating work atmosphere, the cultivation of a sense of purpose and significance, and the empowerment of individuals to realize their maximum potential (Mbazor et al., 2023).

2.2.2 Project Innovation

"Project Innovation" encompasses a wide range of endeavors aimed at nurturing creativity, problem-solving, and the emergence of fresh concepts, products, or services. The creative process of transforming concepts into real-world products with value is known as innovation. It entails introducing inventive or enhanced methods, technologies, or solutions to tackle existing challenges or meet emerging needs (Chesbrough, 2010).

The role of innovation in propelling economic growth, competitiveness, and societal progress cannot be overstated. It empowers companies and organizations to remain pertinent, adapt to evolving environments, and seize new opportunities. Furthermore, innovation fosters advancements across various domains, including technology, healthcare, sustainability, and social welfare.

2.2.3 Employee Voice Behavior

"Employee voice" is a voluntary, internal form of communication within an organization that is directed upward. Its primary objective is to accomplish one or multiple goals associated with an individual's work, position, or personal requirements within the organization. Employee input might also include the job,

position, or demands of other organization stakeholders, which benefits the organization's overall performance. Essentially, employee voice denotes any communication initiated by employees to articulate their thoughts, ideas, concerns, or suggestions with the aim of creating a beneficial influence within the workplace (Pfrombeck, Levin, Rucker, & Galinsky, 2023).

Voice behavior encompasses the act of voluntarily expressing ideas, opinions, and concerns with the aim of enhancing organizational effectiveness. The engagement of employees in voicing their thoughts and ideas on various work-related matters is essential for fostering continuous improvement and facilitating effective decision-making within the organization (McClean et al., 2013).

2.2.4 Knowledge Co-creation

Knowledge co-creation is a collaborative process that requires the active involvement of all partners. This process is supported by platforms, both physical and virtual, that enable citizens to come together and collectively generate ideas and solutions to address issues that directly impact them (Godinho et al., 2021).

2.2.5 Organizational Support

When an organization offers support to its employees, it results in heightened levels of job satisfaction, enhanced engagement in positive behaviors within the organization, and a decreased likelihood of employees seeking job alternatives. Employees are more likely to feel appreciated, motivated, and devoted to achieving the organization's goals when they believe that their employer really cares about their well-being and offers the necessary assistance (Rhoades & Eisenberger, 2002).

2.3 Hypotheses

The first hypothesis is formed to investigate the relationship that exists in Inspirational leadership and its impact on Project innovation.

2.3.1 Inspirational Leadership and Project Innovation

In the modern era, managing staff is a crucial and time-consuming task (Espinoza & Ukleja, 2016). Although project-based organizations have abundant resources, performing tasks becomes challenging due to the temporary or contract-based nature of employment within these organizations. To ensure the quality of the organization, it is crucial for employees to be highly motivated (Dwivedula, Bredillet, & Müller, 2016). For the initiation of an innovative project, leaders must create an environment and culture that promote and encourage employees to strive for excellence and reach their full potential. Yuki, Mizuno, Ogawa, and Mihoko (2013) proposed that leaders should effectively utilize their power when interacting with team members to foster trust.

According to Janssen (2000), the innovation process consists of three interconnected stages: idea development, concept promotion, and idea execution, all of which contribute to inventive work behavior. Additionally, innovation requires positive emotions, a supportive atmosphere, and comprehensive leadership (X. Zhang & Bartol, 2010). It is not only about generating creative ideas but also about effectively implementing and utilizing those ideas and intuitions (Amabile, Conti, Coon, Lazenby, & Herron, 1996). In groups where innovation is encouraged and efforts are rewarded rather than penalized (Amabile, 1983; Kanter, 1983), there are greater opportunities for innovation to thrive. These factors not only foster diversity among project team members but also enhance performance on innovative projects (Soares, Marquis, & Lee, 2011). Innovation in projects refers to the ability to create and implement new ideas to deliver value (Bureau of European Policy Advisor, 2011).

Leaders possess charismatic traits that enthuse followers and draw in highly qualified workers to the pinnacle of their operational knowledge. These actions have been demonstrated to work in a variety of cultural contexts (Bass & Stogdill, 1990; Avolio & Bass, 2004). Leaders today are skilled navigators who lead their teams through challenging business circumstances. Using abilities like interpretation and prediction as well as involving teams and intellectuals in a workplace that is always changing requires leadership (Metcalf & Benn, 2013).

Isaksen and Ekvall (2010) have identified a significant challenge for leaders: the intentional management of projects that foster innovation. Specifically, France, Mott, and Wagner (2007) argue that businesses can overcome the difficulty of staying competitive by understanding how their capacity for innovation is intrinsically linked to the ways in which their leaders and structures support innovation. Innovation, often nurtured through leaders' internal support systems, is crucial for projects aiming to improve performance through innovation (Kissi, Dainty, & Liu, 2012).

Giving staff members the chance to engage in decision-making, allowing for the discussion and development of ideas and proposals, is a crucial component of leadership for innovation. Isaksen and Ekvall (2010) further emphasize that fostering an environment of innovation and change is essential for driving innovation. However, job descriptions and staff responsibilities often lack innovative work practices (Janssen, 2000), making their applicability uncertain. Additionally, project reward and recognition systems often fail to acknowledge these innovative work behaviors (Yuniawan, 2019).

The inventiveness of teams and projects can be enhanced by leaders who have a tendency toward certain creative activities. Some researchers have looked at the strategic relevance of leadership to project innovation (Crespell & Hansen, 2009; Nybakk & Jenssen, 2012), while previous research has mainly concentrated on individual characteristics and project-related factors that promote innovative work behavior, assuming that such behavior positively influences work outcomes (Janssen, 2000; Janssen, Van de Vliert, & West, 2004; Mumford, Scott, Gaddis, & Strange, 2002). Their methods, however, are weak conceptually and primarily focus on the connection between creative work practices and participative leadership.

Our work, which examines the links between these variables, offers insightful contributions to the theory and practice of project innovation research. Empirical study has mostly concentrated on the influence of employee voice behavior on project and team-level innovations, even if the link between inspiring leadership and project innovation appears intuitively favorable (De Jong & Den Hartog, 2010). Inspiring leadership has been shown to positively impact creativity at

the project and team levels in several studies (West & Anderson, 1996; Amabile et al., 1996; Nijhof, Krabbendam, & Looise, 2002). On the particular impact of inspiring leadership on project creativity, there is, however, little study.

The greatest potential for innovation lies in projects led by individuals who know how to cultivate an environment that supports innovative work behavior, leading to improved project performance. The speech behavior of leaders should encourage individual innovation (DiLiello & Houghton, 2006; Hunter, Bedell-Avers, & Mumford, 2007; Isaksen & Ekvall, 2010). When they feel their leaders are strongly supporting them, employees with creative potential are more inclined to put their abilities to use (DiLiello & Houghton, 2006). Additionally, fostering innovative work practices and initiatives that engage and motivate employees prove advantageous for innovation (Brown & Leigh, 1996).

Autonomy in decision-making and work processes is a significant factor in this context (Parzefall, Seeck, & Leppänen, 2008). Granting individuals control over their time and methods enables non-regular activities and tasks, which are more challenging and promote learning, personal development, and ultimately stimulate innovation (Huhtala & Parzefall, 2007).

Research conducted at the team and project levels has demonstrated the relationship between innovation and factors such as autonomy and freedom of expression (Amabile et al., 1996; Nijhof et al., 2002; West & Anderson, 1996). However, empirical studies on how the project atmosphere influences an individual's capacity for innovation are limited.

Employee inventive behavior and opinions on the innovative environment showed a moderately favorable but not very strong link, according to (Scott & Bruce, 1994). It has been demonstrated that project components like autonomy and freedom of speech have a favorable effect on inventive behavior (Krause, 2007). Employees who work in a workplace that promotes freedom have greater autonomy and control over their ideas and work processes (Amabile et al., 1996; Si & Wei, 2012). This increases their potential for creativity.

Although empirical support is currently limited, there are strong reasons to believe that perceptions of project innovation and innovative work behavior are positively correlated. Promoting a project culture where failure is accepted and ridiculous

ideas are encouraged inspires discussion and supports innovation. Giving employees the flexibility to transgress rules is necessary for them to develop innovative solutions (Mikdashi, 1999). Combining the themes of risk-taking, open discussion, freedom, and trust is believed to have a positive impact on innovative work behavior.

Previous research has shifted focus from efficiency to innovativeness, emphasizing the integration of individual efforts to drive performance and innovation at the project level (Bilton & Cummings, 2010; Edwards, Delbridge, & Munday, 2005; Isaksen & Tidd, 2006). Identifying gaps in the implementation of employee voice can enhance innovative work behavior, as employees' innovativeness indirectly influences project value through its effects on performance (Rubera & Kirca, 2012; Davila, Epstein, & Shelton, 2006).

According to García-Morales, Lloréns-Montes, and Verdú-Jover (2008), organizations that prioritize employee innovation are more successful in capturing a larger market share, leading to increased revenue and profitability. However, innovation remains crucial for continuous improvement. The theory of resources and capabilities highlights the importance of possessing the necessary knowledge and abilities to implement novel innovation strategies that are difficult for competitors to imitate, thereby enhancing internal and external performance (Bommer & Jalajas, 2004; Calantone, Cavusgil, & Zhao, 2002; Lengnick-Hall, 1992).

Notably, the involvement of all employees is vital for successful innovation. The interactions and activities of employees working on a project contribute to innovation (Hartman, Tower, & Sebora, 1994). Employee voice behavior plays a significant role in the innovation process, as employee ideas and actions are essential for ongoing innovation (De Jong & Den Hartog, 2010). The effective utilization of information and abilities by employees is likely to have an impact on their innovative work behavior.

Trust serves as both a precursor and a means to foster innovation in contemporary knowledge-based work environments. In the context of organizational revitalization, there is an increasing emphasis on co-creation, interaction, and relationships. Consequently, trust becomes even more necessary, yet its practice often

falls short. Trust is fundamentally a relational concept that emerges from the dynamic interplay and mutual interaction among individuals within an organization (Savolainen, López-Fresno, et al., 2012). The core aspect of effective leadership revolves around building and nurturing relationships, fostering interaction, facilitating communication, promoting knowledge sharing, and fostering collaboration. As the service-dominant logic continues to permeate global markets and exchanges (Lusch, Vargo, & O'brien, 2007), the renewal of services and processes becomes imperative.

The success of leadership, whether in a group, organization, or nation, contributes to prosperity and growth. Conversely, leadership failure results in failures at the individual, team, organizational, and societal levels (Thoroughgood, Sawyer, Padilla, & Lunsford, 2018). Leadership has been extensively studied in the behavioral sciences, as researchers recognize the significant impact leaders have on their followers and their performance (Yukl, 2008). The ability to effectively manage a team is a critical characteristic of an effective leader. This encompasses actions that aim to coordinate and facilitate the efforts of team members (Barczak & Wilemon, 2001). Leadership researchers posit that leader behavior serves as a fundamental mechanism that bridges the gap between leader traits and employee behavior (e.g. Dinh & Lord, 2012; Dinh et al., 2014).

H1: Inspirational leadership is positively associated to Project innovation.

The second hypothesis was formed to investigate how inspirational leadership positively affects Employee voice behavior.

2.3.2 Inspirational Leadership and Employee Voice Behavior

The literature supports the idea that inspirational leadership plays a positive role in shaping employee voice behavior within organizations. The relationship is characterized by mechanisms such as trust, shared vision, and supportive communication, leading to positive outcomes like increased innovation, organizational learning, and employee engagement (M. S. Kim et al., 2023).

Inspirational leaders employ supportive communication styles that encourage dialogue and active engagement. By listening attentively, providing constructive feedback, and acknowledging the contributions of employees, leaders create an atmosphere where employee voice is not only welcomed but also valued as a vital aspect of organizational success (Shin & Zhou, 2003).

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Although empirical support is currently limited, there are strong reasons to believe that perceptions of inspirational leadership and employee voice behavior are positively correlated. Promoting a project culture where failure is accepted and ridiculous ideas are encouraged inspires discussion and supports innovation. Giving employees the flexibility to transgress rules is necessary for them to develop innovative solutions (Mikdashi, 1999). Combining the themes of risk-taking, open discussion, freedom, and trust is believed to have a positive impact on employee voice behavior. Previous research has shifted focus from efficiency to innovativeness, emphasizing the integration of individual efforts to drive performance and innovation at the project level (Bilton & Cummings, 2010; Edwards et al., 2005; Isaksen & Tidd, 2006).

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Hypothesis 2: Inspirational leadership positively affects Employee voice behavior.

2.3.3 Inspirational Leadership and Knowledge Co-creation

In recent years, the intersection of inspirational leadership and knowledge co-creation has gain increasing attention in both academic and organizational settings. As organizations strive to adapt to the dynamic and competitive landscape, the role of leaders in fostering an environment conducive to knowledge creation has become crucial (Ribič & Marič, 2023). This literature review explores the relationship between inspirational leadership and knowledge co-creation, shedding light on the mechanisms through which leaders inspire and facilitate the collaborative generation of knowledge within teams and organizations (Pellegrini et al., 2020).

Inspirational leadership is characterized by leaders who go beyond conventional managerial roles, motivating and influencing their followers by appealing to their values, emotions, and aspirations (Mistry & Hule, 2015).

Knowledge co-creation involves collaborative efforts among individuals or teams to generate new ideas, insights, and solutions. In the context of organizations, this process is essential for innovation, problem-solving, and adapting to change (Z. Zhang et al., 2022).

Inspirational leaders play a pivotal role in aligning team members with a shared vision. When leaders effectively communicate a compelling vision, it creates a sense of purpose that motivates individuals to engage in knowledge co-creation activities that contribute to achieving that vision (Hussein & Atta, 2023).

Inspirational leaders contribute to the development of a positive organizational culture, characterized by trust, openness, and a willingness to collaborate. Such a culture provides the foundation for effective knowledge co-creation by breaking down silos and encouraging the free flow of ideas. (Bakker, Hetland, Olsen, & Espevik, 2023).

Inspirational leaders empower their followers by recognizing and valuing their contributions. This empowerment creates a sense of ownership and responsibility, motivating individuals to actively participate in knowledge co-creation processes (Yong, Shirahada, & Kosaka, 2013).

The literature supports the idea that inspirational leadership significantly influences knowledge co-creation within organizations. By fostering a shared vision, cultivating a positive culture, and emotionally engaging followers, inspirational leaders contribute to an environment conducive to collaborative knowledge generation (Germano, 2014). Understanding the dynamics of this relationship is essential for organizations seeking to leverage both inspirational leadership and knowledge co-creation as strategic assets in today's rapidly evolving business landscape (Ehlen, van der Klink, Stoffers, & Boshuizen, 2017).

Hypothesis 3: Inspirational leadership positively affects Knowledge co-creation.

2.3.4 Employee Voice Behavior and Knowledge Co-creation

The significance of employee knowledge cannot be overstated when it comes to fostering innovation and gaining a competitive edge in management. Hence, it is crucial for managers to understand how to establish a work environment that promotes innovation among their staff (Deshpandé, Farley, & Webster Jr, 1993; Nybakk & Jenssen, 2012; Patterson, Warr, & West, 2004).

Preventing project decline brought on by negative project practices is the goal of prohibitive voice behavior (Liang, Farh, & Farh, 2012; Kakkar, Tangirala, Srivastava, & Kamdar, 2016). These two sorts of voices are different from one another in terms of nature, desired activities, and general functioning, according to (Liang et al., 2012). However, projects can benefit from both restrictive and promotional voice behavior (Kong, Huang, Liu, & Zhao, 2017).

