

Examining the Impact of Digital Leadership on Innovative Work Behavior and Knowledge Sharing Behavior Through Psychological Ownership

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ABSTRACT

This study investigates the impact of digital leadership on employees' innovative work behavior and knowledge sharing behavior, with a particular focus on the mediating role of psychological ownership. The independent variable, digital leadership, is examined through its supportive and innovative sub-dimensions, while psychological ownership is explored through emotional and work-based ownership. The dependent variables are innovative work behavior and knowledge sharing behavior. To test the research model, eight sub-models were developed and analyzed using PLS-SEM. Mediation was assessed through the Variance Accounted For (VAF) metric. Data were collected from 287 managers and employees working in IT departments within technology parks located in Ankara, Türkiye. The results reveal that both supportive and innovative forms of digital leadership have a positive and statistically significant influence on employees' innovative behavior and knowledge sharing. However, a portion of this effect operates indirectly through psychological ownership.

KEYWORDS

Digital Leadership, Psychological Ownership, Innovative Work Behavior, Knowledge Sharing Behavior

INTRODUCTION

In the context of accelerating digital transformation, organizations are increasingly compelled to restructure their strategies, cultures, and workforce competencies. As digital technologies reshape business environments, leadership styles that merely emphasize operational efficiency are no longer sufficient. Instead, a more adaptive and innovation-oriented leadership paradigm has emerged: digital leadership (Malakyan, 2020a; Narbona, 2016). Digital leadership has become a pivotal approach to managing organizational transformation in the digital age (Sawy et al., 2016)

Digital transformation cannot succeed in isolation from human dynamics. Employees' commitment, creativity, technological adaptability, and knowledge-sharing behavior play a vital

DOI: 10.4018/IJSKD.378388

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role in realizing the potential of digitalization (Abbas et al., 2024). Leaders who possess digital competence and emotional intelligence are in a unique position to cultivate psychological ownership among employees—a concept that encompasses individuals' sense of possessiveness and connection to their work and organization (Pierce et al., 2001; Olckers & Koekemoer, 2017). When psychological ownership is present, employees are more likely to internalize organizational goals and proactively contribute to innovation processes (Avey et al., 2009; Jeswani & Dave, 2011).

The workplace today is also characterized by the increasing need for knowledge-based collaboration. Knowledge sharing is no longer optional but has become a critical component of organizational resilience and innovation capacity (Bartol & Srivastava, 2002; Lin, 2007). Leaders who foster a culture of openness and collaborative learning can enable employees to engage in both incremental and radical innovation (Akram, Lei, Haider, & Hussain, 2018). A leadership approach that supports transparent communication and encourages the distribution of tacit knowledge has been shown to enhance innovation effectiveness in both public and private sector organizations (Cumplings, 2003; Al Issa & Omar, 2024).

In this regard, digital leadership is considered a key facilitator of not only technological adaptation but also behavioral transformation at the individual level (Ahmed et al., 2024). Leaders influence employees' innovative work behavior by promoting a digital culture, mitigating technostress, and ensuring the alignment between organizational strategies and individual competencies (Gao & Gao, 2024; Karafakioglu & Findikli, 2024).

Building on these theoretical and empirical insights, the present study explores how digital leadership influences innovative work behavior and knowledge sharing behavior, with psychological ownership serving as a mediating variable. The research is situated within technology parks in Ankara, Turkey—a context that is particularly rich in digital initiatives and organizational innovation. By focusing on this environment, the study provides insights into how leadership behaviors can translate into tangible innovation outcomes through psychological and cognitive mechanisms. In doing so, it aims to contribute to both academic literature and practical leadership models relevant to the digital age.

CONCEPTUAL FRAMEWORK

Digital Leadership

Digital leadership has emerged as a pivotal concept in contemporary organizational research, especially in light of the accelerating pace of digital transformation. At its core, digital leadership refers to the strategic and intentional use of digital assets and technologies to achieve organizational objectives (Malakyan, 2020a; Narbona, 2016). However, its scope extends far beyond technical skills—it embodies a shift in mindset, a rethinking of traditional organizational structures, and a focus on agility, collaboration, and continuous innovation (Sawy et al., 2016).

