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Transformational Leadership and Innovative Work Behavior in the IT Sector: The Mediating Role of Digital Empowerment and Collaborative Knowledge Sharing

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Keywords:
Transformational Leadership, Innovative Work Behavior, Collaborating Knowledge Sharing, Digital Empowerment, Job-Demand Theory.

ABSTRACT

This study investigates the impact of transformational leadership (TL) on innovative work behavior (IWB) among employees in Pakistan's IT sector, with digital empowerment and collaborative knowledge sharing as parallel mediators. Drawing upon the Job Demands–Resources (JD-R) theory, the research proposes that TL enhance innovation by fostering both technological autonomy and a collaborative learning culture. Data collected from 327 IT professionals were analyzed using structural equation modeling and Hayes' Process Model 4. The results reveal that TL significantly influences IWB, both directly and indirectly through the mediating roles of digital empowerment and collaborative knowledge sharing. The study contributes theoretically by integrating leadership and innovation literature within the JD-R framework and offers practical implications for fostering innovation in digitally dynamic work environments. Limitations and future research directions are also discussed.

INTRODUCTION

The Information Technology (IT) industry in Pakistan has emerged as a critical pillar in the country's economic development and digital transformation journey. With over 6,000 registered IT and IT-enabled services (ITeS) companies and a young, tech-savvy workforce, the industry has shown remarkable growth, contributing over $2.6 billion in IT exports in recent years (Government of Pakistan, 2023; Pakistan Software Export Board, 2023). It acts as a key driver of digitalization across industries ranging from finance, healthcare, education, and public services through software development, data analytics, integration of AI, and cloud-based solutions. As Pakistan keeps adopting digital platforms and e-governance through its "Digital Pakistan" vision, the IT sector not only generates employment but also redesigns conventional business models and service delivery (Liu et al., 2024). In this fast-

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changing and competitive marketplace, Innovative Work Behavior (IWB)—workers' active participation to create, market, and deploy new ideas—is now a strategic requirement (Ajmal et al., 2025; Al Bloushi et al., 2024; Scott & Bruce, 1994). The project-based and knowledge-intensive nature of the IT industry requires ongoing innovation to grow and survive. As such, research into IWB in the Pakistani IT sector is extremely pertinent and timely, given that it can inform the ways in which knowledge-sharing and creativity at an individual level can be leveraged to promote organizational innovation as well as digital competitiveness within a developing country.

In recent years, IWB has garnered significant attention in organizational research, particularly in dynamic, knowledge-intensive sectors like information technology (see e.g, Ajmal et al., 2025; Al Bloushi et al., 2024; Al Daboub et al., 2024; Ali Ahmad et al., 2023; Ergun et al., 2025). IWB refers to the intentional behaviors of employees aimed at the initiation, promotion, and realization of new ideas, processes, or products that enhance individual, team, or organizational performance (Lee & Seo, 2024; Nardo & Hasymi, 2024). In the context of Pakistan's growing IT industry, where firms compete in fast-paced global markets and must constantly evolve their technological offerings, fostering IWB is no longer optional—it is essential (Okunlaya et al., 2022; Tan et al., 2024). Employees are expected to go beyond routine tasks, challenge the status quo, and proactively contribute to continuous innovation. Nonetheless, IWB does not exist in a vacuum; it is influenced by a number of psychological and situational mechanisms. Based on the Job Demands-Resources (JD-R) Model, this article contends that transformational leadership (TL) serves as an essential organizational resource that drives IWB by positively stimulating two central mediating processes: digital empowerment (DE) and collaborative knowledge sharing (CKS). In such an environment, TL has the potential to make a critical contribution by motivating employees, creating a shared vision, and providing a psychologically safe environment to experiment. Due to the sector's dependence on human capital and intellectual assets, research on IWB not only acquaints us with how innovation happens at the micro level but also provides practical suggestions for managers to develop innovation-ready cultures in Pakistani IT companies that aim to compete at the global level.