On the other hand, employee voice behavior refers to how much a project workgroup values its members' willingness to speak up and question established norms (Van Dyne & LePine, 1998). The "voice behavior environment" represents the shared beliefs among project participants regarding voice behavior (Morrison, 2011). Morrison (2014) also discovered that the quality of voice behavior influences project members' decisions to speak up; when voice behavior is poor, employees may choose to remain silent, fearing their input will not be valued. Consequently, project members may hesitate to express themselves in a weak voice environment.

According to Liu and colleagues, when personal and environmental cues are aligned, employees are more likely to persist in expressing their opinions. Therefore, employee participation in voice behavior increases when the voice behavior environment is improved. This aligns with the claims of contingency theories of leadership, which suggest that project structure and workplace culture significantly impact a leader's effectiveness in eliciting specific responses from their employees (Fiedler, 1964).

According to Parker and Collins (2010) proactive behavior theory, specific contextual elements might affect the link between a person's motivational states, such as "can do," "reason to do," and "excited to do," and results like proactive voice conduct. Thus, voice behavior has the potential to strengthen the link between employees' capacity to manage their proactive abilities and their use of encouraging or discouraging voice behavior since it is a contextual component directly related to the project.

The Impact of Employee Voice Behavior on Knowledge Co-Creation: A Meta-Analysis" by (C. Zhang et al., 2020) found that employee voice behavior has a positive impact on knowledge co-creation. The study also found that the positive impact of employee voice behavior is stronger in organizations with a high level of knowledge sharing and a high level of trust between employees and managers.

A Social Capital Perspective by Wasko and Faraj (2005) argued that employee voice behavior can facilitate knowledge sharing by building trust and social capital among employees. The study found that employees who are more likely to speak up are also more likely to share their knowledge with others.

Hypothesis 4: Employee voice behavior positively affects knowledge co-creation.

2.3.5 Employee Voice Behavior and Project Innovation

The importance of Employee Voice (EVB) in improving project performance within a volatile project environment has been widely recognized (Aryee, Walumbwa, Mondejar, & Chu, 2015). EVB is characterized by proactive behavior (Jiang, 2017), which enhances workplace efficiency (Liang et al., 2012) and challenges

the status quo (Aryee et al., 2015). It holds significant value in fostering project innovation (Zhou, Feng, & Liu, 2017). Projects that discourage employees from speaking up and withholding their input may experience reduced motivation and engagement, leading to potential harm (Agnihotri, 2017).

Research indicates that employee voice plays a vital role in enhancing project performance (Satterstrom, Kerrissey, & DiBenigno, 2021). Recognizing the constructive nature of EVB, projects have begun to prioritize it (Song, Peng, & Yu, 2020). Scholars from various fields, including organizational behavior, human resource management, and industrial relations, have shown interest in studying employee voice behavior (Yang et al., 2023).

Proactive behaviors encompass a range of actions such as taking initiative (Morrison & Phelps, 1999), individual innovation (Scott & Bruce, 1994), issue prevention (Frese & Fay, 2001), strategic exploration (Parker & Collins, 2010), issue advocacy (Dutton & Ashford, 1993), feedback (Ashford & Black, 1996), career initiative (Seibert et al., 2001), and employee voice behavior (Van Dyne & LePine, 1998).

Projects must give careful attention to voice behavior as it fosters continuous growth and supports internal change processes, especially during challenging times (Van Dyne & LePine, 1998). By emphasizing the social and psychological dimensions of the workplace, voice behavior—a type of contextual performance—contributes to project success (Motowidlo, Hanson, & Crafts, 1997). It requires promoting change and suggesting changes to the current quo despite resistance from coworkers (LePine & Van Dyne, 2001).

The causes and effects of speech behavior require more investigation (Parker & Collins, 2010; Avery & Quiñones, 2002). In the current competitive and unpredictable climate, voice behavior is particularly crucial as improvement-oriented ideas cannot rely solely on top management (Detert & Burris, 2007). The way employees communicate and the extent to which they are heard and acknowledged by others are associated with their perception of justice, especially procedural justice (Avery & Quiñones, 2002). To avoid shortsighted decision-making by senior management, it is vital to have specific project variables that highlight issues and weaknesses in management-created policies. Voice behavior has significant effects

on enhancing project performance (Parker & Collins, 2010). Employees can support their firms' continued innovation and environment-adjustment by using voice behavior (Liang et al., 2012).

Hirschman (1970) was the first to emphasize the importance of employee voice behavior in driving change and breaking away from an unproductive status quo. This form of employee activity, known as "employee voice," is believed to assist firms in surviving in a changing environment. Voice behavior involves making proposals for changes to current work practices, even when others in the workplace may disagree (Van Dyne & LePine, 1998).

The research on voice behavior indicates that it has received less attention from the discipline of management. However, voice-related studies have increased since 1994 when Van Dyne and LePine developed a scale to measure voice behavior. They described voice as an indication of the desire to change how things are done at work and argued that it influences project effectiveness by helping management address problems and find better approaches to tasks.

Employees can effectively express their commitment to their work through voice behavior, sharing positive ideas, and addressing work-related issues. Voice behavior aims to enhance project innovation, prevent work issues that could hinder project effectiveness, and maximize opportunities (M. S. Kim et al., 2023).

Employee voice behavior can contribute to positive outcomes such as favorable reviews, improved innovation performance, and unit-level learning. Various factors, including personality traits, proactive behavior, aspirations, perceived support, and inhibiting factors like fear and abusive monitoring, influence voice behavior (Wang et al., 2019).

Hypothesis 5: Employee voice behavior positively affects project innovation.

2.3.6 Knowledge Co-creation and Project Innovation

Knowledge co-creation and project innovation have emerged as critical components in organizational contexts, especially in industries characterized by rapid

technological advancements and globalization (Z. Zhang et al., 2022). This literature review explores the intersection between knowledge co-creation and project innovation, focusing on the processes, mechanisms, and outcomes associated with collaborative knowledge creation within project-based environments (Von Krogh, Nonaka, & Rechsteiner, 2012). Knowledge co-creation entails the collaborative generation, sharing, and integration of knowledge among individuals or groups within and across organizational boundaries. Project innovation involves the development and implementation of novel ideas, solutions, products, or processes within the framework of specific projects (Abbu, Mugge, Gudergan, Hoeborn, & Kwiatkowski, 2022).

Project teams utilize various knowledge sharing platforms and tools to facilitate information exchange, collaboration, and knowledge dissemination. These platforms may include project management software, collaboration tools, intranet portals, and online communities, which enable real-time communication and access to relevant knowledge resources (Harris & Kacmar, 2018). Knowledge co-creation stimulates creativity and facilitates problem-solving within project teams by fostering a culture of experimentation, exploration, and idea generation. Through collaborative brainstorming and idea generation sessions, participants leverage collective intelligence to address project challenges and explore innovative solutions (Figueiredo, Ferreira, Silveira, & Villarinho, 2020). Effective knowledge co-creation fosters stakeholder engagement and alignment around project goals, objectives, and outcomes. By involving stakeholders in the co-creation process, organizations can ensure that project innovations are aligned with market needs, customer preferences, and strategic priorities, thereby maximizing value creation and competitive advantage (da Assunçao Moutinho, Fernandes, & Rabechini Jr, 2023).

Hypothesis 6: Knowledge co-creation positively affects project innovation.

2.3.7 Employee Voice Behavior as Mediator

In organizational research, the relationships between inspirational leadership, employee voice behavior, and project innovation have gained significant attention.

This literature review explores the role of employee voice behavior as a mediator in the connection between inspirational leadership and project innovation. Inspirational leaders influence employees to voice their ideas and concerns, ultimately contributing to innovative outcomes within project-based organizations (Botha & Steyn, 2023).

Employee voice behavior refers to the expression of ideas, suggestions, concerns, or opinions by employees regarding work-related matters (Siyal et al., 2023). Inspirational leaders empower employees by developing confidence and trust. This empowerment, coupled with safe environment, encourages employees to voice their ideas without fear. When employees feel valued and safe, they are more likely to share their innovative insights and contribute to project discussions (Detert & Burris, 2007).

The mediation of employee voice behavior in the relationship between inspirational leadership and project innovation leads to increased idea generation and creativity. Inspirational leaders who encourage employee voice create a culture that, leading to the development of innovative solutions and approaches within projects (Morrison, 2011).

The mediation of employee voice in the relationship between inspirational leadership and project innovation supports organizational learning and continuous improvement. By actively seeking and incorporating employee input, organizations can adapt their project management practices, learn from experiences, and enhance their innovation capabilities over time (Shin & Zhou, 2003).

Hypothesis: 7 Employee voice behavior mediates the relationship between inspirational leadership and project innovation.

2.3.8 Knowledge Co-creation as Mediator

The concept of innovation encompasses both a process and an outcome, representing the adoption of new ideas and behaviors. It holds particular relevance in the context of leadership behavior towards employees, as leaders have the power to influence and support the organization as a whole. When leaders recognize and

value their employees, they tend to exhibit more supportive attitudes. In fact, research suggests that empowering behaviors demonstrated by team supervisors are associated with increased support and a culture of courage for innovative projects throughout the organization (Scott & Bruce, 1994).

The creation of knowledge is a critical element that presents opportunities for projects to enhance their efficiency and maintain a competitive advantage. By incorporating new knowledge, projects can introduce novel products and improve existing ones more effectively (Kaltiainen & Hakanen, 2022). When management establishes challenging goals for projects, it triggers the process of knowledge creation, which naturally arises to address performance-related problems and stimulate change and innovation. This, in turn, leads to higher project performance (Von Krogh et al., 2012). Knowledge creation acts as a catalyst for innovation and performance improvement. When an organization sets ambitious goals, knowledge creation helps determine the necessary improvements to meet project performance and success criteria. The process of knowledge creation enables projects to leverage internally embedded knowledge and apply it to operational activities, thereby enhancing efficiency, performance, and value creation (Kaltiainen & Hakanen, 2022).

Setting challenging and distinct goals requires learning and knowledge creation to meet project performance standards. Such goals are demanding and uncertain, necessitating the exploration of new strategies to achieve desired outcomes (Sitkin, See, Miller, Lawless, & Carton, 2011). High employee motivation plays a significant role in performance. Motivated employees demonstrate a greater concern for their performance as they strive to align their knowledge, skills, abilities, and information integration with the demands of challenging goals (Ceesay, 2018). Knowledge creation not only pertains to the organization itself but also addresses the challenges that hinder project performance (Van Dierendonck & Nuijten, 2011). When a project-based organization initiates a new project, it is crucial to establish expedited and challenging goals that incorporate various strategic decision-making processes and knowledge creation spirals. These enable the integration and alignment of new and existing knowledge from different employees, ultimately enhancing performance and facilitating the development of new products (Kaltiainen & Hakanen, 2022).

Dynamic knowledge creation empowers firms to achieve strategic objectives, overcome challenging goals, and attain favorable performance through innovation . Project success is measured by stakeholder satisfaction and its alignment with organizational plans. Effective organizational practices have been suggested to contribute to project success. Leadership within the ethical domain is a crucial individual factor in project success (Van der Waal, Achterberg, Houtman, De Koster, & Manevska, 2010). Project success represents the organization's progress and demonstrates its achievements. The behavior of servant leadership plays a significant role in gaining a competitive edge in project success. Projects serve as influential strategic tools designed to create financial value and sustainable advantages. The success of a project depends on whether its outcomes align with the organization's calculated objectives. Selecting the right range of projects helps accomplish strategic objectives. A leader, whether leading people, a project, or a team, must possess charismatic, transformative, and problem-solving skills. They influence and motivate others, and their characteristics, qualities, behaviors, or powers have been extensively studied in leadership studies (Yuki et al., 2013). In project management, leadership is particularly important as it affects the project's completion time, cost, quality, and the attention given to the project team (Clarke & Braun, 2013). The appropriate leadership style, experience, knowledge, and qualities are crucial for project performance (Riaz, Shah, Afzal, & Khattak, 2022). These decisions need to be made in a timely manner, utilizing efficient resources and proper coordination. Maintaining a balance between project management elements is crucial.

Hypothesis 8: Knowledge co-creation mediates the relationship between inspirational leadership and project innovation.

2.3.9 Sequential Mediation of Employee Voice Behavior and Knowledge Co-Creation

The Sequential Mediation of Employee Voice Behavior and Knowledge Co-Creation in the Relationship between Inspirational Leadership and Project Innovation by (Wang et al., 2019) found that inspirational leadership is positively associated with

employee voice behavior, which in turn is positively associated with knowledge co-creation, and knowledge co-creation is positively associated with project innovation. The study also found that the relationship between inspirational leadership and project innovation is stronger when employee voice behavior and knowledge co-creation are both present.

The Mediating Role of Employee Voice Behavior and Knowledge Sharing in the Relationship Between Transformational Leadership and Innovation by (Arshi & Burns, 2018) found that transformational leadership is positively associated with employee voice behavior, which in turn is positively associated with knowledge sharing, and knowledge sharing is positively associated with innovation. The study also found that the relationship between transformational leadership and innovation is stronger when employee voice behavior and knowledge sharing are both present.

The Role of Inspirational Leadership in Promoting Employee Voice Behavior and Knowledge Sharing for Innovation by Javed et al. (2020) argued that inspirational leadership can promote employee voice behavior and knowledge sharing, which in turn can lead to innovation. The study found that inspirational leadership is positively associated with employee voice behavior and knowledge sharing, and both employee voice behavior and knowledge sharing are positively associated with innovation.

In recent years, it has become more and more clear how crucial inspiring leadership is to encouraging project innovation. The key to fostering project innovation is having inspirational leaders who can inspire their teams to actively contribute to knowledge co-creation and voice their ideas (Chang, Gong, & Shum, 2011). With an emphasis on the sequential mediating roles of employee voice behavior and knowledge co-creation, this literature review attempts to study the connections between inspiring leadership, employee voice behavior, knowledge co-creation, and project innovation. According to earlier research inspiring leadership and project innovation are positively correlated (Chang et al., 2011).

Inspirational leaders establish a shared vision, cultivate a supportive work environment, promote teamwork, and encourage risk-taking, all of which stimulate employees' creativity and innovation (Chang et al., 2011).

Furthermore, employee voice behavior has been found to have a positive impact on project innovation (Chen et al., 2020). When employees feel valued and heard, they are more likely to contribute their ideas and suggestions, leading to the emergence of novel and innovative solutions (Chen et al., 2020). Similarly, knowledge co-creation has been shown to be positively associated with project innovation (Chen et al., 2020). Through collaboration and knowledge sharing, employees can develop fresh insights and ideas, thereby fostering innovative solutions (Chen et al., 2020).

Research has also indicated that employee voice behavior and knowledge co-creation sequentially mediate the relationship between inspirational leadership and project innovation (Chen et al., 2020). Inspirational leaders create a supportive work environment that encourages employee voice behavior and knowledge co-creation. When employees engage in these behaviors, they are more likely to generate new and innovative ideas, ultimately contributing to project innovation (Chen et al., 2020).

Employee voice behavior holds significant importance in enhancing project performance within dynamic project environments (Aryee et al., 2015). This proactive behavior promotes workplace efficiency (Liang et al., 2012), challenges the status quo (Aryee et al., 2015), and is crucial for project innovation (Zhou et al., 2017). Projects that discourage employee input and suppress their voices risk low motivation and engagement (Agnihotri, 2017).

Projects and academics across a range of disciplines, including organizational behavior, human resource management, and industrial relations, have begun to pay more attention to the constructive character of employee voice behavior. (Song et al., 2020).

Initiative-taking, individual innovation, issue prevention, and employee voice behavior, among other proactive behaviors, are crucial for project growth and internal change processes, particularly in difficult times (Morrison & Phelps, 1999; Scott & Bruce, 1994; Frese & Fay, 2001). Voice behavior, a type of contextual performance, promotes project success by enhancing workplace social and psychological factors (Motowidlo et al., 1997).