Leaders who adopt a digital leadership approach are not only expected to understand and implement technology but also to cultivate an organizational culture that values experimentation and learning. Recent empirical work has shown that digital leadership can strongly influence innovative work behavior (IWB), particularly when supported by entrepreneurial orientation and a digitally conducive organizational environment (Abbas et al., 2024). This effect is observable across sectors ranging from information technology (Zia et al., 2024) to traditional manufacturing (Erhan et al., 2022).

In addition to these organizational dynamics, digital leadership also activates psychological mechanisms. Leaders who encourage autonomy and risk-taking help build psychological empowerment, which in turn fosters a proactive approach to innovation (Gao & Gao, 2024). Capabilities such as vision-setting, strategic thinking, and digital literacy enable these leaders to create work environments that support both individual creativity and collective innovation performance (Schuster et al., 2023).

Psychological Ownership

Psychological ownership is defined as a cognitive and emotional state in which individuals perceive a sense of possession and deep attachment to their work or organization (Pierce et al., 2001). This perception fosters a stronger sense of responsibility, commitment, and identification with organizational goals, ultimately leading to enhanced motivation, job satisfaction, and loyalty (Olckers & Koekemoer, 2017; Avey et al., 2009).

Leadership styles grounded in empowerment, trust, and inclusion have been shown to significantly influence psychological ownership. In digitally transforming organizations, leaders who adopt digital strategies and emphasize employee learning create conditions conducive to the development of ownership attitudes (Ahmed et al., 2024). Moreover, when employees feel empowered and engaged, they are more likely to internalize organizational objectives and exhibit behaviors aligned with innovation and adaptability (Gao & Gao, 2024; Yang et al., 2023). In this respect, work engagement operates as a mediator between digital leadership and employee outcomes such as commitment and proactive contribution (Karafakioglu & Findikli, 2024).

Innovative Work Behavior

Innovative work behavior (IWB) refers to the process through which employees identify opportunities, develop creative solutions, and actively pursue the implementation of new ideas (Janssen, 2004). It is a multi-stage and context-sensitive phenomenon, influenced by individual traits such as intrinsic motivation, as well as by environmental factors like organizational support and leadership styles (Bos-Nehles, Bondarouk, & Nijenhuis, 2017; Wojtczuk-Turek & Turek, 2015).

Digital leadership has consistently been identified as a key driver of IWB. Leaders who promote digital engagement, provide skill development opportunities, and foster psychological safety enable employees to take initiative and experiment with novel approaches (Zia et al., 2024; Abbas et al., 2024). Recent research also emphasizes the role of mediating variables—such as work engagement (Karafakioglu & Findikli, 2024), digital literacy (Kim & Oh, 2023), and psychological empowerment (Gao & Gao, 2024)—in explaining how digital leadership translates into innovation at the employee level.

Furthermore, innovative behavior is not only valuable in terms of creative output but also contributes to broader organizational outcomes such as enhanced performance, operational agility, and even sustainable practices (Ahmed et al., 2024; Sagbas et al., 2023; Al-Ayed, 2024).

Knowledge Sharing Behavior

Knowledge sharing is the process through which employees exchange ideas, expertise, and experiences to support individual and collective learning. It is an essential component of organizational knowledge management systems and a key enabler of innovation and competitive advantage (Bartol & Srivastava, 2002; Lin, 2007).

Effective knowledge sharing relies not only on systems and structures but also on leadership behaviors that promote open communication and reduce barriers to collaboration (Cummings, 2003; Nazim & Mukherjee, 2016). Leaders who embrace digital tools and cultivate an innovation-oriented culture can actively support knowledge exchange, both tacit and explicit (Al Issa & Omar, 2024). For example, in academic and institutional settings, digital competence has been shown to significantly increase employees' willingness to share knowledge and engage in collaborative innovation (de Carvalho et al., 2023; Lopez et al., 2019).

Overall, digital leadership plays a critical role in embedding knowledge sharing into organizational routines, thereby reinforcing collective problem-solving capacity and driving sustainable performance improvements in the digital age.

