Leading Innovation: How Supportive Leadership Fuels Creative Work Through Job Embeddedness

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ABSTRACT

This research aims to investigate the relationship between supportive leadership (SL) and innovative work behavior (IWB), with the mediating role of job embeddedness (JE). There is an argument that workers should receive resources, support, and a friendly environment, which are facilitated by supportive leadership, that can increase the amount of creativity among workers. Limited studies have been done on the impact of supportive leadership on employee innovative work behavior. Using job embeddedness theory, we examined the impact of supportive leadership on employee innovative work behavior. In addition, we investigated job embeddedness as a mediator between supportive leadership and employee innovative work behavior. Based on a cross-sectional time horizon, the data were collected from 300 respondents, including instructors, staff, and administrators from the higher education sectors of Islamabad and Rawalpindi. Regression analysis is used to test the proposed hypothesis. The results show that having a supportive leader has a good effect on innovative work actions, and job embeddedness plays a partial role in this connection. This means that when workers feel their leaders support them, they are more inclined to take part in innovative activities, although other elements might also impact this result. The study also provides both theoretical and practical insights, points out limitations of the research, and gives suggestions for future researchers.

Introduction

Innovation has become essential for organizations to stay competitive in today's ever-changing business landscape. With competition increasing due to globalization, organizations are turning more to their workforce to develop creative and innovative ideas. In this scenario, innovative work behavior has received much focus, especially regarding how different leadership styles affect employees' capacity to create and apply new concepts. Among the various types of leadership, supportive leadership stands out as an important element in promoting innovation at work by empowering staff, fostering

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collaboration, and encouraging risk-taking. In today's work environment, it can be stated that innovation is an important value and a crucial component of an organization. Korzilius (2017) claimed that successful businesses are built on the innovative thinking of their employees. Leadership behavior is a crucial factor in determining the organizational climate and whether it is conducive to innovation (Hitt & Ireland, 2004). While there are many other types of leadership in the world, SL is getting a lot of attention due to its potential to support innovation, empower employees, promote teamwork, support creativity, and facilitate risk-taking (House & Mitchell, 1974).

SL is considered an important factor when assessing the attitudes and behavior of employees in the workplace (Khalid, 2012). Supportive leaders are those who give their staff members direction, motivation, and skills to help them be innovative, take risks, and generate ideas. Effective work environments created by supportive leaders inspire people to feel encouraged while motivating them to share innovative concepts with others (Hartmann, 2006).

Based on the literature, little information has been established on the mediation of JE in the connection between SL and IWB (Karimi et al., 2023). In one of the studies, it was found that employees who have the perception that their leaders provide more support and are more connected to them are more inclined toward innovation (Yu & Yan, 2010).

JE theory offers the theoretical foundation for improving the understanding of the relationship between supportive leadership and innovative work behavior when JE is present. Previous research has looked into how JE and various positive leadership styles affect employee outcomes, e.g., transformational leadership and inclusive leadership (Khalid et al., 2021; Elsaied, 2020). However, there are not many studies that focus on other positive leadership styles, such as SL, alongside JE (Saeed, 2022).

JE theory serves as the foundation for this study since it offers a complete framework for analyzing how workers' relationships, fit, and perceived sacrifices in their work environment affect their conduct and choices about whether to stay in an organization. SL has some similarities to other leadership styles like transformational, participative, and ethical leadership; it is distinguished by its emphasis on relational care, empathy, and emotional support, all of which are consistent with the concepts of JE.

JE has the following parts: linkages, fit, the sacrifice of employees' decisions and actions rest on the environment they embrace at their place of work (Mitchell et al., 2001). Positive social interaction fosters a supportive workforce bond, which helps maintain the workers' contentment at work and reduces their desire to quit the workplace (Reiche et al., 2011). Fit is the degree to which a person's gains, tastes, and skill set are aligned with the requirements and work environment of their position (Mitchell et al., 2001). The term "sacrifice" describes the claimed expenses of quitting the company, such as lost prospects for advancement in your profession or social life (Reitz & Anderson, 2011).

Also, so many studies have been done on positive leadership, like transformational and inclusive leadership, and their impact on innovative work behavior (Lin, 2023; Zafar et al., 2024). However, there is a lack of studies on supportive leadership and its impact on innovative work behavior. a thorough grasp of their joint impact on promoting innovative behavior in firms is still lacking (Karimi et al., 2023).