Voice conduct is an example of change-oriented communication that aims to strengthen the status quo and endorse it, especially in the face of resistance from

coworkers (LePine & Van Dyne, 2001). To fully comprehend the causes and effects of vocal behavior, more study is required (Parker & Collins, 2010; Avery & Quiñones, 2002). Voice conduct is more important than other behaviors in the current competitive and unpredictably changing environment because it extends improvement-oriented concepts beyond top management (Detert & Burris, 2007).

Employee perception of justice, particularly procedural justice, is linked to their willingness to speak up and be heard by others (Avery & Quiñones, 2002). By drawing attention to issues and weaknesses in management policies, voice behavior helps overcome myopic decision-making and enhances project performance (Parker & Collins, 2010).

Voice behavior has a range of effects vital for improved project performance (Parker & Collins, 2010). Despite the increasing number of studies on voice behavior, the management discipline has paid relatively less attention to voice research. The concept of voice was defined and measured after 1994 when (Van Dyne & LePine, 1998) developed a scale to assess voice behavior, highlighting its importance in challenging the status quo and driving workplace change. Employee voice behavior plays a crucial role in helping management address pressing problems and find better approaches to task completion.

By utilizing voice behavior, employees effectively demonstrate their dedication to their work by expressing positive ideas and addressing work-related issues (Liang et al., 2012). Voice behavior contributes to project innovation, prevents work-related problems that hinder effectiveness, and maximizes opportunities (Madrid, 2020). Liang et al. (2012) differentiate between promotional voice (suggesting ideas for enhancing innovation) and restrictive voice (raising concerns about workplace practices).

Employees may utilize speech behavior to elevate their standing within the project, according to existing research (Weiss & Morrison, 2019). Employee voice behavior can lead to favorable evaluations (Burris, 2012), improved innovation performance, and increased unit-level learning (Mackenzie, Podsakoff, & Podsakoff, 2011).

While there is considerable evidence supporting the relationship between inspirational leadership, employee voice behavior, and project-level innovation, most

empirical research has focused primarily on the influence of leadership and employee voice on team and project-level innovations (De Jong & Den Hartog, 2010). However, it has been observed that individual innovativeness is crucial for project-level innovation, which is essential for a project's success (DiLiello & Houghton, 2006). It is important to acknowledge that employee input can drive innovation within initiatives (Amabile et al., 1996; Nybakk & Jenssen, 2012). Furthermore, projects are more likely to achieve higher levels of motivation, dedication, and employee engagement, leading to increased innovative work behavior if they create a positive work environment that employees perceive favorably. Engaged employees invest additional time, enhancing overall innovation (Macey & Schneider, 2008).

Hypothesis 9: Employee voice behavior and Knowledge co-creation sequentially mediate the relationship between inspirational leadership and project innovation.

2.3.10 Organizational Support

In the literature study, the top management's position is crucial since they help define initiatives and create teams (Boonstra, 2013). Over the past three decades, top management support (TMS) has received substantial research as a key factor influencing project performance (Ahmed & Azmi bin Mohamed, 2017; Young & Poon, 2013). It is regarded as one of the ten Critical Success Factors (CSFs) for attaining project objectives listed by (Pinto & Slevin, 1987). Additionally, management offers clear instructions to remove doubts and guarantee objective clarity as well as the financial, physical, and human resources required for the effective completion of project-related tasks and activities (H.-Y. Hsu, Liu, Tsou, & Chen, 2019).

It is common to refer to projects with significant top management support as "sacred cows" since they are less likely to fail (Iqbal, Long, Fei, & Bukhari, 2015; Meredith, Shafer, & Mantel Jr, 2017). According to Mahrous and Genedy (2018), top management support, also known as organizational support, is the motivation given to subordinates by upper management to promote entrepreneurial initiatives inside the business. TMS is defined by (Young & Jordan, 2008) as senior management's commitment to reviewing plans, monitoring performance, and resolving

management difficulties. This includes project sponsors/champions and the CEO. Furthermore, it is suggested by (Felekoglu & Moultrie, 2014) p. 159 that "involvement" and "support" from top management might be referred to as either "top management support" or "top management involvement."

By allocating resources, organizational support promotes an innovative culture inside a company (Jeong, Pae, & Zhou, 2006). Organizational support becomes crucial for a company to produce cutting-edge goods, improve its technological skills, and obtain a competitive edge. Without sufficient backing and resources, a company would find it difficult to create cutting-edge items and successfully compete in the market. Top management is essential to organizational decision-making and has a big impact on the entrepreneurial culture, which helps the adoption of entrepreneurial orientation succeed (van Doorn, Heyden, & Volberda, 2017).

Senior management teams are able to foster a climate that is favorable for new company endeavors because to their extensive knowledge and experience (Garrett Jr & Neubaum, 2013). The capacity of senior management to collect pertinent information from the external environment and filter it motivates them to be proactive, adventurous, and inventive while taking advantage of existing market chances (van Doorn et al., 2017).

Entrepreneurial initiatives result from scanning both internal and external organizational surroundings (Hornsby, Kuratko, Shepherd, & Bott, 2009). Top management also plays a key role in developing technology infrastructure to support technological advancements (Martín Rojas, González Álvarez, García Morales, & Garrido Moreno, 2014) and facilitates technology transfer throughout the organization (Byrd & Davidson, 2003). Organizational support promotes technological orientation, as highlighted by (Jeong et al., 2006). Technology involves adaptability and context-specific technology-use mediation or metastructuring, according to (Vargo, Wieland, & Akaka, 2015), who describe technology as potentially helpful information for tackling new or existing issues.

A methodology for assessing the behavioral aspects of top management support in strategic projects is provided by (Boonstra, 2013). This framework states that top management must assist the implementation process, adapt the organization

to new technologies through new work processes or structures, use their influence to settle disputes, and convince and negotiate with stakeholders to ensure timely resource allocation for successful project execution.

Similarly, Dong, Neufeld, and Higgins (2009) studied the behaviors of top management in IT project execution and concluded that different support behaviors have varying impacts on outcomes, necessitating contextual adjustments by top management. Often, top managers view projects from an operational perspective, showing limited concern for projects (Young & Poon, 2013). Top management should create procedures, methods, and structures that are appropriate for the project in order to fulfill project objectives (Ahmed & Azmi bin Mohamed, 2017).

The majority of existing research has been on top management support that is only one dimension and connected to project performance. The construct of TMS was examined by Ahmed and Azmi bin Mohamad (2016) using five dimensions, and they discovered a favorable correlation with project success. Amoako-Gyampah, Meredith, and Loyd (2018) looked into how top management commitment affects project success using the social capital theory. According to Iqbal et al. (2015), TMS improves the link between a project manager's transformative leadership and the success of the endeavor.

Zwikael (2008) identified six processes, such as competent project managers, effective communication with the organization, defining project success parameters, cross-functional project groups, resource planning, and project management software utilization, that have a greater impact on project success in the software sector.

In summary, top management not only formulates strategies and provides direction for the organization but also allocates resources to projects that add value (Talke, Salomo, & Kock, 2011). The premise of the proposed hypothesis is the observation that senior management is crucial in fostering an atmosphere that is receptive to creative ideas and supports entrepreneurial endeavors inside the firm (Johanna de Villiers-Scheepers, 2012). To foster an atmosphere favorable to new company endeavors, top management has valuable knowledge and experience (Garrett Jr & Neubaum, 2013). Their capacity to compile and sort pertinent information motivates them to be proactive, adventurous, and inventive while

grabbing market possibilities in a quickly changing environment (van Doorn et al., 2017). Top management is also essential in fostering organizational learning for performance improvement, supporting technology transfer, and establishing technological infrastructure (Martín Rojas et al., 2014; Byrd & Davidson, 2003; Jeong et al., 2006).

H6: Organizational support moderates the relationship between knowledge co-creation and project innovation; if Organizational support is high than the relationship between knowledge co-creation and project innovation would be stronger.

2.4 Research Model

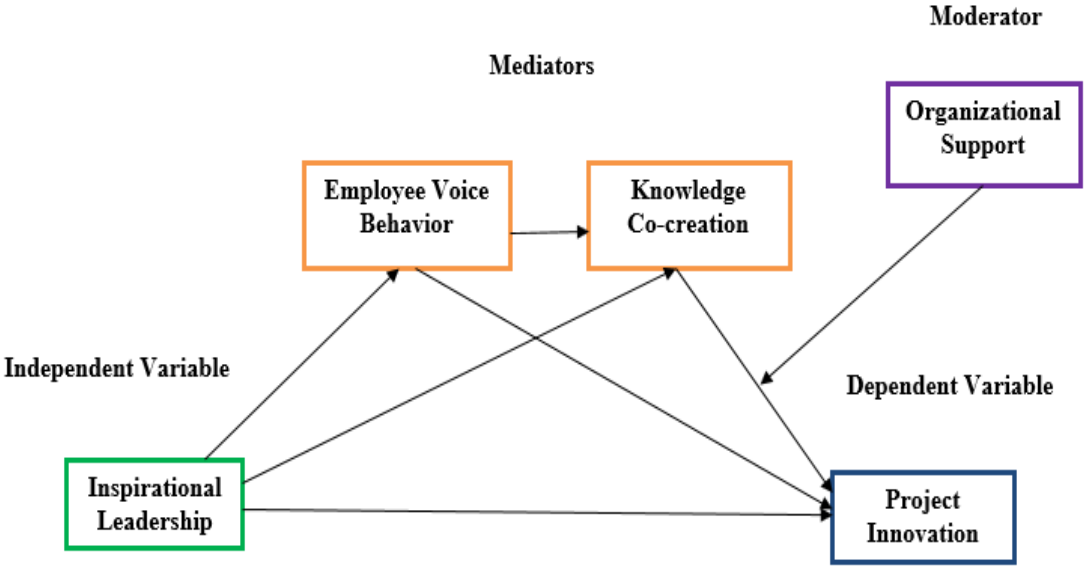


FIGURE 2.1: Research Model Presenting the Effects of Variables

Research Model of The impact of Inspirational Leadership on Project Innovation: Sequential Mediating role Employee voice behavior & Knowledge Co-creation, Moderating role Organizational Support.

2.5 Research Hypotheses

Hypothesis: 1

Inspirational Leadership (IL) is positively associated to Project innovation(PI).

Hypothesis: 2

Inspirational Leadership (IL) positively affects Employee voice behavior(EVB).

Hypothesis: 3

Inspirational Leadership (IL) positively affects Knowledge co-creation (KCC).

Hypothesis: 4

Employee voice behavior (EVB) positively affects Knowledge co-creation (KCC).

Hypothesis: 5

Employee voice behavior (EVB) positively affects Project Innovation (PI).

Hypothesis: 6

Knowledge co-creation (KCC) positively affects Project Innovation (PI).

Hypothesis: 7

Employee voice behavior (EVB) mediates the relationship between inspirational Leadership (IL) and Project Innovation (PI).

Hypothesis: 8

Knowledge co-creation (KCC) mediates the relationship between Inspirational Leadership (IL) and Project Innovation (PI).

Hypothesis: 9

Employee voice behavior(EVB) and Knowledge co-creation(KCC) sequentially mediate the relationship between inspirational Leadership(IL) and Project Innovation(PI).

Hypothesis 10 a:

Organizational support(OS) moderates the relationship between knowledge co-creation(KCC) and Project Innovation(PI); if Organizational support(OS) is high than the relationship between knowledge co-creation(KCC) and Project Innovation(PI) would be stronger.

Hypothesis 10 b:

Organizational support plays a mediated moderation role, with employees' voice behavior (EVB) and knowledge co-creation (KCC) influencing the dependent variable project innovation (PI). under the inspirational leadership(X).

Chapter 3

Research Methodology

3.1 Introduction

The study were utilize an adapted methodological framework to examine the relationship between inspirational leadership and project innovation, with employee voice behavior and knowledge co-creation acting as sequential mediators. This methodology section was cover the research design, population, and sample, measurement of variables, data analysis tools, and data collection methods.

3.2 Research Design

In order to test a theory, the primary method used is the research design, as stated by (Rubin, Poland, Lesser, Winston, & Blodgett, 1987). Research design defines the procedure and method for gathering and analysis the necessary information. In the current study, data were be collected from education project-based organizations located in the major cities of Pakistan.

3.2.1 Sampling Technique

In this research, a purposive sampling technique was being employed to collect data. To gather data from participants, we designed self-administered questionnaires using Google Forms and subsequently distributed them to various education sectors project team members. Survey questionnaires were be distributed to

employees and supervisors involved in various projects located in Islamabad and Rawalpindi.

The survey questionnaires were be exclusively filled out by education sectors project team members. To measure the variables of inspirational leadership, employee voice behavior, organizational support, and project innovation, all the items in the survey were be rated on a 5-point Likert scale. The scale were range from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to express their level of agreement or disagreement with each statement.

3.2.2 Time Horizon

A cross-sectional study, often referred to as a "one shot study," is employed to examine a particular phenomenon within a specific time frame. In this type of study, data is collected from respondents just once to address research questions. Due to limitations in both time and funding, a cross-sectional approach was chosen to collect the necessary data, which was successfully obtained within a relatively short period of two and a half months.

3.2.3 Unit of Analysis

The "unit of analysis" holds great importance in research as it defines the specific population segment from which study participants were be selected. In this context, the "unit of analysis" refers to the group of individuals that were being the focus of examination in the study. For this study my unit of analysis is project team members working in education sector. Overall, the selection of project team members of education sector is the "unit of analysis" in this study.

3.2.4 Research Philosophy

The successful application of the inspiring leadership style in education project-based organizations is the foundation of this study. According to positivism, information is only trustworthy if it is "factual" and comes from observation, including

measurement. The role of the researcher in positivist research is limited to obtaining information and evaluating it impartially. The study philosophy used in this research is positivism. It will bring positive result in the project-based organization .Since the definition of inspirational leadership is motivating team members to go above and beyond; project creativity will result from it.

3.3 Population and Sample

3.3.1 Population

Education project-based organizations in the public and private sectors are the demographic of interest for this study. The study's specific goal is to look at the value of innovative project ideas and inspirational leadership in education project-based organizations in Rawalpindi and Islamabad. Due to their high relevance and possible contribution to the study issue, these companies have been chosen.

3.3.2 Sample Size

Given the impracticality of gathering data from the entire population, a representative sample was being selected instead. The sample was serving as a subset that reflects the characteristics of the entire population, as defined by (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006). The population of interest in this study consists of all project team members working in education sectors. This method is chosen for its simplicity and efficiency in gathering data from a large number of individuals simultaneously. The sample size was 390, which is suitable according to rule of thumb (Sekran, 2003). The questionnaires were distributed in English. 450 project team members were approached for data collection, however 390 responses were received.

3.4 Demographics Data Results

In this study, the questionnaire was divided into separate sections to gather information about age, gender, experience, education, and job title. The participants

in the study were individuals in the education base project organizations. The following presents a more detailed breakdown of the sample characteristics:

3.4.1 Gender Distribution

Among Respondents Gender plays a significant role in the representation of males and females in society. Therefore, it was included as part of the demographic data in the survey. **Table 4.1** illustrates that 50.8 percent of the respondents identified as male, while 49.2 percent identified as female, based on the results.

