Empowering Leadership and Innovative Work Behavior: The Mediating Roles of Psychological Empowerment and Knowledge Sharing in Sri Lankan Mechanical, Electrical, and Plumbing Sector Organizations

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ABSTRACT

This study extensively investigates the ways in which empowering leadership (EL) influences employees' innovative work behavior (IWB) within Mechanical, Electrical, and Plumbing (MEP) organizations operating in Sri Lanka, with particular attention to the mediating roles of psychological empowerment (PE) and knowledge sharing (KS). Grounded in Social Exchange Theory, the research posits that leaders who exhibit empowering behaviors such as encouraging employee autonomy, participative decision-making, competence development, and confidence building create an organizational environment in which employees feel motivated to reciprocate through heightened engagement in creative and innovative activities. To empirically test these relationships, a comprehensive quantitative cross-sectional survey was conducted among employees working in selected MEP firms located in Colombo, capturing perspectives from various hierarchical levels, including engineers, technicians, supervisors, and administrative personnel. The results of the analysis indicate a statistically significant positive relationship between EL and IWB, demonstrating that employees exposed to empowering leadership are more likely to generate, promote, and implement new ideas effectively within their work settings. In addition, the findings reveal that both psychological empowerment and knowledge sharing partially mediate this relationship, suggesting that the influence of leadership on innovative behavior is not purely direct but also operates through enhancing employees' perceptions of meaningful work, personal competence, autonomy in decision-making, and collaborative knowledge exchange. By exploring these psychological and social mechanisms, this study fills a critical theoretical and empirical gap in the context of Sri Lanka's engineering-intensive MEP sector, offering valuable insights for organizational leaders and practitioners seeking to develop leadership competencies, improve knowledge-management practices, and implement HR systems that foster a sustainable innovation-oriented organizational culture.

Key Words: Empowering leadership, Knowledge Sharing, Psychological Empowerment, Mechanical, Electrical, and Plumbing, Mediation Analysis, Innovative Work Behavior, Social Exchange Theory, Sri Lanka.

BACKGROUND OF THE STUDY

1.1. Introduction

Innovation has emerged as a fundamental capability for organizations seeking to thrive in highly dynamic, competitive, and technologically complex environments. In project-based industries such as Sri Lanka's Mechanical, Electrical, and Plumbing (MEP) sector, innovation is not merely a strategic advantage but a critical necessity for organizational survival, operational efficiency, and long-term competitiveness. Firms operating in this sector face constant pressures stemming from increasing customer expectations, stringent regulatory requirements, rapid technological advancements, and highly competitive market conditions. As the MEP industry continues to expand alongside national infrastructure development and urban construction projects, understanding the key drivers that encourage employees to engage in innovative work behavior (IWB) has become increasingly important. Specifically, identifying leadership practices and organizational mechanisms that foster creative problem-solving, idea generation, and successful implementation is vital for maintaining a sustainable competitive edge.

Leadership plays a pivotal and decisive role in establishing the conditions that enable employees to propose, promote, and implement novel ideas effectively. Among various leadership approaches, empowering leadership (EL) has gained significant attention due to its focus on employee autonomy, participative decision-making, collaborative information sharing, and confidence-building. Leaders who adopt an empowering style reduce bureaucratic obstacles, delegate authority effectively, encourage proactive initiative, and create psychologically safe work environment conditions that have consistently been linked with enhanced creativity, experimentation, and innovation across organizational settings. By fostering an environment where employees feel trusted, competent, and capable of contributing meaningfully, empowering leaders provide both the structural and psychological foundation for innovative behavior to flourish.

Although international research has increasingly recognized EL as an antecedent of IWB, the specific mechanisms through which EL influences innovation remain relatively underexplored in many developing economies, including Sri Lanka. In particular, the roles of psychological empowerment (PE) and knowledge sharing (KS) as mediating pathways are critical yet understudied. Psychological empowerment emphasizes employees' internal perceptions of meaning, competence, autonomy, and influence in their roles, which motivates them to engage in proactive and creative behaviors. Knowledge sharing, encompassing the exchange of tacit and explicit knowledge among employees, facilitates collaborative problem-solving and the refinement of ideas, further supporting innovation. Empirical studies have shown that employees demonstrate higher levels of innovative behavior when they perceive their work as meaningful, believe in their own competence, enjoy decision-making autonomy, and understand the impact of their contributions.

Similarly, effective knowledge-sharing practices create a collaborative environment in which employees can leverage collective expertise to develop, refine, and implement innovative solutions.

Despite these theoretical insights, research examining leadership and innovation within the Sri Lankan context remains limited, with particularly few studies addressing the MEP sector, which is characterized by high power distance, skill shortages, hierarchical structures, and ongoing technology adoption challenges. These contextual nuances underscore the need for a focused investigation into how EL drives innovative work behavior through both psychological and knowledge-based mechanisms. Addressing this gap, the present study aims to investigate the relationship between empowering leadership and employees' innovative work behavior in Sri Lankan MEP organizations, while explicitly testing the mediating roles of psychological empowerment and knowledge sharing. By doing so, the study contributes to both theoretical advancements in leadership and innovation research and provides actionable insights for managers and practitioners seeking to enhance employee-driven innovation, knowledge management practices, and overall organizational performance within the local industrial context.