Job embeddedness theory, developed by Mitchell (2001), gives a full understanding of the different forms of commitment in employees' relation to their jobs and organizations. The theoretical foundation of JE argues that an individual's decisions and behaviors at the workplace are determined by the relations between the social and

organizational contexts and the role of the individual. JE theory encourages the worker to stay within an organization due to the strong interconnection and interaction with objects, people, roles, and the company itself. According to Yao (2004), the JE theory includes a wide range of psychological, social, and economic factors that affect employee retention. Research questions of our study were whether supportive leadership positively influences employees' innovative work behavior and job embeddedness. Secondly, is there a positive relationship between job embeddedness and employee innovative work behavior? Thirdly, whether job embeddedness mediates the relationship between supportive leadership and innovative work behavior? Objectives of the study were to examine the impact of supportive leadership on employees' innovative work behavior and job embeddedness. Secondly, to study the role of job embeddedness in influencing employees' engagement in innovative work behavior. Lastly, to assess the mediating effect of job embeddedness between supportive leadership and innovative work behavior.

JE theory provides a useful lens to explore the mechanisms underpinning employee engagement and retention in the context of the research on the influence of SL on IWB. The three SL behaviors include empathy, employee encouragement, and employee empowerment, which can greatly affect how people feel about their jobs. So, our study focuses on research on the role of mediation of JE in the relationship between IWB and SL in higher educational institutions.

Literature Review
Supportive Leadership and Innovative Work Behavior

The traits of supportive leadership include caring for workers' welfare, offering social and emotional assistance, and creating a friendly work environment. Friendly, sympathetic, and actively engaged in assisting staff members in realizing their personal and professional objectives are characteristics of supportive leaders. Numerous favorable organizational results, such as greater job satisfaction, higher levels of employee engagement, and improved performance, have been linked to this leadership style.

Studies have shown that when team leaders show their members that they care, the team's uniqueness and innovation may grow. Amabile (2004) found a strong relationship between subordinates' creativity and leader support. However, certain researchers argue that overly supportive leadership might lead to workers becoming reliant, which could limit their capacity to act independently and pursue creative ideas (Ryan & Deci, 2000). Leaders who exhibit behaviors that other people find motivating have the potential to encourage productive work performance and positive psychological reactions, both of which can lead to increased creativity.

Employees are encouraged to take chances and explore new plans without worrying about unfavorable outcomes when they work in a safe and trustworthy atmosphere created by supportive leaders. It demands psychological comfort to encourage innovation and creativity. The Leader Member Exchange (LMX) Theory backs this idea, showing that strong relationships between leaders and their team members foster trust, independence, and clear communication. These elements are crucial for encouraging creativity and innovation. Nonetheless, certain academics argue against the LMX theory because it presumes that good leader-member connections will consistently result in beneficial results, overlooking possible issues like favoritism or excessive responsibilities (Sparrowe & Liden, 2005).

Also, workers are more likely to feel psychologically safe when they believe that their leaders are encouraging, which lowers the fear of failing and promotes innovation and idea-sharing. Employees are empowered to take responsibility for their jobs and seek out creative ideas (Amabile, 2004). Some researchers believe that having too much freedom without enough guidance can cause inefficiency because workers might find it hard to direct their creativity in a productive way (Gagne & Deci, 2005). The self-determination theory, known as SDT, indicates that when workers feel a sense of autonomy and skillfulness aided by encouraging leaders, their inner drive grows. This increase in motivation results in their higher involvement in creative tasks.

Supportive leaders make sure that staff members have the time, knowledge, and funding they need to work on creative ideas. A study conducted by VU et al. (2021) shows that having a supportive leader helps improve creative problem-solving skills by lowering stress at work. However, SDT does not completely consider the external limitations within organizations, like strict hierarchies or cultures that avoid taking risks, which can still hinder innovation even when there is strong backing from leadership (Deci & Olafsen, 2017).