TABLE 3.1: Gender Distribution

	Gender	
	Frequency	**Percent**
Female	198	50.8
Male	192	49.2
Total	390	100

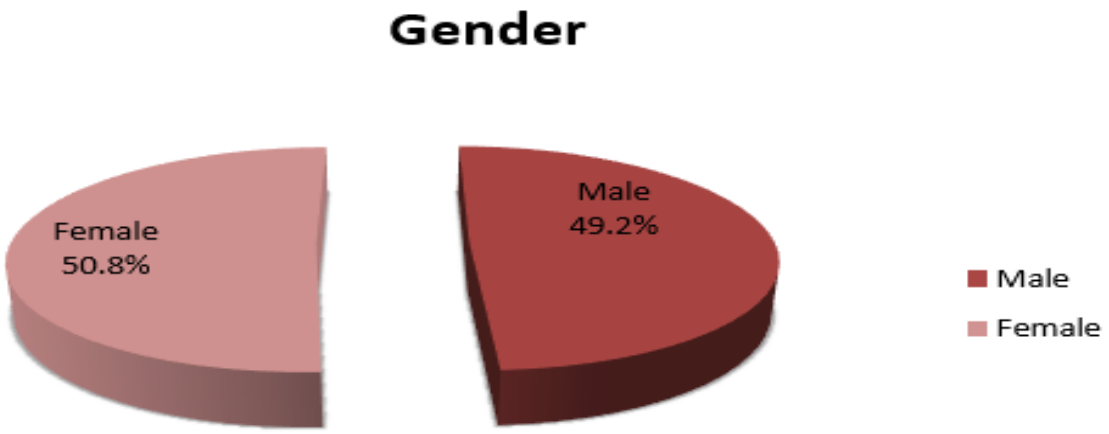


FIGURE 3.1: Gender Distribution

3.4.2 Age Distribution of Respondents

The age distribution of the respondents played a significant role in the compilation of demographic data for the survey. Out of the total respondents, 193 individuals, accounting for 49.5% of the sample, fell within the age range of 18 to 25. A total of 113 participants, representing 29.0% of the sample, were between the ages of 26 and 33. The survey captured responses from 42 of individuals aged 34 to

41. Respondents aged 42 to 49 constituted a mere 26 of the sample. The survey included only 16 individuals, making up 2% of the total sample, who were over the age of 50. Table 4.2 provides a detailed breakdown of respondents by age group.

TABLE 3.2: Distribution of Age

	Age	
	Frequency	**Percent**
18-25	193	49.5
26-33	113	29
34-41	42	10.8
42-49	26	6.7
50-above	16	4.1
Total	390	100

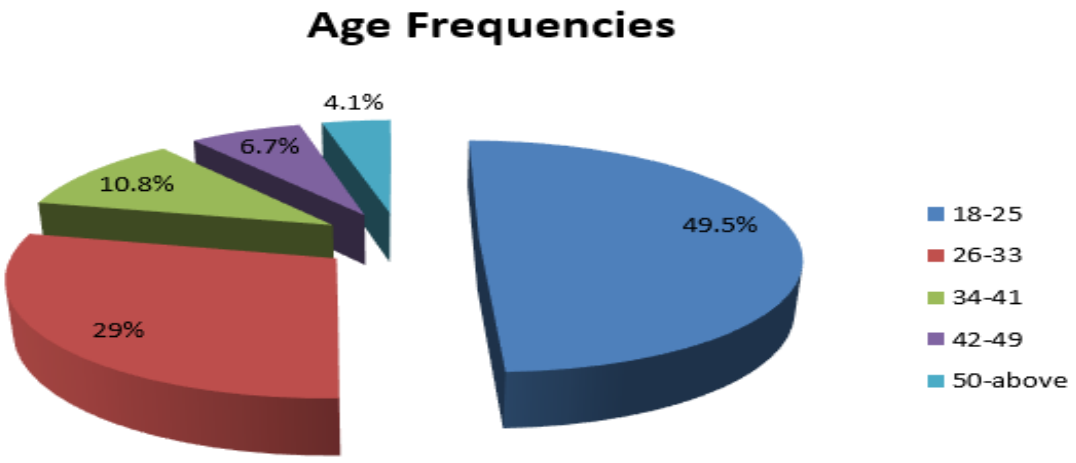


FIGURE 3.2: Age Distribution

3.4.3 Respondents' Experience

The respondents' experience serves as a valuable demographic factor as it shows a correlation with both project innovation and inspirational Leadership (IL). Out of the 390 participants, 234 (60%) had an experience of 5 years or less. Additionally, there were 106 respondents (27.2%) with an experience ranging from 6 to 13 years. The experience range of 14 to 21 accounted for 28 of the respondents, while the range of 22 to 29 represented 4.6%.

TABLE 3.3: Distribution of Respondents' Experience

	Experience	
	Frequency	**Percent**
5 and Less	234	60
06-13	106	27.2
14-21	28	7.2
22-29	18	4.6
30-above	4	1
Total	390	100

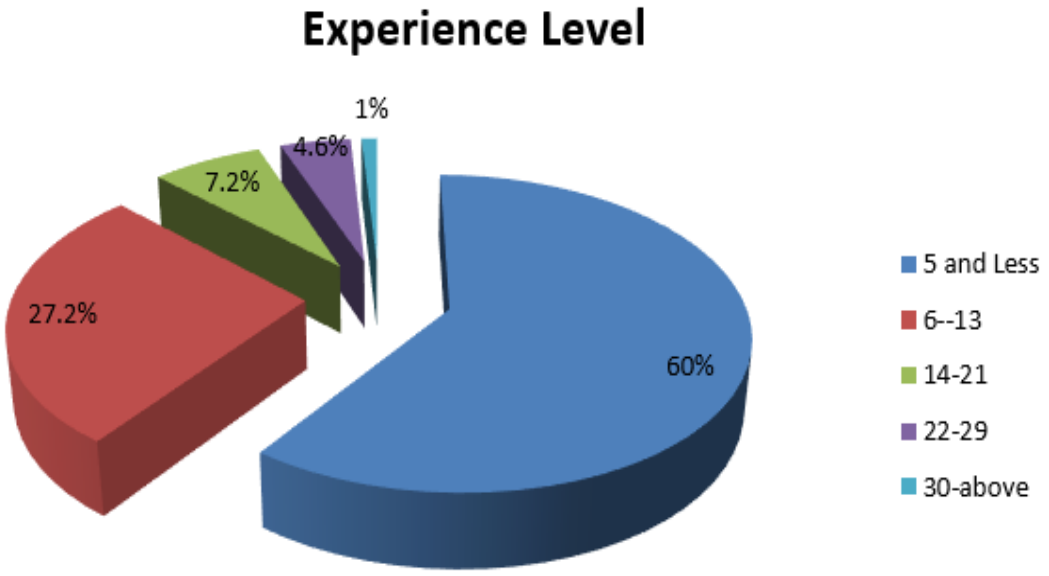


FIGURE 3.3: Distribution of Respondents' Experience

3.4.4 Qualifications of Respondents

Qualifications refer to attributes, qualities, or talents that make someone eligible for a particular job or task. Hence, this information falls under the demographics section. **Table 4.4** presents the educational background of the respondents, revealing that 1.6 percent held a Matric qualification, while 1.8 percent possessed a Bachelor's degree. The survey also included 49 respondents who held an MS/M.Phil. Degree, accounting for 12.6 percent of the total. Furthermore, 16 respondents, equivalent to 4.1 percent, held a Ph.D. degree.

TABLE 3.4: Respondent Qualification

	Qualification	
	Frequency	**Percent**
Matric	7	1.8
FA/Fsc	7	1.8
Bachelor	90	23.1
Master	221	56.7
MS/M.Phil	49	12.6
PhD	16	4.1
Total	390	100

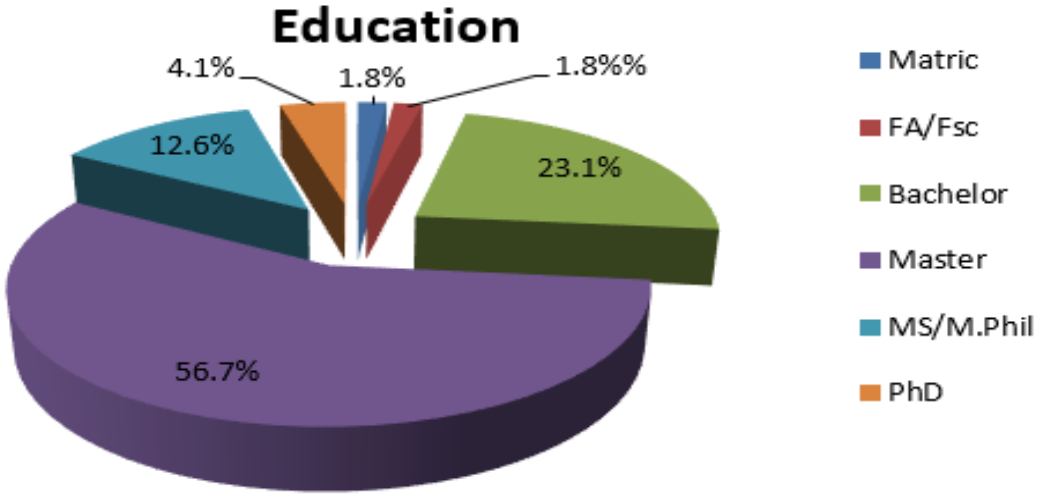


FIGURE 3.4: Respondent Qualification

3.5 Measurements

In this quantitative research, data collection was involved the use of closed-ended questionnaires. These questionnaires were comprised structured questions where participants were select responses from predefined options. The questionnaire will consist of six sections, and participants were required to complete all the questions within these sections. Respondents must rate each item on a 5-point Likert scale

(1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree).

These sections were consist on the following sections:

- Demographic Variables (Gender, Age, Qualification and Experience)
- Inspirational leadership
- Employee voice behavior
- Knowledge co-creation
- Project innovation
- Organizational support

3.5.1 Inspirational Leadership

To measure individual views of inspiring leadership, we used a modified version of (Bass & Stogdill, 1990) inspirational leadership questionnaire, especially the six-item version modified by (Spreitzer, De Janasz, & Quinn, 1999). This measure was previously used in a research titled "Getting everyone on board: The Role of Inspirational Leadership in Geographically Dispersed Teams," which was printed in the Journal of Organizational Science.

The items included in the 'inspirational leadership' section, as rated by employees, encompass statements such as: "My leader instills enthusiasm among team members regarding our assignments," "My leader encourages and values my ideas and opinions," "My leader possesses a strong sense of mission that he/she communicates to me," "My leader serves as an inspiration to me," "My leader motivates us with compelling visions of what we can achieve as a team," and "My leader fosters a belief that we can overcome any challenge by working together as a team."

3.5.2 Employee Voice Behavior

A six-item scale based on Van Dyne and LePine (1998) research was used to assess the voice behavior of employees. The study's participants were asked to assess the

degree to which they participate in helpful activities, such as offering suggestions and advice to their superiors or employers in an effort to foster creativity. The voice behavior-related items include things like: "I proactively develop and offer recommendations to my supervisor regarding work-related issues," "I encourage and motivate others in my work unit to participate in discussions about work-related matters," "I express my opinions about work-related issues to colleagues in my work unit, even when there are differing opinions or disagreements," "I stay well-informed about work-related issues where my perspective can be valuable," "I actively contribute to issues that impact the quality of work life in my unit," and "I share ideas with my supervisor for new projects or improvements to work procedures."

3.5.3 Project Innovation

The measurements of Project Innovativeness were being conducted using an instrument developed by (Akman & Yilmaz, 2008). The instrument consists of a total of six items, one of which is: "Our firm has an organizational culture and management understanding that supports and encourages innovation." Other items include statements such as: "At our firm, knowledge from various sources is efficiently and rapidly utilized for product/service development activities," "Workers in our firm are supported and encouraged to participate in activities related to product development, process improvement, and generating new ideas," "New ideas originating from customers, suppliers, etc. are continuously evaluated and integrated into product/service development activities," and "Our firm is capable of adapting to environmental changes quickly and effectively by making appropriate improvements and innovations in its products and processes." Participants were be asked to rate these items on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.5.4 Knowledge Co-creation

A seven-item scale, originally developed by Faraj and Sproull (2000), were be used to assess Knowledge co-creation. The scale includes statements such as: "Our team

members share their specialized knowledge and expertise with each other," "If a team member possesses specific knowledge about a task, they are likely to share it with others," "Team members exchange information, knowledge, and skills with one another," "Team members freely provide each other with rare or specialized knowledge," "Team members assist each other in developing relevant strategies," "Team members share a lot of information with one another," and "Team members offer numerous suggestions to one another." These items are designed to evaluate the extent to which knowledge is collaboratively created within the team.

3.5.5 Organizational Support

The Top Management Support scale utilized in this study is based on the work of (Carbonell, Rodríguez-Escudero, & Pujari, 2009). It consists of 4 items aimed at measuring the level of support provided by top management. Participants were be asked to rate their agreement with statements on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items from this scale include: "Top management supported the project," "Top management devoted a significant amount of time to the project," "Top management provided sufficient resources," and "Top management created an enthusiastic atmosphere." These items aim to assess the perception of support and involvement from top management in relation to the project under investigation.

3.6 Scale Summary

Table 3.5: Instruments

Variables	**Items**	**Source**
Inspirational Leadership	6	(Spreitzer et al., 1999).
Employee Voice Behavior	6	(Van Dyne & LePine, 1998)
Knowledge Co Creation	6	(Faraj & Sproull, 2000)
Organizational Support	4	(Carbonell et al., 2009)
Project Innovation	6	(Akman & Yilmaz, 2008)

3.7 Method of Analysis:

Data was gathered through survey questionnaires, and after collection of data, it was processed by using the Software Package for Social Science-20 (SPSS-21). The data analysis was carried out in SPSS-20 using the PROCESS macro by (Igartua & Hayes, 2021), including mediation, multimediation, mediation-moderation, and moderation-mediation.

The analysis included the following steps:

- Descriptive statistics were conducted to determine the frequency of demographic variables.
- Descriptive statistics were also applied to calculate the mean and standard deviation.
- Additionally, correlation analysis and reliability analysis were performed.
- Regression, moderation (87), and mediation (6) analyses were conducted using the PROCESS macro version 4.2 developed by Andrew F. Hayes.

Chapter 4

Results and Analysis

4.1 Techniques for Data Analysis

During the analysis, data from a sample of 390 respondents were gathered and evaluated. The statistical tools SPSS were used to analyses and evaluate the data. The analysis was performed using the following steps: After data collection, the information was analyzed using SPSS software version 26. The following steps were considered during the data examination:

1. Initially, only properly filled questionnaires were chosen for analysis.
2. Each variable's questionnaire was applied for data analysis.
3. Sample characteristics were explored through frequency tables.
4. Descriptive statistics were employed, using numerical values.
5. The reliability of all variables was assessed using Cronbach's alpha and AMOS is performed for the validity.
6. Correlation analysis was performed to determine the presence of a significant positive relationship between the variables in the research.
7. Single linear regression analysis of the dependent and independent variables was conducted to identify any recommended relationship.

8. To ascertain the role of mediator and moderator between the independent and dependent variables, Andrew F. Hayes Macro Process was utilized for mediation and moderation analysis.

9. The proposed hypotheses were tested for acceptance or rejection through regression using the Andrew F. Hayes Macro Process method.

4.2 Reliability of Scale

Reliability serves as a prerequisite for validity and is defined by Walsh and Betz (1995) as the correlation of items. Several methods are employed to evaluate reliability, including internal consistency, test-retest reliability, inter-rater reliability, and split half reliability. Cronbach's alpha is utilized to assess the internal consistency of instruments (Gefen, Straub, & Boudreau, 2000). Another measure of internal consistency reliability is composite reliability (Werts, Rock, Linn, & Jöreskog, 1978). Larger values of Cronbach's alpha indicate higher reliability, if Cronbach's alpha is > 0.9 were consider excellent, , if Cronbach's alpha is > 0.8 were consider good,if Cronbach's alpha is > 0.7 were consider acceptable.

TABLE 4.1: Exhibit Reliability Values

Variables	**Items**	**Cronbach's alpha(α)**
Inspirational Leadership	6	0.89
Employee Voice Behavior	6	0.85
Knowledge Co Creation	6	0.88
Organizational Support	4	0.87
Project Innovation	6	0.84

The Inspirational Leader exhibits a Cronbach's alpha value of 0.89, which is greater than 0.7. This high Cronbach's alpha score of 0.89 indicates a stronger level of internal consistency, indicating a strong presence of inspiration in their leadership.