1.2 Statement of the Problem

A significant gap has been identified among existing studies in understanding how EL influences IWB within the specific content of Sri Lankan MEP organizations. Empowering leadership styles prioritize open communication, employee empowerment, PE, and KS have been statistically linked to better IWB in similar technical. Additionally, PE mediates the relationship between EL and IWB, suggesting that such leaders tend to promote competence, autonomy, and creative work, which can lead to unlocking employees' innovative potential. Global evidence links empowering leadership styles to increased employee IWB, especially in technical fields such as the MEP sector. The significant research gap regarding how such EL functions within Sri Lanka's MEP context. It is also crucial, as psychological empowerment, via enhanced autonomy, competence, and meaning, has been shown to mediate the relationship between EL and IWB outcomes (Abans Engineering Case, 2025). Government and industry initiatives in Sri Lanka also highlighted its efforts to enhance IWB among employees through technology advancement, skills development programs aimed at sectors including MEP (Ministry of Industry and Entrepreneurship Development, 2025). 3 The MEP workforce identified significant skill gaps in learning, numerical reasoning, and communication, along with major competency deficiencies in areas such as key dimensions of both leadership and innovation readiness, as identified by a mixed-method study. This structural incapability of developing MEP employees often lack empowerment and autonomy needed to engage in IWB. (Prabhashwara, Waidyasekara, Anuradha & Jayathilaka (2022). For instance, the country registers fewer than 300 patents annually, with only around 100 originating from local entrepreneurs, indicating a low culture of innovation and creativity among technical MEP organizations (Jayasena, Chamoda & Disaratna, P & Victar, Hasith. (2023). Researchers, including Xue et al. (2011), revealed that empowering leadership positively influences knowledge sharing within organizations. Srivastava et al. (2006) defined knowledge sharing as the exchange of ideas, information, and task-relevant suggestions among team members. Xue et al. (2011) indicated a positive correlation between EL and employees' willingness to exchange knowledge within the organization. Additionally, Radaelli et al. (2014) elaborated that KS contributes to IWB through fostering a more thorough understanding of knowledge and guiding its utilization toward innovative processes. Although EL and KS complement IWB (Wu and Lee, 2017), the complementary impact of these factors on IWB remains unexplored. The lack of comprehensive research on these relationships within Sri Lanka's MEP industry limits the ability of organizational leaders to make informed decisions regarding leadership development, employee empowerment strategies, and knowledge management practices. This research gap also restricts the development of industry-specific guidelines and best practices that could enhance the innovative capacity of MEP organizations operating in Sri Lanka. this study investigates the relationship between EL and IWB with the mediating effect of KS and PE in the selected MEP sector companies in Sri Lanka.

1.3 Objectives of the Study

1.3.1 Generic Objective

To investigate the mediating role of psychological empowerment and knowledge sharing in the relationship between empowering leadership and employee Innovative work behavior in selected Mechanical, Electrical, and Plumbing organizations in Sri Lanka. As the main objective the purpose is to is to identify the relationship between employee IWB and EL considering the indirect effect of KS and PE.

1.3.2 Specific Objectives

1. To examine the relationship between empowering leadership and employee innovative work behavior in MEP organizations in Sri Lanka.
2. To examine the mediating effect of psychological empowerment on the relationship between empowering leadership and innovative work behavior.
3. To examine the mediating effect of knowledge sharing on the relationship between empowering leadership and innovative work behavior.

1.4 Research Questions

1.4.1 Main Research Question

What is the relationship between empowering leadership and employee innovation and the mediating effect of knowledge sharing and psychological empowerment in MEP organizations in Sri Lanka?

1.4.2 Primary Research Questions

1. What is the relationship between empowering leadership and innovative work behavior in MEP organizations in Sri Lanka?
2. To what extent does psychological empowerment mediate the relationship between empowering leadership and innovative work behavior?
3. To what extent does knowledge sharing mediate the relationship between empowering leadership and innovative work behavior?

1.5 Significance of the Study

This study contributes to the existing knowledge in several important ways, such as it expands the application of EL theory to the specific context of MEP organizations in Sri Lanka and provides insight into how EL approach effects within a technically complex, project-based

environment. Also, the study increases our understanding of the mediating effects how EL influences employee innovation, specifically look into the roles of PE and KS as important mediating variables. thereby improving our understanding of how EL can influence the effectiveness of employee innovation. 5 Furthermore, the study contributes to the body of research on employee IWB in dynamic economies like Sri Lanka, and gives insights that may apply to similar contexts in other countries. From a methodological aspect, this study utilizes a comprehensive approach to investigate the mediation effects, which has the potential to contribute to the advancement of research methods in organizational behavior and leadership studies. The findings may also inform future theoretical developments in research on empowering leadership and employee innovation. The practical implications of this study are important to several stakeholders both within and outside the MEP Sector such as leaders of companies. The study analysis offers statistically tested points to strength the empowering leadership practices to encourage innovation among employees. The identification of this mediating mechanism provides direct insight to leaders who concentrate their efforts to bring the optimal innovative potential of employees. For HR practitioners, the study gives insights into the psychological conditions that enable them to drive the employees to be innovative, which can be used in training and development programs, talent management. To this study offers specific industrial knowledge to the MEP industry organization in Sri Lanka, that can provide industry-wide insights to improve competitiveness, innovation. Recommendations from the study also hold the potential to influence how the organization see each other in the industry by identified industrial benchmarks fostering a competitive environment, leading more opportunities for expansion and the social implications of the study focus on terms such as employee well-being and career development. Examining the role of psychological empowerment to promote employee innovation, the research emphasizes how working environments can be changed to increase employee innovation. The emphasis on knowledge sharing also highlights the importance in a collaborative workplace that supports continuous learning and professional development. the study's focus on innovation within the MEP industry aligns with the broader Sri Lankan society related to technological advancement, industrial competitiveness, and economic growth. The research findings may give insights to develop a more innovative and knowledgeable society.