The constructs employed for assessing innovative work behavior and supportive leadership have been a focus of earlier research. Wang et al. (2017) found a direct positive correlation between employee innovative behavior and well-being. Melhem (2018) found a positive correlation between employee IWB and supportive leadership, supporting their claim that a positive work environment significantly influenced employees' motivation and positive emotions, which in turn encouraged employee engagement in innovative activities. Research suggests that leaders who are supportive create an environment where people feel comfortable and trusted, which motivates staff members to experiment and take measured risks. However, research shows that certain workers might become lazy in environments that are too supportive, which can lessen their motivation to question current practices (Baer & Oldham, 2006). A study done by Peerzadah et al. (2024) found that when leaders provide support, it greatly influences how empowered employees feel psychologically, leading to increased creativity. Workers with encouraging managers frequently display more creative work practices.

H1: Supportive leadership positively influences employee innovative work behavior.

Supportive Leadership and Job Embeddedness

Job embeddedness and other favorable employee outcomes have been associated with supportive leadership. Lower turnover intentions were linked to supportive leadership. Since JE and turnover intentions are adversely correlated, it follows that supportive leadership can increase JE (Riggle, 2009). Some researchers warn that employees who are very integrated into their roles may oppose changes, which can decrease the organization's ability to adapt and innovate (Mitchell et al., 2001). Supportive leadership may improve affective commitment, which in turn may increase work embeddedness (Poon, 2014).

Numerous significant effects of supportive leadership on work embeddedness have been identified by empirical studies. Encouraging leaders fosters relationships of trust with staff members, fostering an atmosphere in which people feel respected and valued at work. Since people who are trusted start to have a strong bond and loyalty towards the tasks assigned, such employees are highly valued and less likely to leave the organization. This occurs because it deepens the emotional connections that employees

feel toward their organization. Yet, strong JE can result in stagnation, as workers might choose stability instead of pursuing strategic risks. Reinforcing leaders helps a person view the organizational values and goals as close at hand because it offers employees practical organizational work assistance while rewarding them. The concept of LMX Theory supports this notion, indicating that workers who have strong relationships with their leaders often create deeper connections with the organization, which boosts their level of engagement.

Opportunities for career advancement supported by great examples of leaders contribute to employees' organizational obligations and enhance the process of job reinforcement and fit through skills acquisition. Besides, promoting leadership development makes the workers psychologically safe and feel a sense of comfort to speak and express their concerns as well as their achievements at the workplace, thereby enhancing the aspect of JE through interaction with others and collaboration. Furthermore, studies show that leadership behaviors such as those supportive would affect reducing the rate of intent to turnover, which contributes to JE and retention.

Also, the leaders who are helped to lead have their workers expressing higher job satisfaction; this is evidence of job embeddedness as well as a positive network and allegiance to the company. Thus, JE due to SL defines the level of innovative work behavior from the workers because a supportive leader cultivates an environment adorned by risk-taking and experimentation essential in enhancing innovation and creativity in the firm. Comprehending these effects is crucial for establishments aiming to foster a favorable workplace atmosphere and encourage staff involvement, dedication, and sustained retention.

H2: There is a positive relationship between Supportive leadership and job embeddedness.

Job Embeddedness and Innovative Work Behavior

JE is the level to which workers are an integral component of their workplace and the environment in which they work. According to Home (2009), JE may increase employee commitment and act as a mediator.

Recent research indicates that too much JE might hinder innovation, because employees who are very attached to their roles could avoid taking risks (Ng & Feldman, 2010). Ananda (2017) considers JE as a means of reducing desires for employee turnover by claiming that workers who feel embedded in their jobs are less likely to leave the organization and more likely to make good contributions, such as making innovations. SDT highlights the role of intrinsic motivation, which is enhanced by job embeddedness, in encouraging innovative behavior.

Due to an increased level of JE, the commitment to the company provokes innovative behaviors among the workers. Job embeddedness refers to the psychological identification that employees have with the company's objectives and values, which elicits a welcome that encourages experimenting and risk-taking. Social embeddedness mainly involves strong social networks, and relationships in the organization compel the employees to work together in offering their diverse knowledge towards the implementation of new projects and ideas. LMX Theory supports this by highlighting how strong leader-member relationships enhance collaboration and information sharing, both essential for innovation. JE reduces the levels of turnover intention among employees, thus enhancing team cohesion, which serves as a precursor to creativity.