The Employee Voice Behavior exhibits a Cronbach's alpha value of 0.85, which is greater than 0.7. This high Cronbach's alpha score of 0.85 indicates a stronger level of internal consistency. The Knowledge Co Creation exhibits a Cronbach's alpha value of 0.88, which is greater than 0.7.This high Cronbach's alpha score of 0.88indicates a stronger level of internal consistency. The Organizational Support exhibits a Cronbach's alpha value of 0.87 which is greater than 0.7.This high Cronbach's alpha score of 0.87 indicates a stronger level of internal consistency. The Project Innovation exhibits a Cronbach's alpha value of 0.84, which is greater than 0.7. This high Cronbach's alpha score of 0.84indicates a stronger level of internal consistency

To examine the internal consistency of instruments, composite reliability is utilized. Composite reliability's cutoff value is 0.7 (Gefen et al., 2000). Next, the reliability of internal consistency is evaluated using composite reliability (Werts et al., 1978). Larger numbers imply greater reliability, with values of 0.60 to 0.70 deemed acceptable, 0.70 to 0.90 excellent to good, and 0.95 and higher problematic due to the duplication of the items and decreased concept validity (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012). Similarly, reliability is also tested using the Average Variance Extracted (AVE). In order to be reliable, the AVE should be greater than 0.5.

TABLE 4.2: Reliability Statistics CA, CR and AVE

Measures	**CA**	**CR**	**AVE**
EVB	0.766	0.827	0.525
KCC	0.796	0.855	0.579
OS	0.789	0.856	0.674
IL	0.894	0.879	0.622
PI	0.842	0.888	0.641

CA= Cronbach's alpha, CR= Composite Reliability and AVE= Average Variance Extracted.

4.3 Validity Analysis

Confirmatory factor analysis, or CFA through the AMOS, was used to verify the theoretical framework.

4.3.1 Confirmatory Factor Analysis

AMOS 26 was used to assess the measurement model in this investigation. The measuring model also has a degree of freedom and a chi-square static value. Indexes of comparative fit presume show all latent variables have no connection. The value should Between 1 and 3, shows a good model fit.

TABLE 4.3: CFA of Measurement Model

Measure	**Estimate**	**Threshold**	**Interpretation**
CMIN	775.038	–	–
DF	340	–	–
CMIN/DF	2.28	Between 1 and 3	Excellent
CFI	0.96	>0.95	Excellent
SRMR	0.048	<0.08	Excellent
RMSEA	0.057	<0.06	Excellent
PClose	0.012	>0.05	Acceptable

4.4 Measurement Model

CFA must be carried out in order to validate the suggested model (Anderson & Gerbing, 1988). Five latent variables comprise the proposed model: Inspirational Leadership, Employee voice behavior, knowledge co creation, and project Innovation. A decent fit statistic was found by combining several fit indices.

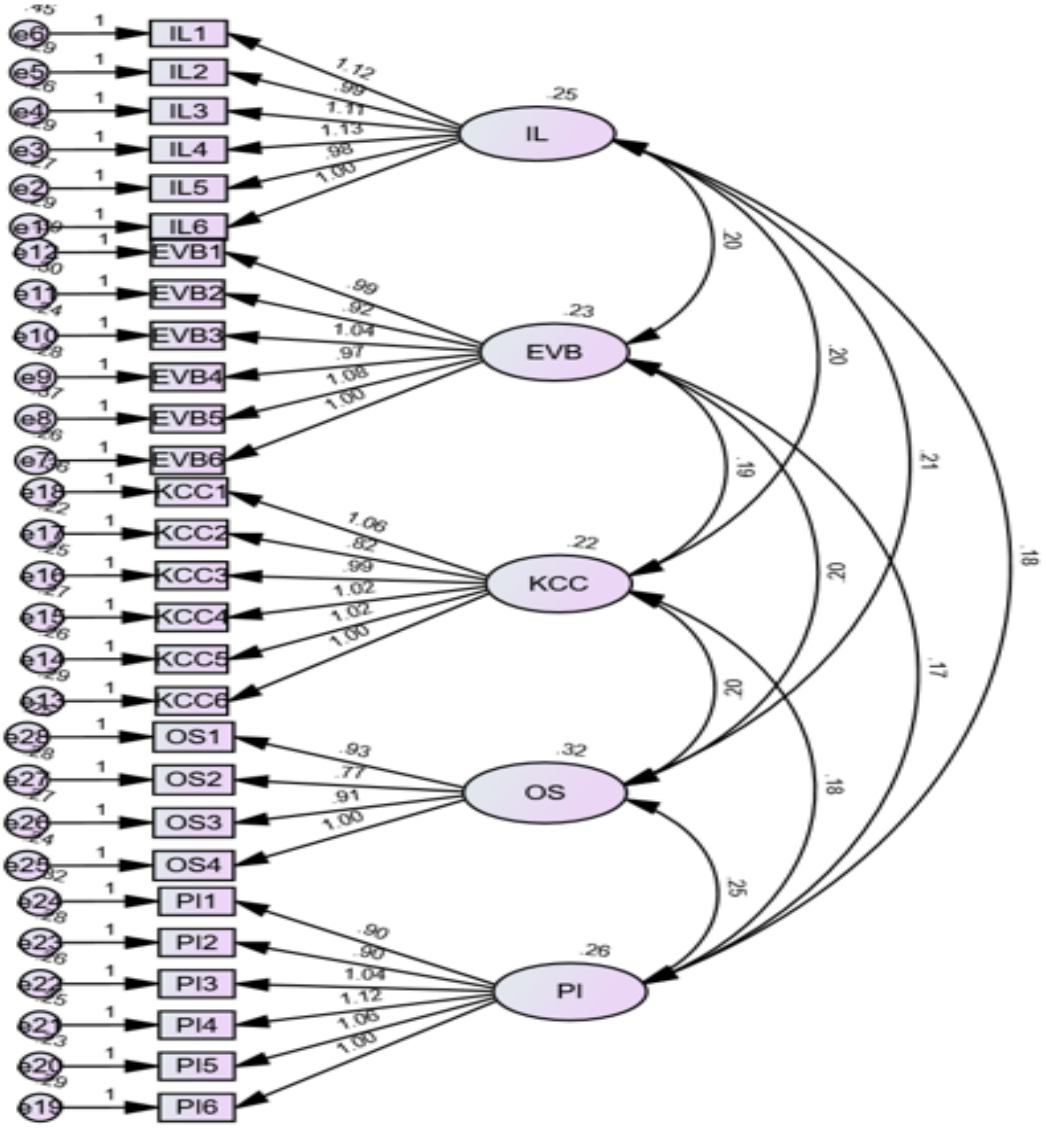


FIGURE 4.1: Measurement Model

Various model fit indices, Comparative Fit Index (CFI), and Root Mean Square of Error Approximation (RMSEA), can be used to assess the quality of a model's fit. Table displays the results for the model fit indices. It was found that the values of CF1 = 0.96, which indicate strong model fit, which is >0.95.

Similarly, high model fitness was demonstrated by RMSEA = 0.057 and, in accordance with the recommended values of prior research, Standardized Root Mean Squared Residual (SRMR) = 0.048 shows high model fitness (Hair et al., 2006; Vieira, 2011; Hu & Bentler, 1999; Tanaka & Farah, 1993). Every fit index is over the cutoff standards. As a result, it appears that the structural model fits well and may be applied to inferential statistics.

4.5 Descriptive Statistics

Descriptive statistics provide us with comprehensive information about the collected data. They include measures such as the mean, median, upper and lower limits, standard deviation (SD), and the number of questionnaires used in the study. In this context, the mean, also known as the "average," indicates the degree of agreement or disagreement among respondents regarding the study's findings. Higher mean values suggest a tendency for strong agreement, while lower mean values indicate a tendency for strong disagreement.

The standard deviation (SD) is a calculated statistic that indicates the dispersion or concentration of the data around the mean. It represents the extent to which responses deviate from their mean values.

The answers are presented in a tabular format, providing a descriptive summary of all variables, including Inspirational Leadership (IL), Employee Voice Behavior (EVB), Knowledge co creation (KCC), and Project Innovation (PI). Table 4.6 displays the fundamental data for these variables.

Table 4.4: Descriptive Statistics

	N	**Min.**	**Max.**	**Mean**	**Std. Dev.**
Inspirational Leadership	390	1	5	4.1231	0.57159
Employee voice Behavior	390	1	5	4.1932	0.53084
Knowledge co Creation	390	1	5	4.2043	0.50562
Organizational Support	390	1.25	5	4.1583	0.56893
Project Innovation	390	1	5	4.1453	0.54957

The minimum and maximum values of a five-point scale can be found in **Table: 4.6**, which also provides the minimum, maximum, mean, and standard deviation for the entire sample.

Based on the information provided, there are 390 participants in the sample. The average amount of Inspirational Leadership (IL) in the table is 4.1231, with a

maximum value of 5.00, a minimum value of 1, and a standard deviation of. 0.57159. These statistics suggest that employees agree that IL has an impact on the Project innovation. The mean of EVB is 4.1932, and the standard deviation is. 0.53084.

Similarly, Knowledge co creation (KCC) has a mean value of 4.2043, a minimum value of 1, a maximum value of 5.00, and a standard deviation of 50562. This indicates that employees believe KCC also has an impact on the Project innovation, as supported by the data.

Furthermore, the mean value of Organizational support (OS) in the table is 4.1583, with a minimum value of 1.25, a maximum value of 5.00, and a standard deviation of. 0.56893.

In summary, the provided statistics demonstrate the values and relationships between Inspirational Leadership (PL), Employee Voice Behavior (EVB), Knowledge co creation (KCC), and their impact on the Project innovation (PI) of education project employees.

4.6 Analysis of Correlation

Correlation is a statistical technique used to assess the connection between two variables. The aim of this study is to examine the relationship between Inspirational Leadership (IL) and project innovation (PI), with Employee Voice Behavior (EVB) and Knowledge co creation playing a sequential mediating role and organizational support (OS) acting as a moderator. Correlation analysis considers variations across arrangements, regardless of whether they change simultaneously or not. It determines the significance and strength of a relationship using Pearson correlation values.

The Pearson correlation coefficient assigns a value ranging from -1.0 to +1.0. A value close to zero indicates little to no relationship between the variables. A positive value above zero suggests a strong and positive relationship, indicating that both variables move in the same direction. An increase in one variable was lead to a significant increase in the other. On the other hand, a negative value implies

that the constructs move in opposite directions, indicating indirect interactions between the variables.

In the present study (N=390), a significant correlation at the 0.01 level (2-tailed) was found. **Table 4.11** illustrates the correlation findings: Inspirational Leadership (IL) and Employee voice behavior (EVB) have a positive and significant association with a correlation coefficient of r = .708**at p < 0.01.

IL exhibits a positive and significant relationship with KCC, with a correlation coefficient of r = .714**at p < 0.01.

IL and OS demonstrate a positive and significant relationship, with a correlation coefficient of r =.620**at p < 0.01.

EVB shows a significant and positive relationship with KCC, with a correlation coefficient of r = .719**at p < 0.01. EVB also exhibits a significant and positive relationship with OS, with a correlation coefficient of r =.601**at p < 0.01. EVB has a positive relationship with PI, with a correlation coefficient of r = .595**at p < 0.01.

These findings indicate that the variables in question have significant relationships with each other, supporting the study's objectives.

Table 4.5: Analysis of Correlation

S.NO	**1**	**2**	**3**	**4**	**5**
1 IL	1				
2 EVB	.708**	1			
3 KCC	.714**	.719**	1		
4 OS	.620**	.601**	.605**	1	
5 PI	.628**	.595**	.628**	.734**	1

4.7 Regression Analysis

A regression analysis was conducted to establish causal relationships between variables. This analysis helped us understand the frequency with which the independent variable affects the dependent variable.we investigated the impact of "Inspirational Leadership" (IL) on the "Project Innovation" (PI) of project employees in

the education base project of Pakistan. Linear or simple regression was employed to examine the project.

4.7.1 Direct Effect of "Inspirational Leadership" (IL) on the "Project Innovation" (PI)

In the first step the relationship between the "Inspirational Leadership" (IL) and "Project Innovation" (PI) is considered, this is known as the path "c" in my case this is the direct effect of "Inspirational Leadership" (IL) and "Project Innovation" (PI).

Table given below the variable of Inspirational Leadership is denoted by alphabet "X" and Project Innovation is denoted by alphabet "Y"

Table 4.6: Direct Effect of X on Y

Predictor	**Effect**	**SE**	**t**	**p**	**LLCI**	**ULCI**
X to Y	0.2844	0.0554	5.1365	0.0000	0.1755	0.3239

Results show that p-value is 0.000 which is less than 0.05; hence we say that there is a significant relation between Inspirational Leadership (IL) and Project innovation (PI). Furthermore, the beta value is positive which indicates the positive relationship between knowledge-based HRM and Project Performance. hence, the hypothesis 1 is accepted, which is stated as below;

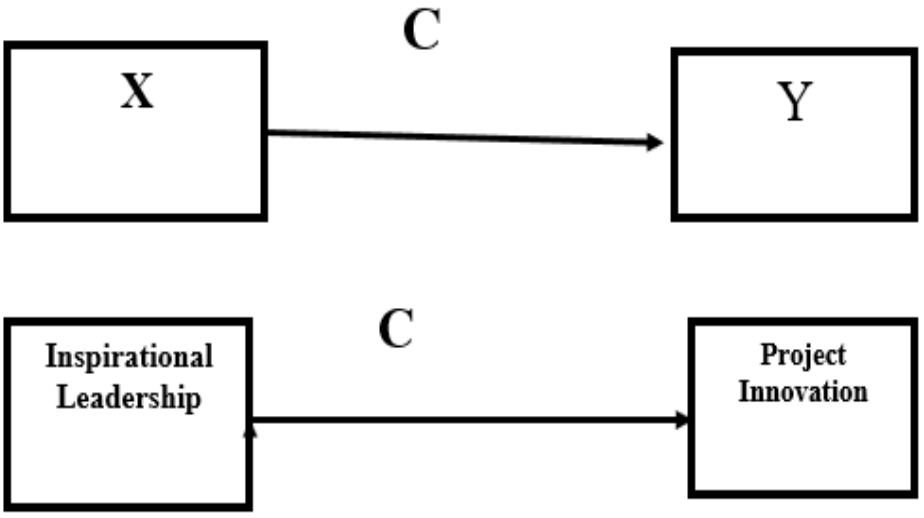
H1: There is a positive association between Inspirational Leadership (IL) and Project innovation (PI) among education base project.

Table 4.7 presents the coefficient results, indicating that the beta value is .628. This signify that a one-unit change in the independent variable 'IL' corresponds to a .628 unit change in the dependent variable 'PI'. Furthermore, the positive beta value suggests a positive relationship between IL and PI.

H1: There is a positive association between Inspirational Leadership (IL) and Project innovation (PI) among education base project.

The current research study focuses on the variable inspirational Leadership (PL) denoted as X, and its impact on the project innovation (PI) of project employees

denoted as Y. X is considered as the input variable, while Y represents the outcome variable. A visual representation of the model is presented below:



4.8 Mediation Analysis

To evaluate the mediation between inspirational leadership (independent variable) and project innovation (dependent variable) of employees, we utilized Preacher and Hayes' model 6 in SPSS. Mediation testing helps determine if the mediators (employee voice behavior and knowledge co creation) mediate the relationship between the independent and dependent variables. In our proposed study, inspirational leadership is the independent variable (X), project innovation is the dependent variable (Y), an In conducting the mediation analysis, we examined the following relationships:

Path a: The impact of inspirational leadership (X) on employee voice behavior (M).

Path b: The impact of employee voice behavior (M) on knowledge co creation(Y).

Path c: The direct effect of inspirational leadership (X) on project innovation).