DE is employees' perceived competence and autonomy to utilize digital tools and technologies to innovate and work independently (Afridi et al., 2017; Afridi, Javed, et al., 2023; Ahmed et al., 2025; Aramburuzabala et al., 2024). TL, with their visionary and supportive behaviors, encourage employees to adopt digital tools with confidence, thus enabling experimentation and creativity. At the same time, CKS—voluntary sharing of ideas, experiences, and knowledge between team members (Afridi et al., 2020; Anwar & Saraih,

2024; Asbari, 2024; Ashraf et al., 2022)— facilitates collective learning and co-development of creative solutions. The JD-R model suggests that job resources such as leadership support and digital infrastructure not only buffer job demands but also stimulate motivational processes that initiate extra-role behaviors such as innovation (Bakker et al., 2023). Thus, an analysis of DE and CKS as mediators offers a sophisticated insight into leadership catalyzing innovation in the digital age. This is especially pertinent in Pakistan's IT industry, where the ability to innovate quickly and collectively is crucial to sustaining competitive edge in a growingly digital and globalized world economy.

Hypothesis Development

TL is one of the most popular leadership styles, and its major feature is the personality of a leader who inspires, motivates, intellectually challenges, and indeed looks at his followers as individuals (Agazu et al., 2025; Ahsan, 2024; Bass, 1960). TL do more than conducting exchange transactions; they offer a powerful vision, build trust, promote risk-taking, and synchronize the individual goals and organizational goals (Abbas, 2024; Adeoye et al., 2025). TL plays a crucial role in motivating staff and pioneering performance in the digital economy, especially in the field of information technology where innovativeness, freedom of action, and sharing expertise are very vital (Ahmed et al., 2025; Dunn et al., 2023).

TL has taken a central position in recent research in digital environments. For example, Ahsan (2024) discovered that TL was a strong predictor of employee engagement and innovation outcomes in Pakistan's technology companies. Similarly, Alabdali et al. (2024) established that TL assist in cultivating innovation readiness among IT professionals in developing economies through the promotion of psychological safety and flexibility. IWB is even more critical in knowledge-based industries and digital progress (Nardo & Hasymi, 2024; Scott & Bruce, 1994). IWB is even more critical in knowledge-based industries and digital progress (Al Daboub et al., 2024; Ergun et al., 2025)— like IT—in which workers are not only knowledge workers but also innovating agents. In Pakistan's IT industry, with competition, complexity of projects, and digitalization on the rise (Al Daboub et al., 2024; Sode & Chenji, 2024), IWB is a strategic imperative. The employees need to keep questioning current processes, trying out novel technologies, and suggesting digital alternatives. As explained by Al Daboub et al. (2024), developing IWB among digital teams involves more than technical skills training—it calls for a culture of trust, empowerment, and collaboration around knowledge, frequently influenced by the behavior of leaders.

TL serves as an essential catalyst in cultivating IWB, especially in innovative and knowledge-based settings such as the IT industry. TL motivate and energize followers

through four behaviors: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994). These behaviors are directly related to the psychological and situational requisites for individual-level innovation.

First, TLs make a riveting vision and inner motivation available, which inspires the workforce to excel beyond ordinary performance and innovate the work processes and outcomes (Abbas, 2024; Kilag et al., 2024; Lawrason et al., 2023). This visionary element promotes cognitive flexibility so that employees can think in new ways and be open to experimentation—core elements of IWB (Hadi et al., 2024; Scott & Bruce, 1994). Second, through intellectual stimulation, TL stimulate employees to question conventional assumptions, challenge the status quo, and pursue unorthodox ideas (Bagga et al., 2023; Cao & Le, 2024). This directly stimulates the idea generation stage of IWB, where employees can spot areas for improvement and innovation (Scott & Bruce, 1994; Utomo et al., 2023; Vătămănescu et al., 2022). Third, TL provide personalized support and recognition, which creates psychological safety—a work environment where employees feel comfortable experimenting and taking risks without fearing adverse outcomes (Agazu et al., 2025; Greimel et al., 2023). This psychological safety allows employees to actively advocate and enact new ideas, the latter stages of IWB (Ergun et al., 2025; Scott & Bruce, 1994; Shah et al., 2020).

From a theoretical perspective, the JD-R model (Demerouti et al., 2001) offers a lens to see how TL operates as a motivational resource. Based on the JD-R model, autonomy, supportive leadership, and chances for development are some job resources that strengthen work engagement, which in turn reinforce proactive and innovative behavior. TL, through increasing such resources, creates an environment in the workplace that is favorable to innovation.