Workers who have a strong sense of belonging to their company are more inclined to devote their time and energy to investigating novel concepts and solutions, which

enhances the flexibility and competitiveness of the company. Knowing these effects emphasizes how crucial it is to develop JE to encourage creative work practices, a culture of innovation, and ongoing improvement inside businesses.

H3: There is a positive relationship between Job embeddedness and employee innovative work behavior.

Job Embeddedness as a Mediator

Job embeddedness refers to the relationships that exist between a worker, their employer, and their community. The following dimensions have traditionally been used to conceptualize JE: organizational ties, community ties, organizational fit, community fit, and sacrifices associated with the society and the organization (Mitchell et al., 2001). JE plays a crucial role in mediating the impact of SL on IWB. However, Studies about boundary conditions indicate that in very fast-changing industries, the role of job embeddedness might be less significant, as workers often value career movement more than job security (Karimi et al., 2023).

The degree to which workers feel a sense of involvement in their workplace, organization, and community is known as employment embeddedness. It includes elements like fit, sacrifice, and links (Mitchell et al., 2001). According to research, work embeddedness can increase employees' commitment to the company and their desire to help it succeed, which can mediate the association between supportive leadership and IWB (Karimi et al., 2023).

SL cultivates a strong sense of social ties and organizational belonging, which in turn improves work embeddedness. Workers are more likely to act creatively and in ways that advance the company when they feel a part of it. They can expand on their ideas because they are less likely to leave the company.

Zyl (2019) suggests that creative work behavior is greatly influenced by job engagement. It is suggested that job embeddedness acts as a mediator between creative work practices and encouraging leadership. A study conducted by Hussain et al. (2024) Hussain and colleagues in 2024 found a positive link between job embeddedness and knowledge sharing habits among self-initiated expatriates. Workers who have a stronger connection to their jobs tend to be more willing to give and gather knowledge, which helps in solving problems and encourages creativity in the organization. According to both LMX Theory and SDT, having supportive leaders improves how workers feel about their jobs, and this connection encourages them to be more innovative.

H4: Job embeddedness mediates the relationship between supportive leadership and employee innovative work behavior.

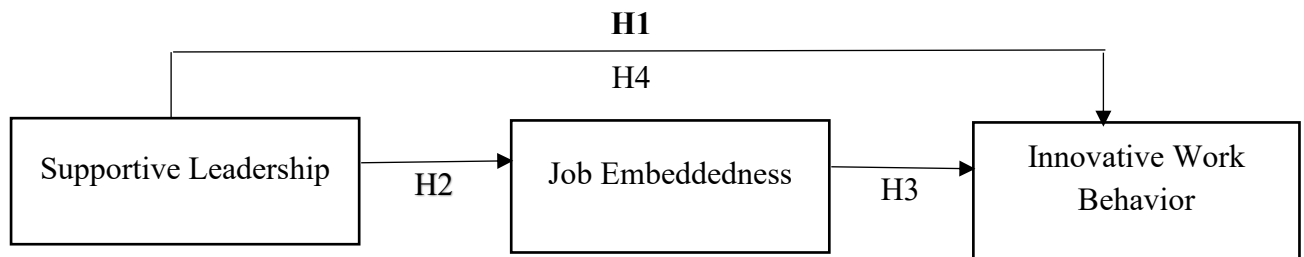**Figure 1** presents a model of our hypothesized relationships.

H1

H4

| Supportive Leadership | H2 | Job Embeddedness | H3 | Innovative Work Behavior |

FIGURE 1 | Theoretical Framework

Methodology
Sample and Data Collection Procedure

The study aims to investigate the impact of SL on employee IWB, with the mediating role of JE through Hypothesis Testing. The causative relationships among SL, JE, and IWB in the higher education sector are investigated using causal research. Our research is based on a non-contrived setting that is higher educational institutions. We used a cross-sectional time horizon for our research. Cross-sectional research is useful for spotting connections at a certain moment in time, but it has its limits when it comes to determining cause and effect and monitoring behavior over time.

The population for our study is higher educational institutions in Islamabad and Rawalpindi. We decided to concentrate on higher educational institutions because SL has a particularly important role in higher education in promoting innovation and making it easier for students to adapt to changing educational paradigms. Also, so many studies have gathered data from Banks, IT, and healthcare centers (Mansoor et al., 2020). However, research in the educational sector on the impact of SL on IWB is lacking (Tran & Choi, 2019).