Path d: The combined effect of inspirational leadership (X) on project innovation (Y) when considering the mediators (M).Indirect effect: The indirect effect of inspirational leadership (X) on project innovation(Y) through the mediators (M).

Effect of First Mediator Employee Voice Behavior M1 Only

Figure shows the mediating model with only first mediator M1 i.e. Employee Voice Behavior.

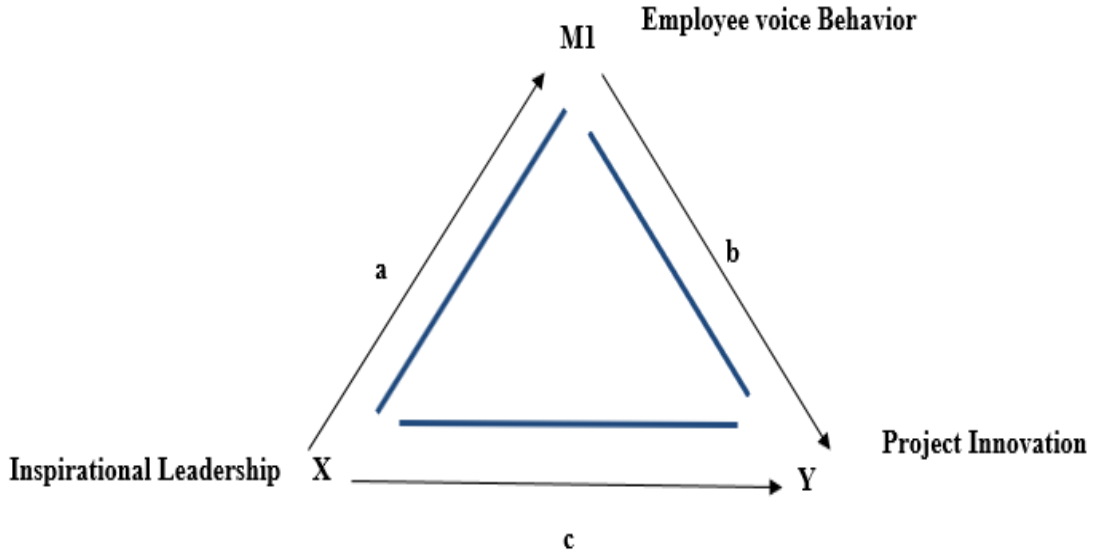


FIGURE 4.2: Mediated Model with one Mediator M1 (Employee voice Behavior

The coefficients of the path a, b, and c with only one mediator M1 are shown in the **Figure 4.5**. The results of mediation test with one mediator of M1 (Employee voice Behavior) are shown in **Table 4.8**.

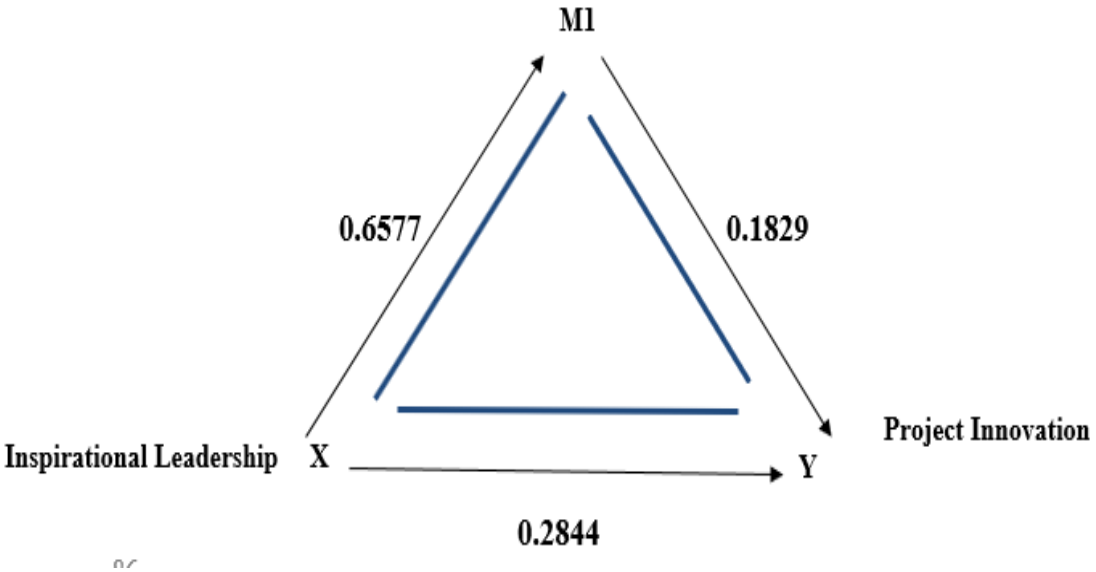


FIGURE 4.3: Mediated Model with one Mediator M1 (Employee voice Behavior)

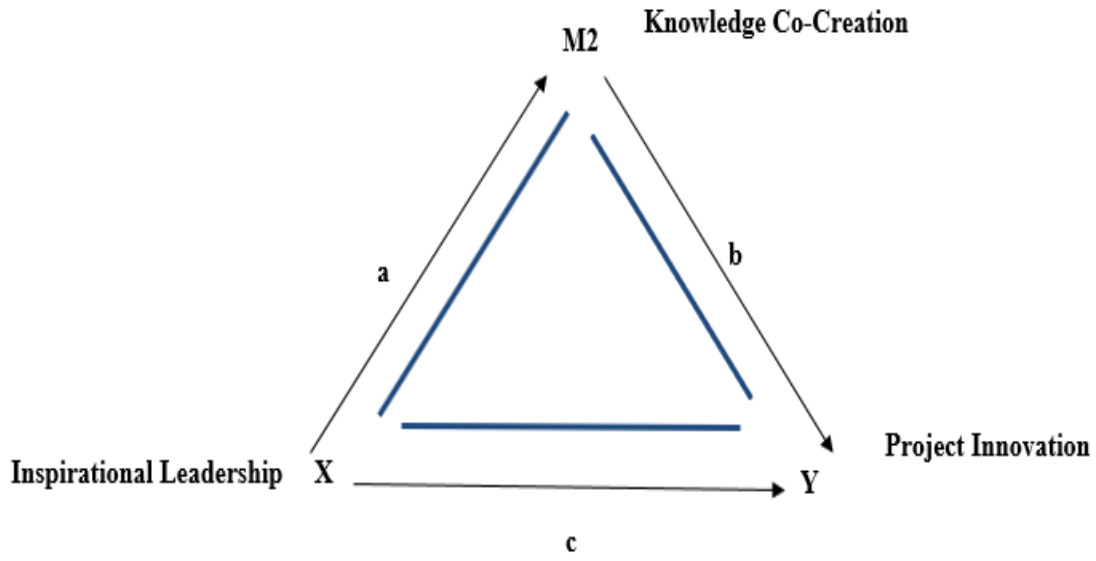
4.8.1 Meditation Results

Table 4.7: Effect of one Mediator M1 (Employee voice Behavior)

IV	**Effect of IV ON M1**	**Effect of M1 on M2**	**Effect of M1 ON DV**	**Direct Effect**	**Total Effect**	**Bootstrapping Result for Indirect Effect**	
						LLCI 95%	**ULCI 95%**
Inspirational Leadership	0.6577	0.409	0.1829	0.2844	0.6034	0.5923	0.7232

Effect of second Mediator Knowledge Co-Creation M2 Only

Figure shows the mediating model with only second mediator M2 i.e. Knowledge C0-Creation



The coefficients of the path a, b, and c with only one mediator M2 are shown in the figure 4.9. The results of mediation test with only second mediator of M2 (Stakeholder Satisfaction) are shown in **Table 4.9**.

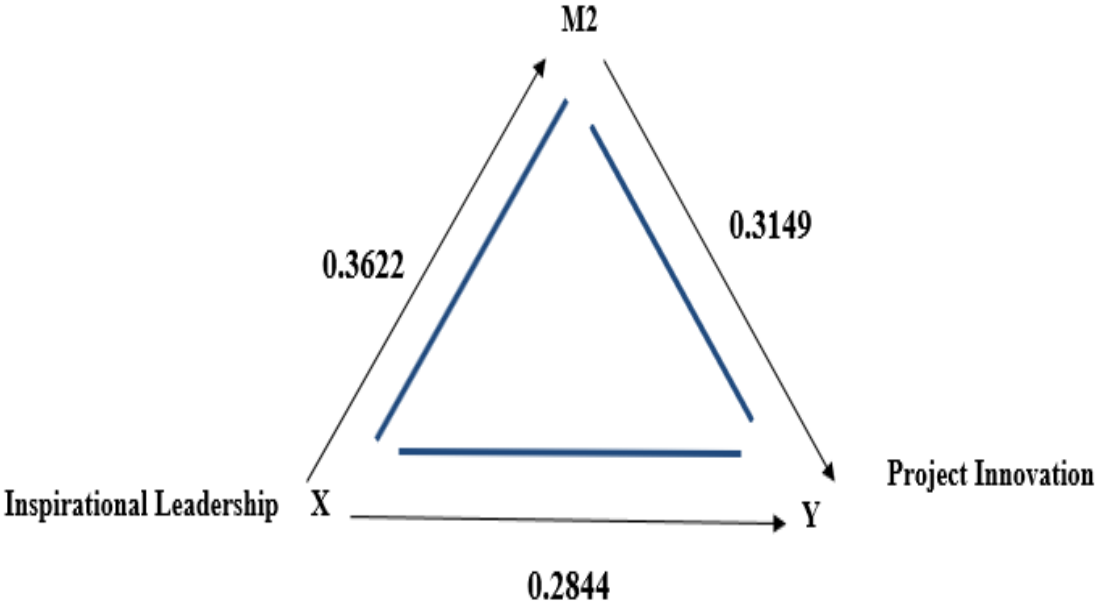


FIGURE 4.4: Mediated Model with one Mediator M2 (Knowledge Co-Creation)

Table 4.8: Effect of second Mediator Knowledge Co-Creation M2 Only

Iv	**Effect of IV ON M2**	**Effect of M2 ON DV**	**Direct Effect**	**Total Effect**	**Bootstrapping result for indirect Effect**	
					LLCI 95%	ULCI 95%
Inspirational Leadership	0.3622	0.3149	0.2844	0.6034	0.5923	0.7232

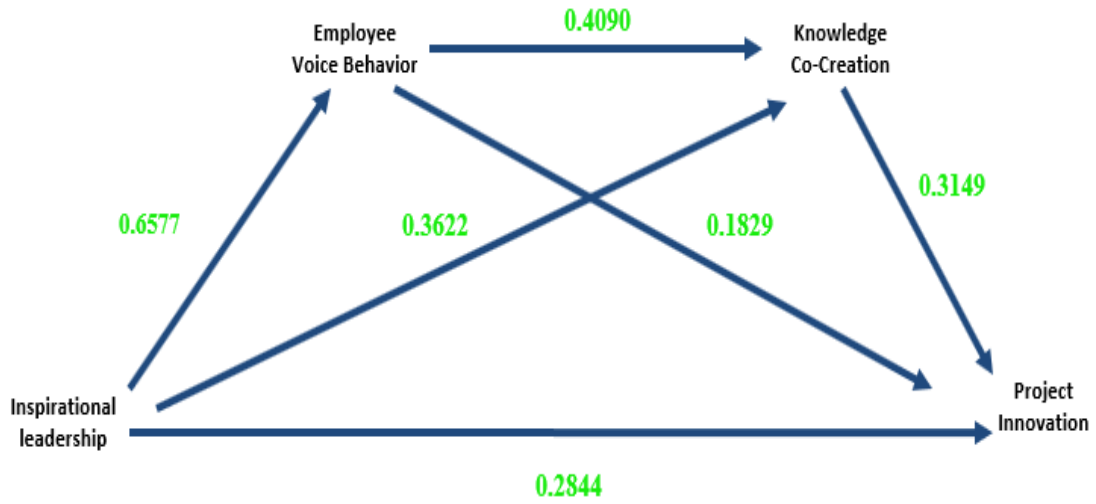


FIGURE 4.5: Coefficients of Mediated Model with both Mediators

To test the mediation of both mediators Employee Voice Behavior (M1) and Knowledge Co-Creation (M2) in serial and in stated sequence between Inspirational leadership (IV) and Project Innovation (DV) Model 6 provided in Process procedure documentation was used (Hayes & Scharkow, 2013). 95 percent confidence interval and 5000 bootstraps are used in the analysis < 0.05 (two-tailed).

Hypothesis: 1

Inspirational leadership is positively associated to Project innovation.

Firstly, the results indicate a significant positive impact of inspirational leadership (IL) on project innovation (PI) (X $\rightarrow$ DV, $\beta = 0.2844$, p < 0.001). This confirms hypothesis 1, which states that Inspirational leadership is positively associated to Project innovation.

Hypothesis: 2

Inspirational leadership positively affects Employee voice behavior

The results indicate a significant positive impact of inspirational leadership (IL) on employee voice behavior (EVB) (X $\rightarrow$ M, $\beta = 0.6577$, p < 0.001). This confirms hypothesis 2, which states that Inspirational leadership is positively associated with employee voice behavior in the education base project.

Hypothesis: 3

Inspirational leadership positively affects Knowledge co-creation.

The analysis reveals a significant and favorable influence of inspirational leadership on knowledge co creation (KCC) $\beta = 0.3622$,p < 0.001). This indicating a positive association between inspirational leadership and knowledge co creation of education base employees.

Hypothesis: 4

Employee voice behavior positively affects Knowledge co-creation

The analysis reveals a significant and favorable influence of Employee voice behavior on knowledge co creation (KCC) $\beta = 0.4090$, p < 0.001). This indicating a positive association between Employee voice behavior and knowledge co creation of education base employees.

Hypothesis: 5

Employee voice behavior positively affects project innovation.

The results indicate a significant positive impact of Employee voice behavior (M1) on project innovation (EVB $\rightarrow$ PI, $\beta = 0.1829$, p < 0.001). This confirms hypothesis 5, which states that Employee voice behavior positively affects project innovation

Hypothesis: 6

Knowledge co-creation positively affects project innovation

The results indicate a significant positive impact of Knowledge co-creation (KCC) on project innovation (KCC $\rightarrow$ PI, $\beta = 0.3149$, p < 0.001). This confirms hypothesis 6, which states that Knowledge co-creation positively affects project innovation

4.8.2 Indirect Effects

Mediation analysis is performed to test the impact of the mediation variable (EVB) and (KCC) among IL and PI. Model 6 has been applied for mediation analysis in the SPSS Process macro. 95 percent confidence interval and 5000 bootstraps are used in the analysis.

The indirect influence of inspirational leadership on project innovation is depicted in Table.

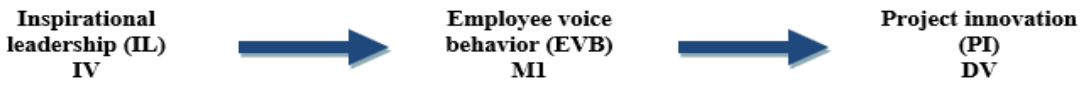


TABLE 4.9: Indirect Effect

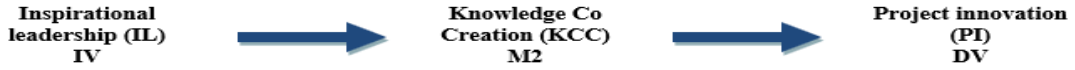
	Effect	BootSE	P	Boot LLCI	Boot ULCI
IL-EVB-PI	0.1203	0.0597	0	0.0053	0.244
CI95%					

Standardized regression coefficients, Standard Error, and P$¡$0.001

The findings indicate that the overall impact of inspirational leadership on project innovation through employee voice behavior is β=0.1203 P>0.05. The fact that ULCI and LLCI results did not contain zero according to the bootstrap results demonstrated the importance of the findings and supported our hypothesis that

Hypothesis: 7

Employee voice behavior mediates the relationship between inspirational leadership and project innovation



The indirect influence of inspirational leadership on project innovation is depicted in Table.