LITERATURE REVIEW

2.1 Empowering Leadership (EL)

Empowering leadership (EL) refers to a set of leadership behaviors designed to enhance employees' autonomy, participation, and decision-making authority while fostering a culture of trust and confidence within organizations (Zhang & Bartol, 2010). Leaders who adopt an empowering approach actively share power with their subordinates, remove bureaucratic constraints that limit initiative, express confidence in employees' abilities, and encourage them to take ownership of their work tasks. Unlike traditional directive or authoritarian leadership styles, which primarily focus on top-down control and compliance, EL emphasizes the development of employees' capacities for self-management, creativity, and independent problem-solving (Ahearne et al., 2005). This approach is particularly valuable in dynamic and knowledge intensive organizational settings where employees' initiative and adaptive behaviors directly contribute to performance outcomes. Empirical research consistently demonstrates that EL positively influences a variety of employee attitudes and behaviors, including job satisfaction, organizational commitment, creativity, and overall performance. Arnold et al. (2000) highlight that empowering leaders not only provide employees with meaning and purpose in their roles but also actively involve them in participative decision-making processes and support their skill development. More recent studies further underscore EL's relevance in rapidly evolving industries, where timely decision-making and employee initiative are critical for sustaining competitive advantage (Lee et al., 2019; Na-Nan & Arunyaphum, 2021). In South Asian cultural contexts, characterized by hierarchical organizational structures and high-power distance, the implementation of EL has yielded mixed but generally promising results. For instance, research in India and Vietnam shows that EL can significantly enhance psychological empowerment and overall job performance when applied with cultural sensitivity and awareness of local norms (Pham, 2023; Alfes et al., 2019). Within Sri Lanka, where traditional organizational culture often emphasizes hierarchy and centralized decision-making, emerging project-driven sectors such as the Mechanical, Electrical, and Plumbing (MEP) industry are increasingly receptive to participatory and empowering leadership approaches, as younger and more skilled employees seek autonomy, meaningful engagement, and opportunities to contribute creatively (Opatha, 2010). Therefore, understanding EL and its impact on innovation in the Sri Lankan context is both timely and practically relevant, particularly for knowledge-intensive and project-based sectors like MEP.

2.2 Psychological Empowerment (PE)

Psychological empowerment (PE) is a motivational construct that reflects the internalization of four key cognitions: meaning, competence, self-determination, and perceived impact (Spreitzer, 1995). Unlike structural empowerment, which focuses on the allocation of decision-making authority or the provision of resources, PE emphasizes how employees perceive their roles, interpret their capacity to influence outcomes, and derive personal significance from their work. Leaders play a pivotal role in fostering PE by designing tasks that are meaningful, offering autonomy in decision-making, encouraging initiative, and consistently expressing confidence in employees' abilities (Maynard et al., 2012). When employees experience high levels of PE, they are more likely to engage in proactive behaviors, demonstrate creativity, and pursue innovation in their work activities. A substantial body of empirical research supports the notion that empowering leadership is a critical antecedent of PE, demonstrating strong positive relationships across diverse organizational settings (Kim & Beehr, 2017; Alotaibi et al., 2020). Employees who feel psychologically empowered tend to exhibit higher levels of job satisfaction, stronger organizational commitment, and increased motivation to contribute novel ideas. Meta-analytic findings by Seibert et al. (2011) indicate that EL consistently ranks among the strongest predictors of PE, highlighting its centrality in fostering a motivated and innovative workforce. Furthermore, employees with heightened psychological empowerment are more likely to engage in experimentation, take calculated risks, and persist in problem solving efforts, which are essential behaviors for innovation, particularly in technically demanding and dynamic sectors such as MEP (Afsar et al., 2014; Javed et al., 2017). By integrating psychological empowerment into leadership practices, organizations can cultivate an intrinsic drive among employees to proactively generate, develop, and implement creative solutions, thereby strengthening overall organizational innovation capacity.

2.3 Knowledge Sharing (KS)

Knowledge sharing (KS) is the process through which employees exchange information, skills, experiences, and insights to promote collaboration, collective learning, and organizational innovation (Wang & Noe,

2010). It encompasses both knowledge donating actively sharing one's expertise and knowledge collecting seeking out and integrating knowledge from others which together build a collective competence that strengthens organizational problem-solving capabilities. Knowledge sharing is widely recognized as a critical enabler of innovation because it allows employees to combine diverse perspectives, refine ideas collaboratively, and integrate both tacit and explicit forms of knowledge into actionable solutions (Caniëls et al., 2014). Without effective knowledge-sharing mechanisms, employees may face significant limitations in problem-solving, creativity, and the successful implementation of novel ideas. Empirical studies demonstrate that empowering leaders play a crucial role in fostering knowledge sharing by creating a psychologically safe environment in which employees feel encouraged to collaborate without fear of negative consequences (Srivastava et al., 2006). For example, Xue et al. (2011) found that empowering leadership enhances knowledge-sharing intentions by promoting trust, perceived autonomy, and supportive interpersonal interactions. Effective KS subsequently contributes to higher levels of innovative work behavior, as employees are better able to leverage collective expertise, refine ideas collaboratively, and implement novel solutions efficiently (Islam et al., 2024; Radaelli et al., 2014). In project-based and technology-intensive sectors such as MEP, where innovation often requires the integration of specialized technical knowledge across multiple teams, knowledge sharing functions as a critical bridge between individual creativity and organizational innovation outcomes.

2.6 Mediating Roles of Psychological Empowerment (PE) and Knowledge Sharing (KS)

Psychological empowerment and knowledge sharing are widely acknowledged as critical mediators that explain the mechanisms through which empowering leadership (EL) enhances employees' innovative work behavior (IWB). Psychological empowerment refers to the internalized sense of autonomy, competence, meaningfulness, and perceived impact that employees experience in their work roles (Spreitzer, 1995). When leaders adopt empowering behaviors, they provide employees with opportunities for independent decision-making, encourage problem-solving, and demonstrate confidence in employees' abilities, which strengthens their sense of control and self-efficacy. Employees who perceive high levels of PE are motivated to proactively engage in innovative tasks, generate creative ideas, experiment with new approaches, and persist in overcoming work-related challenges. Knowledge sharing, in turn, represents the collaborative process through which employees exchange insights, experiences, and expertise with colleagues, thereby facilitating collective learning and the co-creation of innovative solutions (Wang & Noe, 2010). Empowering leaders foster trust, openness, and collaboration, creating a climate where employees freely share both tacit and explicit knowledge. This social exchange not only enhances organizational problem-solving capacity but also accelerates the refinement and successful implementation of innovative ideas. Empirical evidence consistently supports the partial mediating roles of both PE and KS between EL and IWB. Li et al. (2016) demonstrated that psychological empowerment partially explains the relationship between EL and innovation, while Mohammed and Al-Abrrow (2024) highlighted that knowledge sharing functions as a conduit translating leadership behaviors into creative outcomes. Noerchoidah and Eliyana (2020) further corroborated that both mechanisms operate concurrently, revealing that EL generates complementary psychological and social pathways that enhance innovative behaviors. These findings emphasize that understanding leadership effectiveness requires considering the interaction of motivational and collaborative mechanisms, which together facilitate the translation of empowering behaviors into tangible innovation outcomes within complex, technical work environments such as the MEP sector.