The convenience sampling approach is adopted. Convenience sampling is a non-probability data collection technique that frequently depends more on the researcher's accessibility, making it possible to quickly and easily get relevant data from available sources. The quantitative method has been used to methodically collect and evaluate numerical data. The research consists of a sample of 300 participants, calculated based on the formula provided by Hair et al. (2010), which is used for assessing sample size adequacy in multivariate studies. The response rate was 78.9% since 300 of the 380 questionnaires that were distributed were filled out and sent back. This study uses a cross-sectional survey approach, where structured questionnaires are employed to gather responses. To analyze the data, the research uses regression analysis to explore the connections, guaranteeing statistical accuracy and reliability.

Through a survey and an internet platform, Google Forms have been utilized to administer a questionnaire. A five-point Likert scale is adopted in the questionnaire.

For analyzing and interpreting data, we used SPSS version 26. To guarantee a thorough analysis of the data, the subsequent statistical methods were implemented: Reliability Analysis, Descriptive Statistics, Correlation Analysis, and Regression Analysis.

Measures

Each questionnaire that was used in this research was adopted. English-language questionnaires were provided. English is widely used in universities and is easily understandable.

Supportive Leadership

A 15-item scale that was created by McGillton (2009) was used to assess supportive leadership. A similar scale has been used in other studies to assess SL style (Samuel, 2018; Rodríguez-Monforte, 2021).

Even though this scale was initially created in a Western setting, it was adapted because it is widely used and has strong psychometric qualities in earlier studies. A small pilot study was carried out to verify that the scale items were understandable and clear for participants from the higher education sector in Pakistan.

Job Embeddedness

A 32-item scale (Crossley, 2007), which was revised by Mitchell (2001) into a 7-item job embeddedness scale, was used. The above-mentioned scale has also been adopted in other studies (Agrawal & Singh, 2018; Peltokorpi & Allen, 2023; Singh, 2020). To improve the contextual relevance, a group of professors and supervisors from universities in Pakistan examined the items for their cultural suitability. Furthermore, a preliminary study was carried out to assess the clarity and consistency of the scale in the context of higher education in Pakistan.

Innovative Work Behavior

A six-item scale was adopted by Scott & Bruce (1994). Other researchers have employed this scale (Cai, 2018; Montani, 2014). Even though this scale is widely used around the world, its relevance in Pakistan was evaluated through feedback from professors and supervisors, along with a pilot study involving academic personnel. Small changes were made to the language to improve the relevance of the questions.

Data Analysis and Findings

The results of the study consist of Frequency and percentage distribution, Internal consistency analysis, descriptive analysis, Pearson correlation coefficients, and multiple regressions. Table 1 shows demographic variables of the respondents, including gender, age, marital status, type of organization, faculty, and education were some of the variables that formed the data collected. Accordingly, the analysis of data showed that this study involved 300 respondents, only half of whom were males, while the other half were females.

According to the age distribution of the 300 respondents, the highest percentage of respondents are between the ages of 31 and 40 (36.0%), people in the 20–30 age range (33.1%), 41–50 years (26.0%), and a lesser percentage in the 51–60 age range (5.0%). With 64.0% of the sample identifying as female and 36.0% as male, the sample is predominantly female in terms of gender. In terms of organization type, 33.3% of participants are from private organizations and 66.7% of participants are from public organizations.

In terms of faculty status, the majority of responders (57.0%) are permanent faculty members, followed by adjunct faculty (4.7%), visiting faculty (30.7%), and other faculty (7.7%). The distribution of educational qualifications shows that 59.3% of individuals have a PhD, while others have master's degrees (25.0%), MS/MPhil degrees (13.3%), and a small percentage (2.3%) a bachelor's degree.

Most of the data was collected from females, and most of them were married. Also, most of the data was collected from the public sector.

These demographic data are essential for comprehending the sample's variety and imply that the viewpoints represented are a fair representation of faculty responsibilities, genders, and organizational affiliations, which enhances the findings' applicability to Pakistan's higher education system.