TABLE 4.10: Indirect Effect

	Effect	BootSE	P	Boot LLCI	Boot ULCI
IL-KCC-PI	0.1141	0.0451	0	0.0343	0.2079
CI95%					

Standardized regression coefficients, Standard Error, and P$¡$0.001

Standardized regression coefficients, Standard Error, and P<0.001.

The findings indicate that the overall impact of inspirational leadership on project innovation through knowledge co creation is β=0.1141P>0.05. The fact that ULCI and LLCI results did not contain zero according to the bootstrap results demonstrated the importance of the findings and supported our hypothesis that:

Hypothesis: 8

Knowledge co-creation mediates the relationship between inspirational leadership and project innovation.

Sequential mediating role of employee voice behavior and knowledge co creation: **Table 4.11** illustrates the findings regarding the Sequential mediating role of employee voice behavior and knowledge co creation between inspirational leadership (IL and Project innovation (PI) in the context of education base projects.

TABLE 4.11: Sequential mediating role of employee voice behavior and knowledge co creation

Total Effect	**Direct Effect**	**Relationship**	**Indirect Effect**	**Confidence interval**	
0.6034	0.2844	IL EVB KCC PI	0.0847	LLCI	ULCI
				0.0302	0.163

The results revealed a significant indirect effect of inspirational leadership on project innovation through sequential mediation of employee voice behavior and knowledge co creation (b=0.0847, LLCI=0.0302, ULCI=0.1630). ULCI and LLCI results did not contain zero according to the bootstrap results demonstrated the importance of the findings.

Based on total, direct, and indirect effects results it could be concluded that the sequential mediation of EVB and KCC exists in the connection between IL and PI. As a result, Hypothesis9 is accepted.

Hypothesis: 9

Employee voice behavior and Knowledge co-creation sequentially mediate the relationship between inspirational leadership and project innovation These results suggest that inspirational leadership has both a direct and an indirect effect on

project innovation. Therefore, hypotheses are accepted, indicating that inspirational leadership is positively linked to project innovation, with employee voice behavior and knowledge co creation sequentially mediating this relationship.

In summary, the findings support the hypotheses and demonstrate that inspirational leadership positively influences employee voice behavior and knowledge co creation, which, in turn, positively affects project innovation. This signifies the importance of inspirational leadership in fostering employee engagement, voice, and ultimately, project innovation in the education base project.

4.9 Moderation Analysis

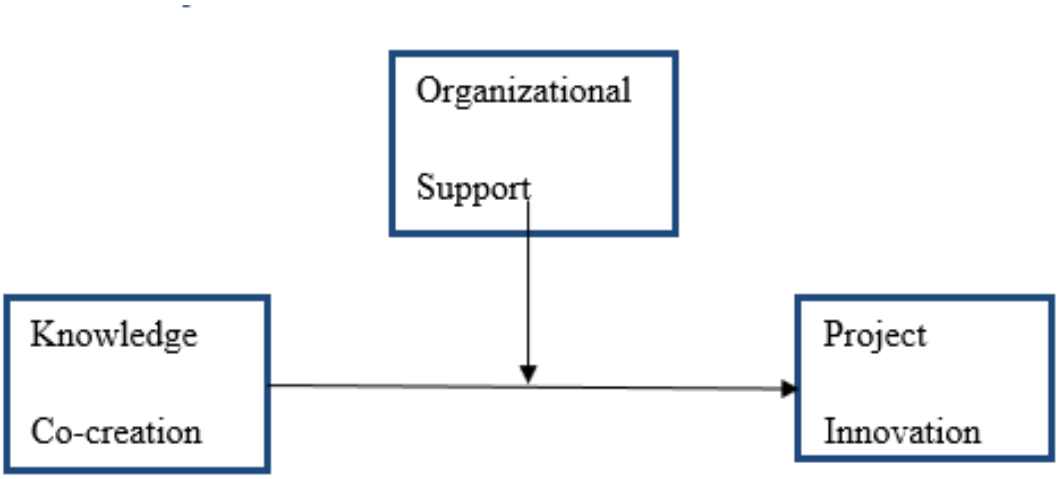


FIGURE 4.6: Moderation Effect

TABLE 4.12: Moderation Analysis

	B	**SE**	**T**	**P**
Int-term 1	-0.0903	0.0314	-2.8795	0.0119
			ULCI	
		LLCI		
Bootstrap for int- term 1		-0.152	-0.0286	

To assess the impact of the moderator (V) knowledge co creation (M) and project innovation (x), we conducted statistical analyses using Process macro V4.2 by Andrew F. Hayes's Model 87 in the SPSS software. The purpose was to examine the

moderating effect of Organizational Support between the mediator (M2) Knowledge Co-Creation and the dependent variable (Y) Project Innovation, indicated by unstandardized regression coefficients. The sample size was N=390, and statistical significance was denoted as *p<0.05, with a 95% confidence interval (LLCI & ULCI).In Table, the beta value was -0.O903, and the p-value was significant. This indicates a significant relationship between the dependent variable (PI) and the mediator (KCC), but in the opposite direction. Specifically, it suggests that organizational support (OS) moderates the relationship between knowledge co creation (KCC) and project innovation (PI) but in a negative manner, as indicated by the negative beta value. However, inspirational leadership (PL) directly and positively affects the mediator knowledge co creation (KCC). Therefore, we accept Hypothesis but in the opposite direction as proposed in this study.

Hypothesis 10 a:

Organizational support moderates the relationship between knowledge co-creation and project innovation; if Organizational support is high than the relationship between knowledge co-creation and project innovation would be stronger.

TABLE 4.13: Conditional Indirect effect of X on Y at value of Moderator

Index of Mediated Moderation				
OS	Index	SE (Boot)	Boot LLCI	Boot ULCI
	-0.0243	0.0135	-0.0561	-0.004

Table 4.15 presents findings on the role of organizational support (OS) as a moderator in the mediated relationship between knowledge co creation (KCC) and project innovation (PI) under inspirational leadership (X).The results indicate that OS (W) play a mediated moderation role in this relationship but in the opposite direction. Specifically, a negative value suggests that OS weakens the association between KCC and PI.

Hypothesis 10 b:

Organizational support plays a mediated moderation role, with employees' voice behavior (EVB) and knowledge co-creation (KCC) influencing the dependent variable project innovation (PI) under the inspirational leadership(X).

TABLE 4.14: Summary of Hypotheses

	Hypothesis statement	**Result**
H1	Inspirational leadership is positively associated to Project innovation.	**Supported**
H2	Inspirational leadership positively affects Employee voice behavior.	**Supported**
H3	Inspirational leadership positively affects Knowledge co-creation.	**Supported**
H4	Employee voice behavior positively affects Knowledge co- creation	**Supported**
H5	Employee voice behavior positively affects project innovation.	**Supported**
H6	Knowledge co-creation positively affects project innovation.	**Supported**
H7	Employee voice behavior mediates the relationship between inspirational leadership and project innovation	**Supported**
H8	Knowledge co-creation mediates the relationship between inspirational leadership and project innovation	**Supported**
H9	Employee voice behavior and Knowledge co-creation sequentially mediate the relationship between inspirational leadership and project innovation.	**Supported**
H10 a	Organizational support moderates the relationship between knowledge co-creation and project innovation; if Organizational support is high than the relationship between knowledge co-creation and project innovation would be stronger	**Not Supported**
H10 b	Organizational support plays a mediated moderation role, with employees' voice behavior (EVB) and knowledge co-creation (KCC) influencing the dependent variable project innovation (PI) under the inspirational leadership(X).	**Not Supported**

Chapter 5

Discussion and Conclusion

This chapter presents justifications for the anticipated relationships between variables or factors that were hypothesized earlier in the study. It provides explanations and reasoning behind these predicted connections.

Furthermore, the chapter discusses the implications of the study's findings on various aspects, such as project innovation, the sequential mediation role of employee voice behavior, and knowledge co-creation under inspirational leadership (PL). It explores the potential effects and consequences of the findings within these contexts.

In addition, the chapter delves into the theoretical implications of the study's findings. It examines how the results align with or contribute to existing theories and frameworks in the relevant field, enhancing our understanding of the subject matter.

The chapter also looks at the study's advantages and disadvantages. It assesses critically the shortcomings or restrictions of the study process, data collecting, analysis, and other pertinent features. Additionally, it draws attention to the study's advantages and benefits, such as the solid data, meticulous analysis, or original insights discovered throughout the investigation.

The chapter concludes by making recommendations for future research topics in light of the findings and constraints of the study. It highlights areas that need more research and suggests prospective directions for follow-up studies to build on the existing work.

The chapter's overall goals include providing a thorough examination of the expected links, discussing the consequences of the findings, looking at the theoretical implications, evaluating the study's advantages and disadvantages, and offering insightful advice for future research projects.

5.1 Discussion

The concept of "project innovation" (PI) has garnered significant attention from researchers and scholars due to its numerous benefits for both education-based projects and their employees. By investigating the mediating roles of employee voice behavior and knowledge co-creation and taking into account the moderating impact of organizational support, this study seeks to understand how inspiring leadership affects project creativity.

The Leader-Member Exchange (LMX) hypothesis, which serves as the basis for this study, provides the basis for the research model. With an emphasis on employee voice behavior and knowledge co-creation as mediators and organizational support as a moderator, the approach used is specifically designed to study the link between inspiring leadership and project creativity. The study adopts an exploratory strategy and makes use of the "hypothetical deductive method" to experimentally evaluate and validate the links that are suggested based on the body of current literature.

Data was collected through questionnaires administered to employees working on education-based projects in major cities of Pakistan, using the time lag method. A total of six hypotheses were formulated and examined using the SPSS statistical package. The mediation and moderation hypotheses were evaluated using Hayes Macros, specifically Models 6 and 87, respectively. All hypotheses were confirmed and thoroughly discussed in relation to the research questions.

In conclusion, this study provides empirical evidence supporting the positive impact of inspirational leadership on project innovation, with employee voice behavior and knowledge co-creation acting as mediators, and organizational support serving as a moderating factor. These findings contribute to our understanding of

the dynamics between leadership, employee behavior, and innovation within the context of education-based projects.

The first question was about the direct impact of inspirational leadership on project innovation in education base project. Previous studies have consistently shown a positive relationship between inspirational leadership and project innovation. Inspirational leaders value employee opinions and create an environment that fosters participation and innovation. This encourages employees to generate ideas and engage in innovative work practices, particularly in education base projects.

Numerous studies have shown a strong connection between inspirational leadership and project innovation. Inspirational leadership is characterized by leaders who motivate and inspire their team members, encouraging exceptional performance and fostering a culture of innovation (Wang et al., 2019; H. Zhang, Liu, & Wang, 2020).

Wang et al. (2019) conducted a survey among project teams, assessing the level of inspirational leadership displayed by project leaders. They also evaluated project innovation by examining the team's ability to generate novel ideas, implement creative solutions, and adapt to changing project requirements. The results revealed a significant and positive correlation, indicating that inspirational leadership significantly influences project innovation.

Similarly, C. Zhang et al. (2020) conducted a study in a technology-driven organization, collecting data through surveys from project team members and leaders. The findings confirmed a significant positive association between inspirational leadership and project innovation. The study concluded that leaders, who inspire their team members by presenting a compelling vision, encouraging creative thinking, and providing support and resources, establish an environment conducive to innovation within projects.

These studies collectively provide empirical evidence supporting the notion that inspirational leadership positively affects project innovation. When leaders exhibit inspirational qualities, such as setting a clear vision, demonstrating passion, and supporting their team members, they foster creativity, motivation, and a willingness to take risks, ultimately enhancing project innovation.

Inspirational leadership empowers employees and emphasizes their participation. This type of leadership positively influences employees' voice behavior, creating a climate where employees feel comfortable speaking up about work-related issues. Inspirational leaders encourage employees to express their thoughts, share ideas, and make suggestions, making employees feel valued and that their opinions matter. As a result, employee voice behavior emerges under inspirational leadership, facilitated by encouragement, support, and the perception that their suggestions are valuable. Several studies have investigated the connection between inspirational leadership and employee voice behavior, offering empirical evidence to substantiate this claim. Detert and Burris (2007) conducted a study revealing that leaders who demonstrate transformational and inspirational attributes are inclined to foster employee voice behavior. The researchers assert that these leaders establish an atmosphere that cultivates open communication, trust, and empowerment, thereby encouraging employees to express their opinions..

The findings suggest a positive relationship between employees' voice behavior and knowledge co creation. Employee voice behavior, which includes asking questions, expressing concerns, and providing innovative suggestions, contributes to innovative work behavior. When employees feel comfortable sharing their ideas and concerns, their recommendations and solutions focus on future improvements and are more likely to be implemented, leading to enhanced knowledge co creation. Several studies have explored the link between employee voice behavior and knowledge co-creation, providing empirical evidence to support the statement

L.-C. Hsu and Wang (2012) conducted a study examining the influence of employee voice behavior on knowledge sharing and co-creation in the context of Taiwan's high-tech industry. The findings revealed a positive relationship between employee voice behavior and knowledge co-creation. The researchers concluded that when employees actively voice their opinions and ideas, it enhances the exchange and creation of knowledge within the organization.

A study by Detert, Schroeder, and Mauriel (2000) explored the impact of employee voice behavior on knowledge sharing within work teams. The results indicated that when employees engage in voice behavior by actively expressing their ideas, it positively influences knowledge sharing and co-creation processes within the

team. Employee voice behavior facilitates the exchange of diverse perspectives and insights, contributing to the generation of new knowledge.

In a study conducted by Janssen, Van de Vliert, and Veenstra (1999), the researchers examined the relationship between employee voice behavior and knowledge sharing in teams. The findings demonstrated a positive association between employee voice behavior and knowledge co-creation. When employees freely express their ideas and opinions, it facilitates the sharing of knowledge, leading to collaborative knowledge creation within the team.

The findings indicate that knowledge co creation plays a mediating role between inspirational leadership and project innovation. Under inspirational leadership, employees feel empowered to voice their ideas, proposals, and concerns, which contribute to enhanced innovative work behavior. Inspirational leaders create an environment where employees' voices are valued, leading to both increased employee voice behavior and knowledge co creation.

Numerous studies and research papers have explored the relationship between knowledge co-creation and project innovation. In a study conducted by (Choi et al., 2018), they investigated the influence of knowledge co-creation on project innovation in the context of technology-intensive projects. The findings revealed a significant positive relationship between knowledge co-creation and project innovation. The researchers argued that when project team members actively engage in sharing and co-creating knowledge, it enhances their ability to generate innovative ideas and solutions.

Another study by Chen et al. (2020) examined the effects of knowledge co-creation on project innovation in the context of new product development. Their findings indicated a positive and significant relationship between knowledge co-creation and project innovation. The researchers suggested that knowledge co-creation activities, such as collaborative problem-solving and cross-functional collaboration, foster the generation of innovative ideas and improve project outcomes.

A case study by Wang et al. (2019) examined the influence of knowledge co-creation on project innovation within the construction industry. The results demonstrated that knowledge co-creation processes, such as joint problem-solving and information sharing among project stakeholders, positively impacted project innovation.

The authors argued that effective knowledge co-creation practices facilitate the integration of diverse perspectives and expertise, leading to innovative project outcomes.

The concept of sequential mediation in the context of inspirational leadership, knowledge co-creation, employee voice behavior, and project innovation describes a process where the relationship between inspirational leadership and project innovation is influenced by both knowledge co-creation and employee voice behavior, occurring in a sequential manner.

In this scenario, inspirational leadership represents a leadership style characterized by leaders who inspire and motivate their team members, encouraging them to maximize their potential and contribute towards the organization's objectives. Project innovation refers to the creation and implementation of fresh ideas, practices, or solutions within a specific project.