2.7 Theoretical Framework

2.7.1 Social Exchange Theory

The theoretical foundation of this study is grounded in Social Exchange Theory (Blau, 1964), which posits that social relationships are built on reciprocal exchanges of resources, support, and benefits. Within organizational settings, employees tend to respond positively to the support, resources, and autonomy provided by their leaders. Empowering leaders supply valuable resources including decision-making authority, trust, feedback, and opportunities for meaningful engagement that employees perceive as supportive and motivating. In return, employees reciprocate through positive behaviors, such as increased engagement, knowledge sharing, proactive problem-solving, and innovation (Cropanzano & Mitchell, 2005). In the context of this study, EL functions as the initiating input in the social exchange process, while PE, KS, and IWB represent the reciprocal responses from employees. This theoretical lens provides a robust explanation for why empowering leadership produces both psychological and social mechanisms that collectively enhance innovative outcomes. By applying Social Exchange Theory, the study situates the mediating roles of PE and KS within a broader framework, highlighting how reciprocal relationships between leaders and employees foster a climate conducive to creativity, collaboration, and sustained innovation, particularly in hierarchical and technically complex work environments such as those found in Sri Lankan MEP organizations.

2.8 Research Gap

Despite extensive global evidence linking empowering leadership to employee innovation, research within the Sri Lankan context especially the MEP sector remains limited. Most studies examine direct relationships between leadership and innovation, often overlooking the dual mediating pathways of psychological empowerment and knowledge sharing. Furthermore, previous research has frequently been conducted in Western or culturally homogeneous environments, leaving questions regarding the applicability of findings to South Asian contexts, where hierarchical norms, high power distance, and complex technical operations may influence leadership effectiveness. The Sri Lankan MEP sector, characterized by intricate project workflows, technology-intensive operations, and multi-level hierarchies, presents unique challenges for innovation. These contextual factors make both psychological and social mechanisms critical in shaping innovative work behavior. Accordingly, this study addresses these gaps by testing a comprehensive, integrated model that simultaneously examines the relationships among EL, PE, KS, and IWB in the Sri Lankan MEP sector. By doing so, it contributes to theoretical knowledge regarding the psychological and social mechanisms underpinning leadership effectiveness while offering practical insights for organizational leaders seeking to cultivate a culture of innovation in technically complex and project-driven environments.

METHODOLOGY

3.1 Research Design

This study employed a quantitative, cross-sectional survey research design to comprehensively examine the relationship between empowering leadership (EL) and employees' innovative work behavior (IWB), with a particular focus on the mediating roles of psychological empowerment (PE) and knowledge sharing (KS). The cross-sectional survey design was deemed appropriate for this

investigation as it enabled the systematic collection of data from participants at a single point in time, thereby facilitating the exploration of correlational relationships and potential mediating effects among the key variables. By capturing data at one point rather than across multiple time periods, the study was able to efficiently assess how variations in perceived leadership behaviors corresponded with differences in employees' innovation-related attitudes and actions.

The study was guided by a positive research philosophy, which emphasizes the collection of objectives, quantifiable data and the use of statistical techniques to test predefined hypotheses. Adopting a positive approach allowed the researcher to apply rigorous measurement procedures, establish reliability and validity, and draw evidence-based conclusions about the relationships among EL, PE, KS, and IWB. Additionally, a deductive research approach was used to test and validate existing theoretical frameworks, particularly Social Exchange Theory, within the context of the Sri Lankan MEP sector. This approach enabled the study to systematically examine whether theoretical predictions about the effects of empowering leadership on innovation held in a culturally and technologically specific context. Overall, the chosen research design provided a structured and replicable framework for exploring both direct and indirect relationships between leadership behaviors and employee innovation outcomes.

3.2 Conceptual framework

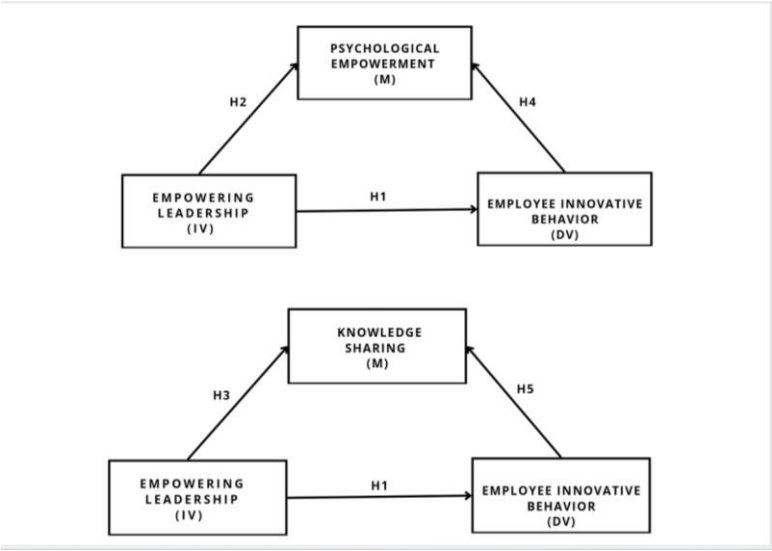

Figure 01. Conceptual framework for the study.