Table 1: Demographic Statistics

Category	Group	Frequency	Percent (%)
Age	20-30 Years	99	33.0
	31-40 Years	108	36.0
	41-50 Years	78	26.0
	51-60 Years	15	5.0
	Above 61 Years	-	-
Gender	Female	192	64.0
	Male	108	36.0
	Other	-	-
Organization Type	Private	100	33.3
	Public	200	66.7
Faculty Status	Permanent	171	57.0
	Visiting	92	30.7
	Adjunct	14	4.7
	Other	23	7.7
Education	Bachelors	7	2.3
	Master	75	25.0
	MS/MPhil	40	13.3
	PhD	178	59.3
	Other		

n=300

Table 2 shows reliability analysis, supportive leadership, an independent variable having 15 items, had a Cronbach's alpha coefficient of .943, indicating very good reliability. The 7-item JE scale demonstrated good internal consistency with a Cronbach's alpha of .813. The 6-item innovative work behavior (IWB) scale had a Cronbach's alpha of .842, indicating strong internal consistency.

High internal consistency across all constructs ensures that the items reliably capture the underlying variables, thus reinforcing the credibility of subsequent correlation and regression analyses.

Table 2 Reliability Analysis

Variables	No. of items	Cronbach's alpha
Supportive Leadership	15	.943
Job Embeddedness	7	.813
Innovative Work Behavior	6	.842

Table 3 shows descriptive statistics, with a moderate to high level of supportive leadership expressed by respondents (M = 3.73, SD = 0.77). It appears that respondents typically think their leaders are supportive. According to the moderate mean score for JE (M = 3.60, SD = 0.73), people feel fairly embedded in their jobs. Additionally, the participants demonstrated a comparatively enhanced degree of involvement in innovative

work behavior (M = 3.95, SD = 0.77), indicating a regular occurrence of innovative endeavors within the workplace.

Table 3 Descriptive Statistics

	Mean	Std. Deviation
SL	3.73	0.77
JE	3.60	0.73
IWB_mean	3.95	0.77

Note: SL=supportive leadership, JE= job embeddedness, IWB= innovative work behavior

Table 4 shows correlation; a correlation coefficient of (r = 0.74) indicates a strong positive relationship between variables JE and SL. This correlation is statistically significant at a high level (p < 0.01). A correlation coefficient of (r = 0.78) indicates a very strong positive relationship between variables IWB and SL. The correlation is statistically significant. A correlation coefficient of (r = 0.61) indicates a moderately strong positive relationship between variables IWB and JE. The two stars indicate that the correlation is statistically significant. All three correlations are not only strong but also significant, which means these relationships are likely meaningful and not due to random chance.

Table 4 Correlation

	SL_mean	JE_mean	IWB_mean
SL	1		
JE	.74**	1	
IWB	.78**	.61**	1

Notes: SL=supportive leadership, JE=job embeddedness, IWB= innovative work behavior

Table 5 shows the regression analysis. Hypothesis 1 (H1) states that supportive leadership positively promotes employee innovative work behavior, which shows that supportive leadership (SL) significantly predicts innovative work behavior (IWB) (β = 0.778, SE = 0.036, R^2 = 0.615, p < .001), and this hypothesis is accepted.

Additionally, there is a significant link between supportive leadership and JE (β = 0.708, SE = 0.036, R^2 = 0.559, p <.001), confirming Hypothesis 2 (H2) that these two constructs are positively related.   Furthermore, there is a strong positive relationship between job embeddedness and innovative work behavior (β = 0.644, SE = 0.048, R^2 = 0.379, p <.001), supporting Hypothesis 3 (H3) that JE fosters innovative work behavior among employees.

Lastly, there is still a significant indirect effect through job embeddedness (β = 0.728, SE = 0.054, R^2 = 0.616, p <.001), suggesting partial mediation and supporting H4, which holds that JE partially mediates the connection between innovative work behavior and supportive leadership.   All the hypotheses are accepted and show that there is a significant positive connection between SL, JE, and IWB. The strength and significance of the regression outcomes not only validate all four hypotheses but also confirm the robustness of JE as a mediating construct, thus supporting the conceptual framework adopted in the study.