METHOD

Research Model

This study investigates how digital leadership influences employees' innovative work behavior and knowledge sharing behavior through the mediating role of psychological ownership. The dependent variables of the research are innovative work behavior (IWB) and knowledge sharing behavior (KSB). The independent variable is digital leadership, and the mediating variable is psychological ownership, which is operationalized through two dimensions: emotional ownership and work-based ownership.

To capture the complexity of these interrelations, a relational screening model was used. The conceptual model of the research (Figure 1) illustrates how two sub-dimensions of digital leadership—supportive and innovative—are expected to influence both outcome variables via the mediating dimensions of psychological ownership.

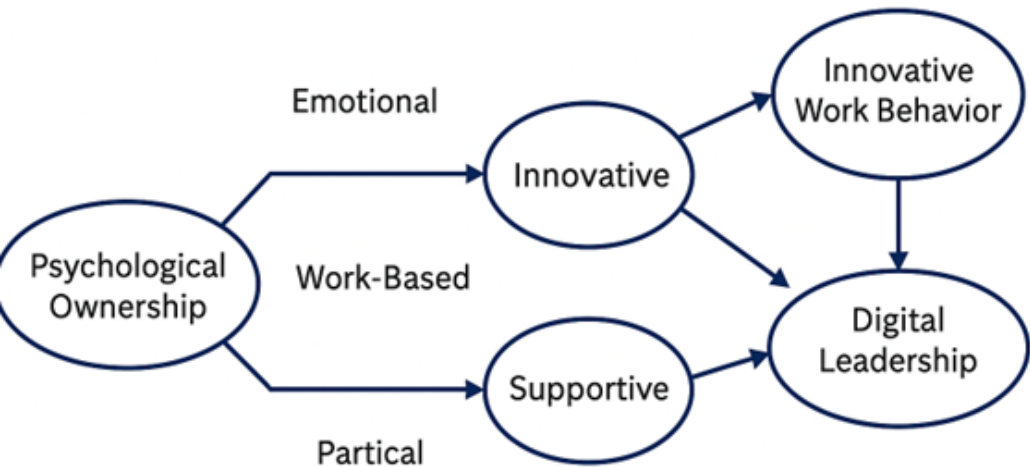
A total of two overarching models were constructed:

Model 1 tests the mediating role of psychological ownership in the relationship between digital leadership and innovative work behavior.

Model 2 tests the same mediation structure for knowledge sharing behavior.

Each model was further analyzed by splitting digital leadership and psychological ownership into their respective sub-dimensions. Accordingly, a total of eight analytical models were developed: four for IWB and four for KSB.

Figure 1. Conceptual model of the study



Data Collection Tools

Four standardized and previously validated measurement instruments were used in this study:

Digital Leadership Scale: Developed by Büyükbeşe et al. (2022), this scale includes two dimensions—Innovative (6 items) and Supportive (3 items).

Psychological Ownership Scale: Originally developed by Shukla and Singh (2015) and later adapted into Turkish by Aslan and Ateşoğlu (2020), it includes Emotional Ownership (5 items) and Work-Based Ownership (5 items).

Innovative Work Behavior Scale: Adapted from the original scale by De Jong and Den Hartog (2008) into Turkish by Özay and Kaymaz (2020), it is a single-dimensional scale comprising 7 items.

Knowledge Sharing Behavior Scale: Developed by Alakurt and Keser (2016), this instrument originally included five sub-dimensions; for the purposes of this study, only the “Usefulness / Appropriateness” dimension (4 items) was employed.

The survey instrument consisted of two sections. The first section collected demographic data; the second section presented 30 statements using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to measure the constructs. The survey was conducted online via Google Forms, and data collection took place between February 23 and April 3, 2023.

Population and Sample

The research population comprised IT professionals and managers working in technology parks in Ankara, Turkey. Using the simple random sampling method, data were collected from 287 respondents. This sample size was considered sufficient for PLS-SEM modeling; however, the limitation of geographical concentration is noted and discussed in the conclusion section.

Data Analysis Strategy

Data were analyzed using SPSS 28.0 and SmartPLS 4.0. Descriptive statistics (frequencies and percentages) were first reported. Normality was tested using the Kolmogorov–Smirnov (K-S) test, which indicated non-normal distribution for all key variables. Consequently, Partial Least Squares Structural Equation Modeling (PLS-SEM) was used, a method suitable for non-normally distributed and complex models (Hair et al., 2014).