In addition, the Componential Theory of Creativity (Amabile, 1996) also affirms this connection. It holds that TL is based on the idea that creativity and innovation thrive when, in the workplace, people are intrinsically motivated and surrounded by appropriate supervision. TL, by defining meaningful work and personal growth, trigger these intrinsic motivation and creative self-efficacy. Recent empirical studies reinforce this relationship. For example, Ausat et al. (2024) found a significant positive relationship between TL and IWB among IT professionals in emerging markets, where innovation is often constrained by resource limitations and risk aversion. Similarly, Nguyen et al. (2022) reported that TL enhances IWB by encouraging employees to integrate digital tools and collaborate on problem-solving initiatives in high-tech firms.

In the Pakistani IT context, where firms are navigating rapid digitalization, shifting global standards, and a competitive outsourcing market, TL offers a critical lever for unleashing employee innovation. Leaders who can align technological change with a shared vision, empower their teams, and cultivate a psychologically safe climate are more likely to drive continuous improvement and sustained innovation through their employees.

Thus based on the above discussion, we propose the following hypothesis

H1: *Transformational leadership has a positive influence on employees IWB.*

Mediating role of Digital Empowerment

DE refers to an employee's perceived competence, autonomy, and confidence in using digital technologies to perform work-related tasks creatively, efficiently, and independently (Aramburuzabala et al., 2024; Di et al., 2024). It reflects the psychological state wherein employees feel enabled and capable of leveraging digital tools, platforms, and systems to innovate and solve problems (Lyu et al., 2025). In today's technology-driven work environments—particularly in the IT sector—digital empowerment goes beyond basic computer literacy. It encompasses proficiency in digital collaboration tools, data-driven decision-making, and the confidence to experiment with emerging technologies (e.g., AI, cloud systems, low-code platforms). Digitally empowered employees are more likely to engage in self-initiated learning, challenge outdated procedures, and develop or propose novel tech-based solutions.

Research suggests that digital empowerment is strongly influenced by organizational context, including leadership behavior, digital infrastructure, learning culture, and the extent to which innovation is encouraged and supported (Ahmed et al., 2025; Di et al., 2024; Sun et al., 2024). Drawing on the JD-R model (Bakker et al., 2023), TL acts as a key job resource that cultivates personal resources like digital empowerment by providing a supportive, stimulating, and enabling environment. Leaders who offer intellectual stimulation, individualized support, and a clear digital vision enhance employees' confidence in navigating digital platforms, which subsequently fosters IWB. Additionally, Self-Determination Theory (Deci & Ryan, 2012) explains how TL fulfill psychological needs—such as autonomy and competence—leading to greater internal motivation to innovate using digital tools. Empirical evidence supports this linkage; for instance, Di et al. (2024) found that digital empowerment mediates the relationship between TL and innovation outcomes in South Asian tech firms, while Sun et al. (2024)demonstrated its mediating effect between leadership and creative performance in software development teams. Hence, digital empowerment serves as a critical psychological mechanism through which TL translates into

IWB, especially in the digitally dynamic context of Pakistan's IT sector. Thus the following hypothesis is proposed;

H2: *Digital Empowerment has a positive mediating effect between the relationship of TL-IWB*

Mediating role of Collaborating Knowledge Sharing

CKS refers to the intentional exchange of ideas, experiences, expertise, and information among employees to solve problems, improve work processes, and foster innovation (Ibrahim & Khan, 2025; Khan et al., 2022). In the IT sector—where cross-functional teams, agile methodologies, and virtual collaboration are prevalent—knowledge sharing is not only a routine task but a strategic necessity (Ghahtarani et al., 2020; Ibrahim, 2022; Islam et al., 2024; Janah et al., 2024). It enhances organizational learning (Asbari, 2024; Janah et al., 2024), promotes creative thinking (Ibrahim et al., 2025; Sajid et al., 2025; Vătămănescu et al., 2022), and enables employees to build upon each other's ideas (Afridi, Asad, et al., 2023; Afridi & Haider, 2018; Raziq et al., 2024), thereby contributing directly to IWB. TL play a crucial role in cultivating a culture of open communication, trust, and psychological safety, which are essential conditions for collaborative knowledge sharing (Anwar & Saraih, 2024; Elrehail, 2018; Lin & Chen, 2017). Through intellectual stimulation, such leaders encourage employees to challenge assumptions and share diverse perspectives, while individualized consideration ensures that contributions are recognized and valued. According to the Social Exchange Theory (Cook & Emerson, 1987), when employees perceive support and trust from leadership, they are more likely to reciprocate by engaging in behaviors that benefit the organization, such as sharing valuable knowledge. Furthermore, the JD-R model posits that leadership support functions as a job resource that enhances employee motivation and facilitates engagement in discretionary behaviors like knowledge sharing. Empirical studies support this mediating mechanism; for example, Alabdali et al. (2024)found that TL significantly enhances team innovation through the facilitation of knowledge sharing, and Ibrahim et al. (2025) demonstrated that knowledge sharing mediates the relationship between leadership and creativity in digital project teams. In the Pakistani IT context, where innovation is key to global competitiveness, collaborative knowledge sharing serves as a crucial pathway through which TL translates into IWB by enabling collective intelligence, mutual learning, and co-creation of innovative solutions. Thus the following hypothesis is developed;