H6: Knowledge sharing mediates the relationship between empowering leadership on innovative work behavior.
H7: Psychological empowerment (PE) mediates the positive impact of empowering leadership on innovative work behavior.

3.3 Development of Hypothesis

H1: There's a significant relationship between EL and IWB in Sri Lankan MEP sector organizations.
H2: There's a significant relationship on EL and PE in Sri Lankan MEP organizations.
H3: There's a significant relationship on EL and KS in Sri Lankan MEP organizations
H4: Psychological empowerment has a significant positive effect on employee innovation in Sri Lankan MEP organizations.
H5: Knowledge sharing has a significant positive effect on employee innovation in Sri Lankan MEP organizations.
H6: Knowledge sharing mediates the relationship between empowering leadership on innovative work behavior.
H7: Psychological empowerment (PE) mediates the positive impact of empowering leadership on innovative work behavior.

3.4 Population and Sampling

The target population for this study consisted of employees working in Mechanical, Electrical, and Plumbing (MEP) organizations operating within Colombo, which serves as the commercial and industrial hub of Sri Lanka. These organizations included a range of companies from medium-sized contractors to large-scale engineering and project-based firms engaged in complex construction, infrastructure development, and engineering projects. Employees across multiple hierarchical levels were invited to participate, including technicians, engineers, supervisors, administrative staff, and managerial personnel. This multi-level sampling strategy ensured that the data collected represented a diverse range of perspectives and experiences within MEP organizations, allowing for a more comprehensive understanding of the relationships between leadership behaviors and innovative work behavior.

Due to practical constraints, including limited accessibility to project sites and scheduling limitations inherent in the project-based work environment, a non-probability convenience sampling technique was employed. Convenience sampling allowed the researcher to efficiently access participants who were available and willing to provide information, while still capturing a representative snapshot of employees from various roles and departments within the selected firms. A total of 300 structured questionnaires were distributed among employees across different organizations. Remarkably, all 300 distributed questionnaires were completed and returned, resulting in a 100% response rate. This exceptionally high response rate is considered highly satisfactory and provides a strong foundation for statistical analysis, as it minimizes concerns about non-response bias and enhances the reliability of the findings.

By carefully selecting participants across hierarchical levels and employing rigorous data collection procedures, the study ensured that the collected data was both relevant and sufficiently diverse to support the investigation of complex relationships between empowering leadership, psychological empowerment, knowledge sharing, and innovative work behavior within the context of Sri Lankan MEP organizations.

ANALYSIS

The study adopted a quantitative, cross-sectional survey design to investigate how empowering leadership influences innovative work behavior through the mediating roles of psychological empowerment and knowledge sharing among employees in Sri Lankan MEP organizations. This design was chosen because it allows data to be collected at a single point in time while supporting the examination of relationships between variables through statistical analysis. Guided by a positive research philosophy, the study used a deductive approach aimed at testing theoretical assumptions derived from Social Exchange Theory within a developing-country context. The target population consisted of employees working in Mechanical, Electrical, and Plumbing (MEP) firms located in Colombo, representing a range of job categories including engineers, technicians, supervisors, and administrative staff. Due to constraints related to site access and project schedules, the study employed a non-probability convenience sampling method. Of the 150 questionnaires distributed, 129 usable responses were collected, producing an 86 percent response rate that is acceptable within organizational research.

Data were gathered using structured questionnaires consisting of well-established measurement scales. Empowering leadership was assessed using the twelve-item scale developed by Zhang and Bartol (2010), which captures leaders' behaviors related to autonomy, participation, and confidence-building.

Psychological empowerment was measured using Sprietzer's (1995) twelve-item instrument capturing meaning, competence, self-determination, and impact. Knowledge sharing was measured using scales adapted from Wang and Noe (2010) and Srivastava et al. (2006), capturing both donating and collecting behaviors. Innovative work behavior was assessed using items developed by Janssen (2000) and De Jong and Den Hartog (2010), which include indicators of idea generation, idea promotion, and idea implementation. All items were rated on a five-point Likert scale ranging from strongly disagree to strongly agree. Reliability analysis showed satisfactory internal consistency across all scales.

Data analysis was conducted using SPSS and included descriptive statistics, reliability testing, validity checks, normality assessment, correlation analysis, and regression analysis. The demographic results indicated that the sample comprised mostly male employees with the majority falling between the ages of 25 and 40, which aligns with the typical workforce distribution in Sri Lanka's engineering sector. Most respondents had technical or professional engineering qualifications and between three and ten years of industry experience. Validity tests including the KMO and Bartlett's tests confirmed that the sample was adequate for further statistical analysis. Descriptive statistics revealed consistently high perceptions of empowering leadership and moderate-to-high levels of psychological empowerment, knowledge sharing, and innovative work behavior.

4.1 Reliability and Validity Statistics

Table 4.1: Reliability and Validity Statistics

Variable	Cronbach's Alpha	No. of Items
Empowering Leadership (EL)	0.835	12
Knowledge Sharing (KS)	0.722	8
Psychological Empowerment (PE)	0.817	9
Innovative Work Behavior (IWB)	0.815	9

Source: Survey Data (2025)

As a test of reliability, Cronbach's Alpha was used to evaluate the internal consistency of each scale. Cronbach's Alpha is used to evaluate the internal consistency of each scale as a reliable test. Cronbach's Alpha value ranges from 0 to 1, with a value above 0.7 39 demonstrating a acceptable reliability. As per the table, Alpha values for Empowering Leadership (0.835, 12 items), Knowledge Sharing (0. 722, 8 items), Psychological Empowerment (0. 817, 9 items), and Innovative Work Behavior (0. 815, 9 items) and its identity all have exceeded the accepted threshold. This confirms strong internal consistency and supports the reliability of the measurement instruments used to assess the relationships among empowering leadership, psychological empowerment, knowledge sharing, and employee innovation in this study.