Table 5 Regression Analysis

Hypothesis	Path	B	SE	R^2	Sig.	Results
Direct Effect						
H1	SL→IWB	.778	.036	.615	.000	Accepted
H2	SL→JE	.708	.036	.559	.000	Accepted
H3	JE→IWB	.644	.048	.379	.000	Accepted
Indirect Effect						
H4	JE→SL→IWB	.728	.054	.616	.000	Accepted

Notes: SL=supportive leadership, JE=job embeddedness, IWB=innovative work behavior

Discussion and Conclusion

Discussion

This research is drawn from a study of supportive leadership and its impact on the employee's innovative work behavior, with job embeddedness playing a mediating role. Based on the findings, there was a magnitude of relationship; in other words, the data showed that SL had a positive and significant relationship with IWB. Furthermore, this research establishes a positive correlation between job embeddedness and innovative work behavior. Also, supportive leadership is positively related to job embeddedness.

In light of the findings of the research, the objectives of the research and research questions are outlined. Furthermore, there is a proper understanding of the patterns of supportive leadership, job embeddedness, and innovative work behavior. Furthermore, the research is underlined by the mediating effect of job embeddedness, which is considered to be an intermediary between supportive leadership and innovative work behavior.

The study also describes that all these variables are correlated and have a positive relationship. This implies, therefore, that any time a leader agrees to support employees and indeed motivate and encourage them to take risks that enable them to come up with new ideas in the organization, productivity is likely to be boosted.

If it's true that after being supported by a leader, employees feel micro-embedded and, therefore, will not leave. In Pakistan, research by Javed et al. (2019) has similarly pointed out how important leadership support is for encouraging innovation in schools and colleges. These studies emphasize that supportive leadership is crucial in local environments.

The research also observed a positive correlation between SL and JE, which supports the second hypothesis or the research objective. Job embeddedness has three parts: fit, ties, and sacrifices, and these are found in those workers who perceive that the leader is supportive. This is also similar to the research of Green (2011), which posited that where the leader is receptive, organizational commitment and job satisfaction of the employees will improve. Further studies conducted by universities in Pakistan, including Qamar et al. (2022), indicate that the concept of job embeddedness might differ based on the culture of the institution and the rules set by the administration. This is an area that should be investigated in future research.

JE has a positive effect on the level of IWB among employees. When the members gain self-motivation and participate in inventive work-related behavior, they are more organizationally committed and, thus, do not tend to leave the organization. As a result, creating an environment where employees feel psychologically connected and appreciated is essential to promoting ongoing creative conduct.

A prior study by Padmar (2014) did show that in the light of the mediating role of job embeddedness, both organizational involvement and employees' job satisfaction foster innovative work behavior. Research conducted in Pakistan, including work by Yaqub et al. (2021), has highlighted that leadership methods designed for local institutional structures might improve how JE acts as a mediator, a topic that requires more exploration.

Theoretical Implications

The theoretical considerations of the study pertain essentially to the elaboration and expansion of the job embeddedness theory about IWB and SL. IWB is already enhanced in our organization due to supportive leadership by job embeddedness mediated by JE; hence, the results of this study contribute to advancing the already available knowledge regarding this issue. Mitchell et al. (2001) bring out the characteristics of fit, ties, and sacrifice in an organization as major components of job embeddedness theory that primarily focuses on factors that give employees a reason to stay. In this study, the general interest in JE theory has been furthered by supporting evidence on the use of the theory to explain daily creative behaviors and talent retention among employees. As for leadership, the report also pays significant attention to this factor, affirming it as a prerequisite for JE. This connection shows that it is imperative for leaders involved to ensure that they maintain positive body language that welcomes every employee into the company, because when this is done, it leads to improvement in the workers' psychological sense of fit into the firm. Hence, this study adds to the current knowledge by providing empirical evidence that supports the roles of organizational support mechanisms through job embeddedness in delivering positive employee outcomes by revealing that legitimate leadership can increase JE and, in essence, the cultivation of IWB.

Practical Implications

These are practical implications of this study for higher education institutions in Islamabad and Rawalpindi: This research has real-world effects for universities in Islamabad and Rawalpindi. With a sample of 300 participants, the study offers specific strategies to encourage a workplace culture that supports innovation.

This research supports creating leadership training programs that target the higher education field. Such programs ought to guide academic leaders and administrators in showing supportive actions like offering motivation, giving constructive feedback, and acknowledging innovative contributions. Considering the management issues encountered by universities in Pakistan, it is crucial to create leadership training that takes current hierarchies into account and encourages teamwork in decision-making. Mentoring programs, where seasoned faculty assist junior staff in launching new initiatives, can prove very beneficial. Building a culture of leadership that nurtures a constructive workplace will make employees feel appreciated and inspired.