Mediation Analysis

The mediating effect of psychological ownership was tested using the Variance Accounted For (VAF) formula:

$$\text{VAF} = ((a \cdot b) / (a \cdot b + c)) \cdot 100$$

Where:

a·b = indirect effect,

c = direct effect.

According to Hair et al. (2014), the mediation type is interpreted as:

Full mediation: $\text{VAF} > 80\%$,

Partial mediation: $20\% < \text{VAF} < 80\%$,

No mediation: $\text{VAF} < 20\%$.

Measurement Model Evaluation

Reliability was assessed using Cronbach’s Alpha, and all scales achieved values above 0.80, indicating strong internal consistency. Confirmatory Factor Analysis (CFA) was performed for construct validity. The factor loadings of all items across scales were above 0.74 and statistically significant.

For instance, factor loadings for the:

- Digital Leadership – Innovative dimension ranged from 0.869 to 0.938,
- Digital Leadership – Supportive dimension ranged from 0.885 to 0.940,
- Psychological Ownership – Emotional dimension ranged from 0.763 to 0.931,
- Psychological Ownership – Work-based dimension ranged from 0.741 to 0.919,
- Innovative Work Behavior items ranged from 0.872 to 0.927,

- Knowledge Sharing Behavior items ranged from 0.866 to 0.939.

All Second-Order CFA models showed acceptable error variance (≤ 0.171) and high R^2 values (e.g., 0.976 for Innovative DL and 0.918 for Supportive DL).

Goodness-of-Fit Indicators

Fit indices of the model are shown in Table 1 below:

Table 1. Goodness of fit values

Model	χ^2	df	χ^2/df	SRMR	GFI	NFI
Digital Leadership	153.58	36	4.27	0.03	0.88	0.96
Psychological Ownership	189.29	45	4.21	0.05	0.89	0.94
Innovative Work Behavior	29.08	14	2.08	0.01	0.97	0.99
Knowledge Sharing Behavior	12.91	6	2.15	0.01	0.98	0.99

Interpretation: $\text{SRMR} < 0.10$ and $\text{GFI} > 0.85$ indicate acceptable model-data fit. $\text{NFI} > 0.90$ denotes a good comparative fit.

Discriminant Validity

Discriminant validity was assessed using the Fornell–Larcker criterion, and results showed that the square root of the AVE for each construct was greater than its correlation with other constructs, confirming adequate discriminant validity. Key inter-variable correlations are reported in Table 2 (not reproduced here for brevity).

Table 2. Fornell-Larcker criterion and inter-construct correlation matrix

Constructs	1	2	3	4	5	6
1. Innovative Work Behavior	0.93					
2. DL (Supportive)	0.63	0.95				
3. DL (Innovative)	0.65	0.91	0.92			
4. PO (Emotional)	0.75	0.60	0.63	0.90		
5. PO (Work-Based)	0.85	0.64	0.69	0.83	0.89	
6. Knowledge Sharing Behavior	0.86	0.66	0.71	0.79	0.89	0.92

Note: Bolded diagonal values represent the square roots of AVE; all off-diagonal values are inter-construct correlation coefficients. Discriminant validity is satisfied when the diagonal value for each construct is greater than the corresponding off-diagonal values in its row and column.

Hypotheses

Two main hypotheses guide the analytical model:

- H1: Digital leadership positively and significantly affects employees' innovative work behavior through psychological ownership.
- H2: Digital leadership positively and significantly affects employees' knowledge sharing behavior through psychological ownership.

Following the approach proposed by Baron and Kenny (1986), eight models were tested—four related to IWB and four to KSB—each examining different combinations of sub-dimensions to assess partial and full mediation effects.

FINDINGS

Demographic Characteristics of Participants

The study sample comprised 287 IT professionals and managers working in Ankara's technology parks. Participants were 58.5% male and 41.5% female. The majority had at least a college degree (65.5%), and 26.1% had a master's degree. The predominant monthly income bracket was 15,000–20,000 TL (29.6%). In terms of employment status, 85.4% were full-time employees, and 71.1% worked entirely face-to-face. Most participants reported a professional experience of 5–15 years, indicating a relatively experienced sample.