H3: *CKS has a positive mediating impact between the relationship of TL-IWB*

Methodology

The target population for this study comprised employees working in registered IT firms in Pakistan, including software houses, digital service providers, and tech startups. Given the nature of the research, the unit of analysis was individual employees working in roles that demand technological interaction and knowledge work, such as software developers, project managers, systems analysts, and digital product teams. These employees were selected due to their exposure to digital tools, collaborative work environments, and innovation-driven tasks—key elements aligned with the constructs under study.

A quantitative survey-based research design was employed to collect data. The study utilized a convenience sampling technique, which is commonly applied in organizational research where random sampling is challenging due to accessibility constraints. To ensure diversity, efforts were made to collect responses from employees across different cities with major IT hubs—such as Islamabad, Lahore, Karachi, and Peshawar. Data were collected using a structured questionnaire administered both physically (via printed surveys at tech offices) and digitally (through Google Forms and company email lists). The questionnaire was accompanied by an informed consent form, assuring participants of anonymity, voluntary participation, and confidentiality of their responses. A total of 450 questionnaires were distributed, out of which 380 valid responses were received, yielding an 84.4% response rate. To ensure the respondents' relevance to the study, a filter question was included asking whether the respondent's role involves digital tool usage and collaboration with teams. Demographic data such as age, gender, education level, job experience, and current role were also collected for control and descriptive analysis (see table no. 1)

Ethical approval was obtained from the relevant university research ethics committee prior to data collection. All procedures followed ethical standards concerning participant rights, data privacy, and responsible reporting.

Table No. 1.Demographic Statistics

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	264	69.5%
	Female	116	30.5%
Age Group	20–29 years	182	47.9%
	30–39 years	138	36.3%
	40–49 years	42	11.1%
	50 years and above	18	4.7%
Educational Level	Bachelor’s Degree	168	44.2%
	Master’s Degree	180	47.4%
	MPhil/MS	28	7.4%
	PhD	4	1.0%

Demographic Variable	Category	Frequency (n)	Percentage (%)
Job Role	Software Developer/Engineer	150	39.5%
	Project Manager	64	16.8%
	Systems Analyst	56	14.7%
	UX/UI Designer	38	10.0%
	QA Engineer/Testers	40	10.5%
	Other (e.g., IT Support)	32	8.5%
Experience	Less than 1 year	36	9.5%
	1–3 years	118	31.1%
	4–6 years	134	35.3%
	7–10 years	64	16.8%
	More than 10 years	28	7.4%
Employment Type	Full-time	348	91.6%
	Contractual/Freelance	32	8.4%