According to the sequential mediation hypothesis, inspirational leadership impacts project innovation by initially fostering knowledge co-creation and subsequently promoting employee voice behavior. Knowledge co-creation refers to the collaborative process of generating and sharing knowledge among team members, which can result in novel insights and innovative solutions. On the other hand, employee voice behavior entails employees expressing their ideas, concerns, and suggestions within the project setting. Sequential mediation refers to a mediation model where the relationship between two variables is influenced by one or more intermediary variables, following a specific order. In the context of this statement, the proposed sequential mediation model suggests that inspirational leadership impacts project innovation by first influencing employee voice behavior and subsequently influencing knowledge co-creation. Although there is a lack of specific research examining this exact sequential mediation model, previous studies have established the individual associations among these variables, forming a basis for this proposed model.

The findings of this study reveal significant relationships between the independent variable (Inspirational Leadership - IL), the mediator (Employee Voice behavior – EVB and Knowledge Co Creation), and the dependent variable (Project

Innovation- PI). However, these relationships are in opposite directions. Organizational Support (OS) plays a moderating role and demonstrates a negative moderation effect (as indicated by the negative beta value) on the relationship between IL and PI. On the other hand, IL directly and positively influences OS. As a result, both Hypotheses are accepted but in opposite directions. The presence of OS weakens the impact of KCC on PI.

This study's contribution to the literature on education base projects in Pakistan is significant, as it sheds light on the moderating role of OS in the relationship described above. It highlights a unique scenario where employees may proactively take action instead of raising their voice, and later receive approval from their leader. These findings indirectly align with previous studies while offering new insights into employee behavior.

Our proposed hypothesis states that organizational support plays a moderating role in the relationship between knowledge co-creation and project innovation. Specifically, when organizational support is high, it is expected that the relationship between knowledge co-creation and project innovation were be stronger but after analysis the result our hypothesis is not supported. Although strong organizational support is typically linked to favorable results, it's important to understand that having a lot of support at work might have unforeseen and present difficulties. This review of the research examines the possible negative effects and difficulties associated with overly supportive organizations (Jolly, Kong, & Kim, 2021).

An employee's feeling of self-efficacy and problem-solving abilities may be negatively impacted by an employer providing too much support, as this could make them very dependent on outside help (Bachrach, Patel, & Pratto, 2023).

Employees who believe that the company would take care of everything could be less aggressive and show less initiative, which could stifle creativity and innovation (Eisenberger et al., 2002).

H. Zhang et al. (2020), an excessively supportive work environment may unintentionally weaken performance standards, which can lead to complacency and a decline in organizational excellence

An unbalanced distribution of high organizational support can give rise to impressions of partiality, which can lower general organizational morale and cause unhappiness. Eisenberger et al. (2002) employees who are satisfied with the status quo and unreceptive to new ideas or initiatives may unintentionally cultivate resistance to change in a high support culture. If workers feel there is little need for change or improvement, an overly supportive environment may discourage innovation and prevent employees from coming up with original solutions to problems (Adil, Hamid, & Waqas, 2020).

According to the study of Alpkan, Bulut, Gunday, Ulusoy, and Kilic (2010), the management's support for idea generation and their tolerance for taking risks are two of the individual direct effects of the organizational support dimensions that have been demonstrated to have a favorable impact on innovative performance. Free time and the availability of a performance-based reward system have no effect on creativity. It has been discovered that human capital (HC) has a significant role in driving innovative performance, particularly in situations where OS is limited. However, creative performance does not occur when OS levels are high.

Although favorable results are typically linked to strong organizational support, businesses must be aware of any potential unexpected effects. This overview of the research draws attention to issues such over-reliance, low self-efficacy, complacency, unequal support distribution, unfavorable politics, and effects on innovation. It is important for firms to find a balance between promoting individual initiative, equitable practices, and a continuous improvement culture while providing organizational support in order to maximize positive outcomes and minimize unintended negative effects.

5.2 Practical and Theoretical Implication

This study specifically focuses on exploring how Inspirational Leadership (IL) influences project innovation within education base projects sector. It investigates the mediating role of Employee Voice Behavior (EVB) and knowledge co-creation, while also considering the moderating role of Organizational Support (OS).

Given the challenges posed by globalization, the education sector requires highly innovative products to maintain a competitive edge and ensure organizational survival. The development of such products relies on the inspirational leadership exhibited by employees involved in education projects. Under the guidance of inspirational Leadership (PL), employees have the opportunity to express their voices through innovative ideas.

This study offers both practical and theoretical contributions by emphasizing the crucial role of inspirational Leadership (PL) in enhancing project innovation. It acknowledges EVB as a mediating variable and organizational support (OS) as a moderating variable, thereby addressing the global demands of the IT sector. Within the education sector, EVB serves as a platform to engage employees in significant decision-making processes and foster innovation. Higher levels of EVB have a positive impact on knowledge co creation. The study highlights the theoretical significance of EVB and knowledge co creation as a mediator between IL and PI, an aspect that has not been extensively explored in previous research. The findings demonstrate the noteworthy role of EVB as a mediator, cultivating team appreciation and driving project innovativeness. By advocating for the importance of inspirational Leadership (IL), this study aims to enhance project innovation within Pakistan's education sector. Implementing IL, along with considering the moderating effects of OS, encourages innovative work behavior and enhances the voicing and behavioral skills of education employees, enabling them to thrive in global markets.

5.2.1 Practical Implication

The study focuses on the relationship between inspirational leadership and project innovation, examining the role of employee voice behavior and knowledge co-creation as mediators, as well as the moderating effect of organizational support. The practical implications of this research can be summarized as follows:

Enhancing leadership practices: Adopting inspirational leadership styles can positively impact project innovation. Organizations can invest in training and developing leaders to inspire and motivate employees, cultivating an innovative culture within project teams.

Encouraging employee voice behavior: Inspirational leadership can promote open expression of opinions, suggestions, and concerns by employees. This behavior, in turn, facilitates project innovation. Organizations can establish platforms and channels that encourage and reward employee voice, allowing them to contribute their ideas and perspectives.

Facilitating knowledge co-creation: Collaborative efforts among employees to generate new knowledge and innovative ideas, known as knowledge co-creation, can be facilitated by inspirational leadership. Organizations can support knowledge sharing platforms, encourage cross-functional collaboration, and provide resources for employees to engage in knowledge co-creation activities.

Organizational support may have a negative moderating role in the relationship between inspirational leadership and project innovation. The organizational should enable employees to translate innovative ideas into practical outcomes, organizations should provide necessary resources, such as time, funding, and technological support. Additionally, fostering a supportive work culture that values and recognizes innovation further enhances the impact of inspirational leadership on project innovation.

Driving project success: Implementing the findings of this research can potentially improve project outcomes. By combining inspirational leadership with employee voice behavior, knowledge co-creation, and organizational support, organizations can create an environment conducive to innovation. This can lead to increased project success rates, improved product/service quality, and enhanced competitive advantage.

5.2.2 Theoretical Implication

The research topic "Impact of Inspirational Leadership on Project Innovation: Mediating Role of Employee Voice Behavior and Knowledge Co-creation with Moderating Role of Organization Support" holds several theoretical implications, which are outlined below:

Advancing leadership and innovation theories: This research contributes to the development of leadership and innovation theories by examining how inspirational

leadership influences project innovation. Through empirical evidence, it establishes a positive relationship between inspirational leadership and innovation outcomes within the project context. This expands our understanding of how leadership behaviors impact innovative behaviors and outcomes.

Enhancing understanding of mediating mechanisms: By exploring the mediating role of employee voice behavior and knowledge co-creation between inspirational leadership and project innovation, this study provides valuable insights into the processes through which inspirational leadership influences innovation. It deepens our understanding of the underlying mechanisms that connect leadership behaviors with innovative outcomes.

Illuminating the moderating role of organizational support: The research investigates the moderating role of organizational support in the relationship between inspirational leadership and project innovation. It highlights the significance of the organizational context in shaping the impact of leadership on innovation outcomes. This deepens our understanding of how supportive organizational environments can amplify the effects of inspirational leadership on innovation.

Bridging the gap between leadership and project management literature: By focusing on project innovation, this research bridges the divide between leadership theories and project management literature. It emphasizes the relevance of leadership in driving innovation within the unique context of projects. This integration of perspectives informs both leadership and project management practices, facilitating effective leadership in project environments.

Providing practical implications for leadership development: The theoretical insights gained from this research offer guidance for leadership development initiatives. Organizations can leverage these findings to design leadership training programs that foster inspirational leadership behaviors. By focusing on enhancing employee voice, knowledge co-creation, and organizational support, organizations can cultivate leaders who are more effective at promoting innovation within projects.

In summary, this research contributes to theoretical knowledge by deepening our understanding of the relationship between inspirational leadership and project innovation. It advances leadership and innovation theories, clarifies mediating

mechanisms, highlights the moderating role of organizational support, bridges leadership and project management literature, and provides practical guidance for leadership development within the project context.

5.3 Research Outcome's Strength

The outcome of study is given below:

- The research study's strengths include collecting data from 390 key individuals employed in education sectors, located in major cities of Pakistan Islamabad and Rawalpindi.
- Data analysis was conducted using SPSS statistical software.
- The responses were gathered from both project managers and their employees, making them respondents for variables such as IL (employees), EVB (employees), PI(leaders), and OS (employees).
- The respondents possess expertise in the education sectors.
- The study's significant contribution lies in examining EVB and KCC as a mediator between IL and PI, a novel exploration within Pakistan's education sector, thus making it an important addition to the existing IL literature.
- EVB and KCC play a significant sequential mediating role between IL and PI, with the additional aim of moderating OS.

5.4 Limitations and Future Discussion

Like any research, this study also has certain limitations and constraints. The limitations include resource and time constraints, which restricted the utilization of only one mediator and moderator. However, future research can consider incorporating additional mediators and moderators, such as employee empowerment (EE) and knowledge sharing (KS), to further improve the model linking inspirational Leadership (PL) and project innovation (PI).

Another limitation is that the data collection was limited to Islamabad and Rawalpindi, making it challenging to generalize the findings to other countries. Therefore, future studies should aim to gather data from multiple countries to enhance the external validity of the research.

Additionally, the study focused solely on education Projects, which calls for further exploration in other industries. It is essential to extend the research to include traditional firms, as the findings may vary across different organizational contexts.

Lastly, to increase the generalizability of the results, future research can consider increasing the sample size. A larger sample size would provide a more representative and robust basis for drawing conclusions and making broader generalizations.

5.5 Conclusion

The research findings indicate that inspirational leadership significantly contributes to project innovation by enhancing employee commitment, creativity, and were ingress to engage in innovative behaviors.

Moreover, employee voice behavior serves as a mediator between inspirational leadership and project innovation. Inspired employees are more inclined to express their opinions, share ideas, and actively participate in the innovation process, thereby positively influencing project outcomes.

Furthermore, inspirational leadership promotes knowledge co-creation within the organization. By inspiring employees, leaders encourage collaboration, knowledge sharing, and joint problem-solving, which in turn lead to enhanced project innovation.

Additionally, organizational support may have a negative moderating role in the relationship between inspirational leadership and project innovation. The study reveals that a supportive organizational culture, along with adequate resources and structures, weaken the impact of inspirational leadership on project innovation outcomes.

To summarize, the research concludes that inspirational leadership directly and positively impacts project innovation. This impact is further enhanced by the

mediating effects of employee voice behavior and knowledge co-creation. Furthermore, the relationship between inspirational leadership and project innovation is influenced by the level of organizational support provided.

The research findings demonstrate a significant positive impact of inspirational Leadership (IL) on project innovation (PI), aligning with previous studies emphasizing the importance of IL in motivating employees and facilitating innovative decision-making and strategic planning. Consequently, it can be concluded that IL effectively enhances PI.

Furthermore, the study reveals that the effects of IL on PI can be further amplified through the mediating role of employees' voice behavior (EVB) and knowledge co creation, as indicated by our results. When EVB and KCC sequentially acted as a mediator between IL and PI, the direct effect of IL on PI remained significant, signifying its partial mediating role. These findings support prior research that linksinspirational leadership to increased innovative outcomes and highlight the significance of EVB and knowledge co creation in this relationship.

The results of the study are consistent with previous research, such as (De & Den Hartog, 2007; Avey, Hughes, Norman, & Luthans, 2008), which suggest that an inspirational leadership style fosters innovative work behavior. Additionally, the findings align with the Leader-Member Exchange (LMX) theory, which explores the connection between inspirational leadership and project innovation, both directly and indirectly through the influence of employees' voice behavior (Graen & Uhl-Bien, 1995).

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Appendix-A

Questionnaire

Dear Respondent

I am student of Management Sciences at Capital University of Science and Technology Islamabad. I am conducting a research on a topic titled **"Impact of Inspirational Leadership on Project Innovation: Sequential Mediation and Moderation Effect"**. You can help me by completing the attached questionnaire, you will find it quite interesting. I appreciate your participation in my study and I assure that your responses will be held confidential and will only be used for education purposes.

Sincerely,

Asma Mukhtiar,

MS Research Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1: Demographics

Gender	1- Male 2- Female
Age(years)	1 (18-25) 2 (26-33), 3 (34-41), 4 (42-49), 5 (50-above)
Qualification	1 (Matric), 2 (Bachelor), 3 (Master), 4 (MS/M.Phil.), 5 (PhD)
Experience(years)	1 (5 and Less), 2 (6–13), 3 (14-21), 4 (22-29), 5 (30-above)

Section 2: Variable Questions

Please mention your level of agreement on the following statements about implementation of Quality Management Systems in your Institute on five-point Likert scale (1=strongly disagree; 2=disagree; 3=neutral; 4=agree; 5=strongly agree).

Inspirational Leadership					
My leader makes everyone in the team enthusiastic about the team assignments"."	1	2	3	4	5
My leader encourages me to express my ideas and opinion	1	2	3	4	5
My leader has a sense of mission that he/she transmits to me	1	2	3	4	5
My leader is an inspiration to me	1	2	3	4	5
My leader excites us with his/her visions of what we may accomplish if we work together as a team	1	2	3	4	5
My leader makes us believe we can overcome any thing if we work together as a team	1	2	3	4	5
Employee Voice Behavior					
I develop and make recommendations to my supervisor concerning issues that affect my work.	1	2	3	4	5
I speak up and encourage others in my work unit to get involved in issues that affect our work.	1	2	3	4	5

I communicate my opinions about work issues to others in my work unit, even if their opinions are different and they disagree with me."	1	2	3	4	5
I keep well informed about issues at work where my opinion can be useful.	1	2	3	4	5
I get involved in issues that affect the quality of life in my work unit.	1	2	3	4	5
I speak up to my supervisor with ideas for new projects or changes in procedures at work"	1	2	3	4	5
Project Innovation					
The novelty of the originally anticipated project results was very high compared to other projects,	1	2	3	4	5
The originally anticipated results addressed new user/customer need that we have not addressed before	1	2	3	4	5
At the beginning of the project we did not yet have the necessary technical knowledge,	1	2	3	4	5
At the beginning of the project we had little practical experience in the application of the required technology.	1	2	3	4	5
Knowledge Co-creation					
Coworkers in our team shares their special knowledge and expertise with one another	1	2	3	4	5
If coworkers in our team have some special knowledge about how to perform the task, they are likely to tell one another about it	1	2	3	4	5
Coworkers in our team exchange information, knowledge, and sharing of skills with one another;	1	2	3	4	5
Coworkers in our team freely provide one another with hardto-find knowledge or specialized skills;	1	2	3	4	5
Coworkers in our team help one another in developing relevant strategies;	1	2	3	4	5

Coworkers in our team share lot of information with one another; Coworkers in our team offer lots of suggestions to one another.	1	2	3	4	5
Organizational Support					
Top management supported the project	1	2	3	4	5
Top management devoted a lot of time to the project	1	2	3	4	5
Top management provided adequate resources	1	2	3	4	5