These characteristics are important as they reflect a population highly involved in digital transformation processes, suggesting an adequate context for examining leadership behaviors and innovation-related constructs.

Normality Test Results

To assess whether the data met the assumption of normality, the Kolmogorov–Smirnov (K–S) test was conducted for all scale mean scores. As presented in Table 3, the results indicated that none of the constructs—Digital Leadership (both innovative and supportive sub-dimensions), Psychological Ownership (emotional and work-based), Innovative Work Behavior, and Knowledge Sharing Behavior—followed a normal distribution, with all p-values being less than .001.

Given the significant deviations from normality, the use of Partial Least Squares Structural Equation Modeling (PLS-SEM) was deemed appropriate. PLS-SEM is particularly suitable for models involving complex mediation paths and non-normally distributed data (Hair et al., 2014). Therefore, subsequent model estimations and mediation analyses were carried out using this approach.

Table 3. Normality test results (Kolmogorov–Smirnov test)

Construct	K–S Test Statistic	Degrees of Freedom (N)	p-value
Digital Leadership (Innovative)	0.246	287	< .001
Digital Leadership (Supportive)	0.226	287	< .001
Psychological Ownership (Emotional)	0.187	287	< .001
Psychological Ownership (Work-Based)	0.192	287	< .001
Innovative Work Behavior	0.219	287	< .001
Knowledge Sharing Behavior	0.196	287	< .001

Note: All p-values are less than .05, indicating that the null hypothesis of normal distribution is rejected for all variables.

Mediation Effect on Innovative Work Behavior

Table 4 presents the PLS-SEM results related to the first research model, which tested whether psychological ownership mediates the effect of digital leadership on innovative work behavior (IWB).

In Model 1.1, both the direct effect of innovative digital leadership on IWB ($\beta = 0.710$, $p < .05$) and the indirect path via emotional ownership ($\beta = 0.355$) were significant. The calculated VAF value (50.07%) and Sobel test ($z = 7.006$, $p < .001$) indicated partial mediation.

Similarly, Model 1.2 showed that work-based ownership mediated the effect of innovative leadership on IWB, with $VAF = 77.18\%$ ($z = 10.95$, $p < .001$), still within partial mediation range.

The supportive leadership sub-dimension also significantly influenced IWB:

Model 1.3 confirmed that emotional ownership partially mediated this effect ($VAF = 56.48\%$, $z = 7.68$, $p < .001$).

Notably, Model 1.4 revealed a full mediation effect through work-based ownership ($VAF = 80.91\%$, $z = 9.92$, $p < .001$), suggesting that supportive leadership enhances innovation primarily by reinforcing task-level psychological ownership.

These findings echo theoretical models suggesting that psychological ownership serves as a core motivational construct linking leadership behavior with innovation engagement (Pierce et al., 2009; Avey et al., 2009; Olckers & Koekemoer, 2017).

Moreover, a comparative review across the models suggests that work-based ownership consistently explained higher variance in IWB (up to $R^2 = 0.843$), compared to emotional ownership. This might be interpreted as employees in tech environments aligning more strongly with task-level commitment than with emotional connection to their organizations.

Table 4. Mediation effect of psychological ownership on the relationship between digital leadership and innovative work behavior (PLS-SEM Results)

Model	Independent Variable	Mediator	Dependent Variable	β (Direct)	β (Indirect)	VAF (%)	Sobel z	Mediation Type
1.1	DL (Innovative)	PO (Emotional Ownership)	Innovative Work Behavior	0.355	0.355	50.07	7.006***	Partial
1.2	DL (Innovative)	PO (Work-Based Ownership)	Innovative Work Behavior	0.162	0.800	77.18	10.95***	Partial
1.3	DL (Supportive)	PO (Emotional Ownership)	Innovative Work Behavior	0.285	0.616	56.48	7.68***	Partial
1.4	DL (Supportive)	PO (Work-Based Ownership)	Innovative Work Behavior	0.125	0.832	80.91	9.92***	Full

Notes: DL = Digital Leadership; PO = Psychological Ownership; β = standardized path coefficient; VAF = Variance Accounted For. *** $p < .001$. Full mediation: $VAF > 80\%$; Partial mediation: $20\% < VAF < 80\%$.