Measures

To measure the variables under study, standardized and validated scales were adopted from prior literature and modified slightly for contextual relevance to the Pakistani IT sector. TL was assessed using a 7-item scale adapted from (Bass & Avolio, 1996), Multifactor Leadership Questionnaire (MLQ), which captures dimensions such as idealized influence, inspirational motivation, and intellectual stimulation. A sample item includes: *"My supervisor articulates a compelling vision of the future."* The scale demonstrated high internal consistency with a Cronbach's alpha of 0.91. Digital Empowerment was measured using a 6-item scale adapted from (Spreitzer, 1995) psychological empowerment scale, modified to reflect digital contexts. A representative item is: *"I feel confident in my ability to use digital tools to perform my job effectively."* This scale yielded a Cronbach's alpha of 0.88. CKS was measured using a 5-item scale adapted from (Bock et al., 2005), capturing employees' willingness and behaviors around knowledge exchange in collaborative environments. A sample item is: *"I share my work-related knowledge with my team members whenever it can help them."* The reliability of this scale was also strong, with a Cronbach's alpha of 0.86. Lastly, IWB was measured using a 9-item scale developed by (Janssen, 2000), which assesses idea generation, promotion, and implementation. A sample item includes: *"I often generate original solutions for problems at work."* The IWB scale showed a Cronbach's alpha of 0.90, indicating excellent internal consistency. All items were rated on a 5-point Likert scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

Analysis

Correlation

The correlation results reveal strong, positive, and significant relationships among all variables. TL is highly correlated with IWB (r = .71), digital empowerment (r = .64), and collaborative knowledge sharing (r = .59). Both mediators also show strong correlations with IWB, supporting the model's mediation assumptions.

Table No. 2. Correlation Matrix

Variables	Mean	SD	1	2	3	4
1. TL	4.01	0.62	1			
2. DE	3.85	0.66	.64**	1		
3. CKS	3.92	0.61	.59**	.67**	1	
4. IWB	4.08	0.58	.71**	.68**	.65**	1

Model Fitness

The model fit indices indicate that the proposed structural model fits the data well. The chi-square/df value of 2.31 falls within the acceptable range (less than 3), suggesting reasonable model parsimony. Both the Comparative Fit Index (CFI = 0.948) and Tucker-Lewis Index (TLI = 0.935) exceed the recommended threshold of 0.90, indicating a good fit. Additionally, the Root Mean Square Error of Approximation (RMSEA = 0.056) and the Standardized Root Mean Square Residual (SRMR = 0.042) are well below the cutoff of 0.08, further supporting the adequacy of the model. Collectively, these indices confirm that the hypothesized relationships among TL, digital empowerment, collaborative knowledge sharing, and IWB are well-supported by the data.

Table no. 3. Model Fitness Summary

Fit Index	Value	Threshold Criteria	Interpretation
Chi-square/df (CMIN/df)	2.31	< 3.00	Acceptable
CFI	0.948	≥ 0.90	Good Fit
TLI (Tucker-Lewis Index)	0.935	≥ 0.90	Good Fit
RMSEA	0.056	≤ 0.08	Acceptable
SRMR	0.042	≤ 0.08	Good Fit

Using Hayes' Process Model 4 for parallel mediation, the analysis reveals that TL has both a significant direct effect (β = 0.34, p < .01) and a significant total indirect effect (β = 0.35, 95% CI [0.26, 0.45]) on IWB. Among the mediators, digital empowerment shows a stronger indirect effect (β = 0.19) compared to collaborative knowledge sharing (β = 0.16), indicating that TL enhances IWB more effectively when employees feel digitally empowered. Both mediating paths were statistically significant, as their confidence intervals did not include

zero. These findings support the parallel mediation mechanism, suggesting that TL drives IWB by simultaneously fostering digital capabilities and promoting knowledge sharing among employees.

Table No. 4. Summary of Results

Path	Effect Size	SE	LLCI	ULCI	Significance
TL → IWB (Direct effect)	0.34	0.06	0.22	0.46	Significant
TL → DE → IWB (Indirect effect)	0.19	0.04	0.11	0.27	Significant
TL → CKS → IWB (Indirect effect)	0.16	0.04	0.08	0.24	Significant
Total Indirect Effect	0.35	0.05	0.26	0.45	Significant
Total Effect (Direct + Indirect)	0.69	0.06	0.57	0.81	Significant

Discussion

The current study aimed to examine the influence of TL on IWB through the mediating roles of DE and CKS, using data from IT professionals in Pakistan. The results revealed that TL significantly enhances IWB both directly and indirectly through DE and CKS, confirming the hypothesized relationships. These findings are consistent with the JD-R theory, which posits that job resources—such as empowering leadership and knowledge-sharing culture—stimulate positive work outcomes like innovation by enhancing motivation and personal growth.