4.2 Hypothesis Testing

4.2.1 Correlation Analysis

Table 4.1. Correlation Statistics (H1)

Variables		Empowering Leadership	Innovative Work Behavior
Empowering Leadership	Pearson Correlation	1	.837**
	Sig. (2-tailed)		0
	N	300	300
Innovative Work Behavior	Pearson Correlation	.837**	1
	Sig. (2-tailed)	0	
	N	300	300

Source: Survey Data (2025)

As shown in the table above, the Pearson Correlation coefficient (r) between Empowering Leadership and Innovative Work Behavior is 0.837. This correlation is statistically significant at the 0.01 level (2-tailed), as indicated by the p-value ($p = 0.000$). The statistically significant positive correlation ($r = 0.837$, $p < 0.001$, $N = 300$) indicates a very strong, highly positive relationship between the two variables. This means that higher levels of Empowering Leadership are strongly associated with increased Innovative Work Behavior among employees. Therefore, Hypothesis H1, which proposed a positive relationship between EL and IWB, is supported.

Table 4.2. Correlation Statistics (H2)

Variables		Empowering Leadership	Knowledge Sharing
Empowering Leadership	Pearson Correlation	1	.804**

	Sig. (2-tailed)		0
	N	300	300
Knowledge Sharing	Pearson Correlation	.804**	1
	Sig. (2-tailed)	0	
	N	300	300

Source: Survey Data (2025)

RESULTS reveal a highly significant positive correlation between Empowering Leadership and Knowledge Sharing. The Pearson Correlation coefficient is r = 0.804, which is statistically significant at the 0.01 level (2-tailed), as the p-value is p = 0.000. This strong positive coefficient (r = 0.804, p < 0.001, N = 300) indicates that higher levels of empowering leadership are powerfully associated with increased knowledge sharing among employees. which proposes a positive relationship between EL and KS, is strongly supported.

Table 4.3. Correlation Statistics (H3)

Variables		Empowering Leadership	Psychological Empowerment
Empowering Leadership	Pearson Correlation	1	.841**
	Sig. (2-tailed)		0
	N	300	300
Psychological Empowerment	Pearson Correlation	.841**	1
	Sig. (2-tailed)	0	
	N	300	300

Source: Survey Data (2025)

The correlation analysis was conducted to test the relationship between Empowering Leadership (EL) and Psychological Empowerment (PE). The table confirmed a highly significant positive 53 correlation between the two variables, with a Pearson Correlation coefficient of r=0.841 (p=0.000, N=300). This strong positive coefficient suggests that higher levels of empowering leadership are powerfully and positively associated with higher levels of psychological empowerment among employees. Based on this finding, the proposed hypothesis predicts a positive relationship between EL and PE is strongly supported.

Table 4.4. Correlation Statistics (H4)

Variables		Knowledge Sharing	Innovative Work Behavior
Knowledge Sharing	Pearson Correlation	1	.780**
	Sig. (2-tailed)		0
	N	300	300
Innovative Work Behavior	Pearson Correlation	.780**	1
	Sig. (2-tailed)	0	
	N	300	300

Source: Survey Data (2025)

The results of the correlation analysis between Knowledge Sharing (KS) and Innovative Work Behavior (IWB), were conducted to test the hypothesis. The analysis revealed a highly significant positive correlation between the two variables. The Pearson Correlation coefficient (r) is 0.780, which is statistically significant at the 0.01 level (2-tailed), as the p-value is 0.000 (p < 0.001). This strong positive coefficient (r = 0.780, p < 0.001, N = 300) indicates that higher levels of knowledge sharing are powerfully associated with increased innovative work behavior among employees. Therefore, Hypothesis H4, which proposes a positive relationship between KS and IWB, is strongly supported.

Table 4.5. Correlation Statistics (H5)

Variables		Psychological Empowerment	Innovative Work Behavior
Psychological Empowerment	Pearson Correlation	1	.817**
	Sig. (2-tailed)		0
	N	300	300
Innovative Work Behavior	Pearson Correlation	.817**	1
	Sig. (2-tailed)	0	
	N	300	300

Source: Survey Data (2025)

The correlation analysis revealed a highly significant positive correlation between Psychological Empowerment and Innovative Work Behavior. The Pearson Correlation coefficient (r) is 0.817, which is statistically significant at the 0.01 level (2-tailed), as the p-value is <0.001 (N=300). This finding indicates a very strong positive relationship, suggesting that higher levels of psychological empowerment among employees are powerfully associated with increased innovative work behavior. This result provides strong empirical support for the hypothesis proposing a positive link between these two constructions.

4.4. Mediator Analysis (H6)

Table 4.4.1: Regression Analysis for (H6) Predicting KS (Mediator) from EL (IV)

Predictor	B	SE B	t	p	95% CI [LL, UL]
Constant	1.1758	0.1141	10.3	0	[0.9513, 1.4002]
EL (IV)	0.7185	0.0308	23.4	0	[0.6579, 0.7790]

Source: Survey Data (2025)

Table 4.4.2: Regression Analysis Predicting IWB (DV) from EL (IV) and KS (MV)

Predictor	B	SE B	t	p	95% CI [LL, UL]
Constant	-0.1707	0.1402	-1.2	0.22	[-0.4465, 0.1051]
EL (IV)	0.6408	0.0546	11.7	0	[0.5334, 0.7483]
KS (MV)	0.367	0.0611	6.01	0	[0.2467, 0.4873]

Source: Survey Data (2025)

Table 4.4.3: Total Effect of EL (IV) on IWB (DV)

Predictor	B	SE B	t	p	95% CI [LL, UL]
Constant	0.2608	0.1272	2.05	0.04	[0.0104, 0.5111]
EL (IV)	0.9045	0.0343	26.4	0	[0.8370, 0.9720]

Source: Survey Data (2025)