Mediation Effect on Knowledge Sharing Behavior

The second set of analyses explored whether psychological ownership mediates the relationship between digital leadership and knowledge sharing behavior (KSB). The findings consistently support the hypothesized mediation effects across all models.

In Model 2.1, the emotional ownership sub-dimension was found to partially mediate the effect of innovative digital leadership on knowledge sharing ($VAF = 55.08\%$, $z = 7.04$, $p < .001$). Similarly, Model 2.2 confirmed a significant partial mediation effect via work-based ownership ($VAF = 78.77\%$, $z = 8.93$, $p < .001$).

In the supportive leadership models, a similar pattern emerged:

Model 2.3 showed that emotional ownership partially mediated the impact of supportive digital leadership on KSB (VAF = 56.46%, $z = 7.43$, $p < .001$).

Model 2.4 revealed a near-full mediation effect through work-based ownership (VAF = 76.00%, $z = 8.60$, $p < .001$), suggesting a stronger role of task-based psychological attachment in facilitating knowledge-sharing practices.

These results are consistent with earlier findings in knowledge management research, which identify psychological ownership as a key antecedent to knowledge sharing behavior (Bartol & Srivastava, 2002; Lin, 2007). While emotional ownership may enhance interpersonal trust and identification within teams, work-based ownership appears to cultivate a deeper sense of responsibility and accountability toward knowledge-based tasks.

Furthermore, when comparing the direct and indirect effects, the supportive dimension of digital leadership yielded weaker direct effects but stronger mediated pathways, particularly via work-based ownership. This implies that supportive leaders may exert influence not by direct action, but by cultivating internal psychological states that motivate employees to engage in collaborative behaviors.

Overall, these findings reinforce the importance of psychological mechanisms in digital leadership contexts and suggest that fostering ownership—both emotional and task-oriented—can significantly enhance organizational knowledge flows.

Summary of Mediating Roles

The mediation patterns observed across the eight analytical models provide compelling evidence that psychological ownership—particularly its work-based dimension—plays a critical role in the relationship between digital leadership and both innovative work behavior and knowledge sharing behavior. As presented in Table 5, all mediation effects were statistically significant, with the majority reflecting partial mediation. Notably, Model 1.4 demonstrated a full mediation effect, where the influence of supportive digital leadership on innovative work behavior was entirely channeled through work-based ownership.

These results underscore the idea that the effect of digital leadership is not merely direct but is largely psychologically constructed through feelings of responsibility and ownership. In particular, work-based ownership emerged as a stronger mediator than emotional ownership, suggesting that employees in digital work environments may respond more deeply to task-based alignment than to affective connection alone. The findings strengthen the argument that fostering psychological ownership is a key mechanism through which digital leadership can drive innovation and collaboration in modern organizations.

Table 5. Summary of Mediation Effects Across All Models (IWB and KSB)

Model	Leadership Type	PO Dimension	Outcome Variable	β (Direct)	β (Indirect)	VAF (%)	Sobel z	Mediation Type
1.1	Innovative	Emotional Ownership	Innovative Work Behavior	0.355	0.355	50.07	7.01***	Partial
1.2	Innovative	Work-Based Ownership	Innovative Work Behavior	0.162	0.800	77.18	10.95***	Partial
1.3	Supportive	Emotional Ownership	Innovative Work Behavior	0.285	0.616	56.48	7.68***	Partial
1.4	Supportive	Work-Based Ownership	Innovative Work Behavior	0.125	0.832	80.91	9.92***	Full

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Table 5. Continued

Model	Leadership Type	PO Dimension	Outcome Variable	β (Direct)	β (Indirect)	VAF (%)	Sobel z	Mediation Type
2.1	Innovative	Emotional Ownership	Knowledge Sharing Behavior	0.292	0.567	55.08	7.04***	Partial
2.2	Innovative	Work-Based Ownership	Knowledge Sharing Behavior	0.138	0.747	78.77	8.93***	Partial
2.3	Supportive	Emotional Ownership	Knowledge Sharing Behavior	0.272	0.587	56.46	7.43***	Partial
2.4	Supportive	Work-Based Ownership	Knowledge Sharing Behavior	0.150	0.746	76.00	8.60***	Partial

Note: DL = Digital Leadership; PO = Psychological Ownership; β = standardized path coefficient;
 ***p < .001. Full mediation = VAF > 80%; Partial mediation = 20% < VAF < 80%.