Comparatively, earlier studies such as Al-Romeedy and El-Sisi (2024) and Ahsan (2024) established that TL fosters employee creativity and innovation by creating a psychologically safe environment. Our study extends this work by demonstrating that TL facilitates IWB not just through motivational influence but also by cultivating *digital empowerment*—a resource that is increasingly relevant in post-digital transformation workplaces. While Amabile's Componential Theory of Creativity emphasized individual and work environment factors in innovation, our findings reaffirm and contemporize this view by identifying digital empowerment as a critical channel through which leadership energizes innovation in technologically dynamic environments.

Furthermore, the mediating role of CKS aligns with prior evidence (Afridi et al., 2021; Afridi, Ali, et al., 2023; Mohsenibeigzadeh et al., 2024; Mustaqim et al., 2024), suggesting that knowledge flows and collaboration are essential precursors of innovative outcomes. However, this study adds value by empirically testing both digital empowerment and knowledge sharing as parallel mediators, a combination rarely investigated in existing research, especially within the South Asian IT context. Theoretically, the study contributes to the JD-R framework by identifying TL as a job resource that triggers additional resources (DE and CKS), ultimately enhancing innovative behavior. Practically, our research addresses the gap in leadership and innovation literature in the Pakistani IT industry, an emergent sector

crucial to economic digitization. It highlights how empowering leadership not only inspires but also equips employees to innovate by leveraging digital tools and shared knowledge.

Contribution

This study provides empirical evidence from Pakistan's IT sector, an under-researched context in leadership and innovation literature. By surveying professionals from one of the country's fastest-growing knowledge industries, the study confirms that TL positively influences IWB both directly and through DE and CKS. The use of parallel mediation analysis via Hayes Process Model 4 offers robust statistical validation of these mechanisms, contributing new data and insight into how innovation is fostered in digitally enabled and knowledge-driven workplaces.

Furthermore, conceptually, this study develops and tests an integrated model that connects leadership style (TL), empowerment in digital environments, collaborative behaviors, and innovation. While previous models have examined these variables in isolation, this research combines DE and CKS as parallel mediators—a novel configuration that reflects the complexity of modern digital work environments. This enriched framework provides a more comprehensive understanding of how leadership indirectly shapes employee innovation through multiple, complementary organizational mechanisms.

Theoretically, this research advances the JD-R Theory by identifying TL as a job resource that activates further resources—DE and CKS—which in turn drive innovative outcomes. By aligning these constructs within the JD-R framework, the study explains not just *what* influences innovation but *how* job resources are mobilized in a digital work setting. This expands the scope of JD-R from traditional job demands to include digital and knowledge-based resources, making it more applicable to contemporary work environments.

Conclusion

this study demonstrates that TL significantly enhances IWB among IT professionals in Pakistan, both directly and through the parallel mediating effects of digital empowerment and collaborative knowledge sharing. Grounded in the Job JD-R theory, the findings underscore the importance of leadership-driven resource activation in fostering innovation within digitalized and knowledge-intensive environments. By integrating two complementary mediators, the study offers a nuanced understanding of the pathways through which TL cultivate innovation, contributing valuable empirical, conceptual, and theoretical insights to contemporary HR and leadership scholarship.

Practical Implications

The findings offer several practical implications for managers and HR professionals in the IT sector. First, organizations should invest in developing TL capabilities among their leaders through targeted training, as such leaders inspire and motivate employees toward innovation. Second, fostering a culture of DE by providing access to advanced tools, autonomy, and digital upskilling can significantly enhance employees' innovative potential. Third, promoting CKS through platforms, team-based projects, and open communication channels encourages the free flow of ideas, driving innovation. Collectively, these actions can build a supportive environment where employees feel empowered, connected, and motivated to contribute creatively and proactively

Limitations and Future Research Directions

Despite its contributions, this study has certain limitations that future research can address. First, the cross-sectional design restricts causal interpretations; longitudinal or experimental studies are recommended to validate the temporal dynamics of the proposed relationships. Second, the data were collected from the IT sector in Pakistan, which may limit generalizability to other industries or cultural contexts—future research could test this model across diverse sectors and countries. Third, the study focused only on two mediators; future studies could explore additional mechanisms such as psychological empowerment, trust, or organizational climate. Lastly, incorporating multi-source data (e.g., supervisor ratings) would help reduce common method bias and enrich the analysis.

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