Table 4.4.4: Mediation Analysis: Direct and Indirect Effects of EL on IWB via KS

Effect	B	SE / BootSE	t	p	95% CI [LL, UL]
Total Effect	0.9045	0.0343	26.4	0	[0.8370, 0.9720]
Direct Effect	0.6408	0.0546	11.7	0	[0.5334, 0.7483]
Indirect Effect (via KS)	0.2637	0.045	—	—	[0.1722, 0.3513]

Source: Survey Data (2025)

4.5. Mediator Analysis (H7)

Table 4.5.1: Regression Analysis (H7) Predicting PE (Mediator) from EL (IV)

Predictor	B	SE B	t	p	95% CI [LL, UL]
Constant	0.2356	0.1253	1.8793	0.0612	[-0.0111, 0.4822]
Empowering Leadership (EL)	0.908	0.0338	26.8665	0	[0.8415, 0.9745]

Source: Survey Data (2025)

Table 4.5.2: Regression Analysis Predicting IWB (DV) from EL (IV) and PE (MV)

Predictor	B	SE B	t	p	95% CI [LL, UL]
Constant	0.2356	0.1253	1.8793	0.0612	[-0.0111, 0.4822]
Empowering Leadership (EL)	0.908	0.0338	26.8665	0	[0.8415, 0.9745]

Source: Survey Data (2025)

Table 4.5.3: Total Effect of EL (IV) on IWB (DV)

Predictor	B	SE B	t	p	95% CI [LL, UL]
Constant	0.1697	0.1185	1.432	0.1532	[-0.0635, 0.4030]
Empowering Leadership (Path c')	0.5535	0.0588	9.4183	0	[0.4379, 0.6692]
Psychological Empowerment (Path b)	0.3865	0.0545	7.0977	0	[0.2793, 0.4937]

Source: Survey Data (2025)

Table 4.5.4: Mediation Analysis: Direct and Indirect Effects of EL on IWB via PE

Effect	B	SE / BootSE	t	p	95% CI [LL, UL]
Total Effect	0.9045	0.0343	26.3686	0	[0.8370, 0.9720]
Direct Effect (c')	0.5535	0.0588	9.4183	0	[0.4379, 0.6692]
Indirect Effect (via PE)	0.351	0.0514	—	—	[0.2551, 0.4548]

Source: Survey Data (2025)

The regression analysis for the mediation model confirms a strong and highly significant total positive effect of Empowering Leadership (EL) on Employee Innovative Behavior (IWB) (B=0.9045, p=0.000). Psychological Empowerment (PE) acts as a significant partial mediator in this relationship. This is substantiated by the highly significant path from EL to PE (B=0.9080, p=0.000) and the significant path from PE to IWB (B=0.3865, p=0.000). Most importantly, the indirect effect via PE is significant (B=0.3510), as its 95% confidence interval [0.2551, 0.4548] excludes zero, confirming that EL fosters IWB by psychologically empowering employees. Since the Direct Effect of EL on IWB remains significant (B=0.5535, p=0.000), the influence of Empowering Leadership is both direct and partially channeled through Psychological Empowerment.

DISCUSSION

The primary purpose of this study was to examine the influence of empowering leadership (EL) on employees' innovative work behavior (IWB) within the Sri Lankan Mechanical, Electrical, and Plumbing (MEP) sector, with a particular emphasis on the mediating roles of psychological empowerment (PE) and knowledge sharing (KS). The findings of this research provide robust empirical support for the hypothesis that EL significantly and positively affects IWB. These results align with a large body of international literature emphasizing the role of empowering leadership as a critical driver of innovation in dynamic, technology-intensive, and project-based organizational environments (Zhang & Bartol, 2010; Dust et al., 2014; Ahearne et al., 2005).

The study indicates that employees working under leaders who empower them are more inclined to engage in activities related to generating new ideas, promoting these ideas within the organizational context, and ensuring their effective implementation. Empowering leaders actively distribute decision-making authority, express confidence in employees' abilities, encourage autonomy, and cultivate

participative behaviors, which together create psychologically safe environments. These conditions allow employees to take initiative, engage in risk-taking, and experiment with novel solutions without fear of negative repercussions. In the Sri Lankan MEP sector characterized by hierarchical structures, high work pressure, and technically complex projects these behaviors are particularly critical. Leaders who encourage autonomy and participation enable employees to navigate project complexities with creativity and resourcefulness, ultimately improving both individual performance and organizational innovation outcomes.

5.1 Mediating Role of Psychological Empowerment

Psychological empowerment was found to partially mediate the relationship between EL and IWB. This is consistent with prior research demonstrating that employees exhibit higher levels of innovative behavior when they perceive meaningfulness, competence, self-determination, and influence in their work (Afsar et al., 2014; Kim & Beehr, 2017; Spreitzer, 1995). The findings suggest that empowering leaders foster these psychological states by involving employees in decision-making, acknowledging individual strengths, and entrusting them with responsibility for critical organizational tasks. In high-pressure and technically demanding environments like the MEP sector, employees who experience psychological empowerment feel capable of taking calculated risks, exploring alternative solutions, and persisting in the face of obstacles. This underscores the importance of not only providing structural or procedural support but also cultivating employees' internal motivation and confidence, which together translates knowledge, skills, and creativity into tangible innovation outcomes.

Moreover, the mediation effect highlights that EL indirectly influences IWB through psychological pathways, emphasizing that leadership impacts innovation not just through observable actions or incentives but also through employees' perceptions of their roles and capacities. By enhancing meaning, autonomy, and impact, leaders can strengthen employees' intrinsic motivation, resulting in proactive engagement and sustained creative behaviors that contribute to organizational competitiveness.

5.2 Mediating Role of Knowledge Sharing

Knowledge sharing also emerged as a significant partial mediator between EL and IWB, illustrating that innovation is both an individual cognitive and a socially facilitated process. Empowering leaders promote open communication, trust, and collaborative problem-solving, which enhances the exchange of tacit and explicit knowledge across teams (Srivastava et al., 2006; Xue et al., 2011; Wang & Noe, 2010). This collaborative knowledge exchange allows employees to leverage collective expertise, refine ideas collectively, and implement solutions more effectively.