Improving IWB is linked to increasing JE. To enhance staff commitment, universities need to create strategies that align job roles with the abilities of employees, build stronger internal connections, and emphasize the advantages of remaining with the organization. Given limited resources, universities should look into affordable options such as job exchanges, collaboration across departments, and programs that promote peer interaction. Collaborative efforts between faculty and researchers can strengthen professional ties and foster creativity without a high financial cost. Potential actions

include working together on research publications, participating in joint workshops, and developing a supportive network within the academic community.

The research indicates that there is a beneficial link between job embeddedness and supportive leadership, suggesting that both greatly contribute to fostering innovative work behavior. It is important for universities to take a combined approach that nurtures job embeddedness while also enhancing leadership support. Regular training programs for leaders, initiatives aimed at keeping skilled employees, and activities that promote sharing knowledge can motivate staff to propose innovative concepts. To tackle bureaucratic challenges, universities should set up specialized innovation teams that simplify the approval procedures for new initiatives. For instance, establishing think tanks or innovation hubs within universities can create an organized environment where faculty and staff work together with supervision.

The moment has arrived for higher education systems in Rawalpindi and Islamabad to put these suggestions into action, creating a helpful and imaginative workplace that improves the quality of teaching and research. By confronting institutional challenges and using strategies that make good use of resources, universities can develop a lasting culture of creativity that helps both faculty and students. The results of this study provide a strong basis for universities to encourage ongoing innovation and leadership growth in Pakistan's higher education system.

These results provide a framework for educational legislators seeking to bring about institutional change through strategic leadership and employee retention strategies that work together to foster innovation.

Strengths, Limitations, and Suggestions for Future Research

The recommendations for the future of this study focus on enhancing supportive leadership, job embeddedness, and innovative behavior in higher education settings. Researchers in the future may undertake longitudinal studies to analyze how supportive leadership, job embeddedness, and innovative work behavior are related over a period. Given the challenges posed by the bureaucracy and the strict structure of higher education in Pakistan, it is important to assess the long-term effects of these hurdles on supportive leadership. Furthermore, using qualitative data collection techniques like interviews can offer more meaningful insights into the interaction with supportive leadership and job embeddedness, highlighting contextual factors that quantitative approaches might miss.

Examining how job embeddedness and supportive leadership affect innovative work behavior can provide more insights into the differences found in Pakistan, especially when comparing universities in rural and urban areas. As universities work towards digital transformation, it will be important for future studies to look into how remote work, online leadership, and digital tools can enhance employee involvement. With the rising use of digital technologies in universities across Pakistan, research should evaluate how prepared these institutions are for digital changes and how virtual leadership can be successfully adopted despite existing infrastructure issues.

All research comes with certain limitations that shape future inquiries. Broadening the sample's geographic and institutional diversity may improve the applicability of findings to different educational settings in Pakistan. The cross-sectional nature of this study makes it difficult to determine cause and effect; therefore, using longitudinal or mixed-method designs would be more effective for clarifying these causal links. By concentrating on universities in Rawalpindi and Islamabad, the study's findings may not apply broadly, highlighting the need for research involving various provinces and both

public and private higher education institutions. JE was looked at as a mediator; further research should investigate factors like faculty autonomy, institutional policies, and financial challenges to better understand the relationship between leadership and innovation in Pakistani universities. Tackling these limitations will improve the relevance and influence of future studies in the field of higher education.

Conclusion

The research illustrates that employee involvement increases when leaders are supportive and encourage risk-taking, leading to innovative ideas. Supportive leaders provide resources and create a positive environment, which is essential for organizational productivity. The study verified the mediating role of job embeddedness between supportive leadership and employees' innovative work behavior. A positive culture is fostered when employees are well-connected within an organization, enhancing their creativity.

Practical implications highlight the need for higher educational institutions to promote leadership growth. Future recommendations include conducting longitudinal studies and increasing sample sizes for a better understanding. Researchers should consider different sectors and variables, such as leadership styles and demographic factors. The study concludes that supportive leadership can help employees generate new ideas, contributing to academic achievement and performance in higher educational institutions.

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