The dual mediation of PE and KS demonstrates that EL drives innovation through both psychological and social mechanisms. While psychological empowerment strengthens intrinsic motivation and risk-taking, knowledge sharing reinforces collaborative learning and collective problem-solving. Together, these pathways highlight a holistic mechanism: leaders influence innovation not only by inspiring confidence and autonomy but also by creating conditions that facilitate the flow of information, ideas, and technical expertise across the organization. The findings suggest that an integrated approach, combining both individual-focused and social-focused strategies, is essential for fostering a sustainable culture of innovation.

MANAGERIAL IMPLICATIONS

The study provides several important managerial implications for leaders, managers, and human resource practitioners operating in the Mechanical, Electrical, and Plumbing (MEP) sector. First, organizations should prioritize structured leadership development programs that cultivate empowering leadership competencies, including participative decision-making, autonomy support, coaching, and collaborative communication. Leaders must be trained to balance authority with trust, delegate responsibilities effectively, and foster a psychologically safe climate that encourages employees to take initiative when solving complex engineering challenges. Such programs not only enhance leadership skills but also create conditions that motivate employees to engage in innovative thinking and creative problem-solving.

Second, organizations should redesign work systems and processes to enhance employees' psychological empowerment, ensuring that they experience meaningful work, competence, autonomy, and a sense of impact. This can be achieved through clear goal-setting frameworks, providing task variety, continuous professional development programs, mentoring, and recognition systems that reward innovative contributions. By actively supporting these psychological states, organizations promote intrinsic motivation and proactive behaviors, which are essential for sustaining innovation in high-pressure, technology intensive environments such as the MEP sector.

Third, promoting knowledge sharing within the organization is critical for innovation. Organizations can establish digital platforms for collaborative knowledge exchange, create cross-functional teams, and foster communities of practice that encourage employees to openly discuss challenges and share technical expertise. Leaders should facilitate both tacit and explicit knowledge sharing through formal mechanisms, such as structured meetings and knowledge databases, as well as informal mechanisms, such as mentoring relationships and social networks. Encouraging collaborative problem-solving strengthens organizational learning and accelerates the development and implementation of innovative solutions.

Finally, organizations should create an innovation-supportive climate by promoting experimentation, minimizing hierarchical barriers, and ensuring psychological safety. Recognition and reward systems should celebrate both incremental and radical innovations, acknowledging employees' contributions to idea generation, refinement, and implementation. Leaders should encourage learning from failures and adopt continuous improvement mindsets. By integrating leadership development, psychological empowerment, knowledge sharing, and an innovation-supportive climate, organizations can systematically enhance both individual and collective innovation capacity, which is particularly relevant in project-based and technically complex sectors like MEP where rapid adaptation and creativity are essential for competitiveness.

LIMITATIONS

Despite its contributions, this study has several limitations that must be acknowledged. First, the use of non-probability convenience sampling limits the generalizability of the findings, as the sample may not accurately represent all employees across Sri Lankan MEP

organizations. Second, the cross-sectional research design prevents the establishment of causal relationships between empowering leadership, psychological empowerment, knowledge sharing, and innovative work behavior. Longitudinal or experimental designs would provide stronger causal evidence and help capture changes in innovative outcomes over time. Third, data were collected via self-reported questionnaires, which introduces the potential for common method bias despite the application of statistical and procedural controls. Additionally, the focus on MEP organizations located in Colombo may limit the applicability of findings to organizations in other regions or industries with different cultural, structural, or operational contexts. Lastly, other potentially relevant variables such as psychological safety, team cohesion, intrinsic motivation, or organizational culture were not examined and may provide additional explanatory power in understanding the mechanisms through which leadership influences innovation.

DIRECTIONS FOR FUTURE RESEARCH

Future research can extend and deepen the findings of this study in several ways. First, longitudinal and experimental research designs should be employed to better assess the causal impact of empowering leadership on innovative outcomes over time, allowing researchers to examine how changes in leadership behaviors influence employee innovation. Second, qualitative approaches such as in-depth interviews, focus groups, or case studies could provide richer insights into how employees perceive psychological empowerment and engage in knowledge-sharing behaviors, offering a deeper understanding of underlying processes. Third, future studies may investigate additional mediating or moderating variables, including psychological safety, intrinsic motivation, team climate, organizational culture, and leadership trustworthiness, which could further clarify the mechanisms through which leadership drives innovation. Fourth, comparative studies between MEP organizations and other engineering, construction, or project-based industries could reveal sector-specific differences in leadership effectiveness and innovation outcomes. Finally, cross-cultural comparative research could evaluate the applicability and robustness of the dual-mediation model across different national and organizational contexts, providing insights into the influence of culture, organizational norms, and leadership expectations on the relationship between empowering leadership, psychological empowerment, knowledge sharing, and innovative work behavior.

CONCLUSION

In conclusion, this study provides compelling empirical evidence that empowering leadership significantly enhances employees' innovative work behavior within Sri Lankan MEP organizations. By validating a dual-mediation model, the research contributes to the literature on leadership and innovation, particularly in developing-country contexts, and underscores the critical importance of both psychological and social mechanisms in fostering innovation. Empowering leaders directly influences employees' willingness and ability to generate, promote, and implement innovative ideas. Psychological empowerment partially mediates this relationship by demonstrating how meaningful work, competence, autonomy, and perceived impact enhance intrinsic motivation and proactive behaviors. Knowledge sharing further mediates the innovation process by facilitating collaborative problem-solving, idea refinement, and effective implementation. Collectively, these findings highlight the value of integrating leadership development, psychological empowerment, knowledge sharing, and an innovation-supportive organizational climate as holistic strategies for sustaining innovation, fostering creativity, and maintaining competitive advantage in complex, high-pressure, and technology-intensive project environments.

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