Practical and Managerial Implications

The results offer meaningful insights for leadership development and organizational design. Digital leaders—particularly those exhibiting supportive and innovative characteristics—can foster a strong sense of ownership among employees, which in turn enhances their willingness to innovate and share knowledge.

Organizations seeking to enhance performance in knowledge-intensive environments should consider investing in leadership training that not only builds digital competencies but also promotes psychological empowerment. Especially in technology-focused sectors, reinforcing work-based ownership appears to be a promising pathway for sustaining employee-driven innovation and knowledge collaboration.

CONCLUSIONS AND SUGGESTIONS

In an era characterized by rapid digital transformation, digital leadership has become a critical component of organizational success. More than just the use of digital tools, digital leadership encompasses a strategic and human-centered approach to managing innovation, guiding technological change, and empowering employees (Sawy et al., 2016; Malakyan, 2020b). However, technology alone is not sufficient. The present study reveals that digital leadership’s influence on organizational outcomes such as innovative work behavior (IWB) and knowledge sharing behavior (KSB) is significantly enhanced when mediated by psychological ownership.

The study, conducted among 287 IT professionals and managers working in Ankara’s tech parks, found that both sub-dimensions of digital leadership—innovative and supportive—positively affect employees’ IWB and KSB. However, a significant portion of these effects occurs indirectly through psychological ownership, particularly via its work-based and emotional sub-dimensions. Notably, in Model 1.4, the supportive dimension of digital leadership demonstrated a full mediation effect via work-based ownership, highlighting the transformative role of task-level engagement in promoting innovative behavior.

These findings are consistent with prior research demonstrating that psychological ownership fosters higher levels of creativity, responsibility, and proactive behavior (Pierce et al., 2009; Olckers & Koekemoer, 2017). The mediating role of ownership suggests that digital leaders must not only facilitate technology adoption but also foster a sense of meaningful connection between employees and their work.

Theoretical and Empirical Contributions

This study contributes to the growing literature in three ways:

1. **Integration of Variables:** While previous studies have explored digital leadership's effects on innovation or knowledge sharing individually (Abbas et al., 2024; Erhan et al., 2022), this study is among the first to integrate psychological ownership as a mediating mechanism for both outcomes within a single empirical model.
2. **Contextual Insight:** By focusing on technology park employees—a population at the forefront of digital transformation—the study provides real-world relevance and practical value for organizations operating in highly innovative environments.
3. **Methodological Rigor:** The use of PLS-SEM, combined with VAF and Sobel testing, ensures robust analysis of indirect effects, particularly important when dealing with multidimensional constructs.

Managerial and Practical Implications

From a managerial standpoint, the findings underscore the importance of adopting digital leadership styles that actively support both technological innovation and employee empowerment. Leaders should:

- Encourage psychological ownership by giving employees greater autonomy and responsibility in digital initiatives.
- Promote both emotional engagement and task ownership, recognizing that both dimensions influence different aspects of employee behavior.
- Create environments that facilitate idea generation, experimentation, and knowledge exchange.

Managers should recognize that innovative work behavior and knowledge sharing are not simply outcomes of technological adaptation, but are deeply influenced by how employees internalize their roles and responsibilities. Supporting this psychological infrastructure may be just as critical as investing in new technologies.

Recommendations for Future Research

Although the findings are robust, the study is limited by its geographic scope (Ankara) and cross-sectional design. Future research may:

- Replicate the model in different sectors or countries to assess cross-cultural validity.
- Incorporate longitudinal or experimental methods to explore causal mechanisms.
- Investigate potential moderating variables such as organizational culture, leadership style variations, or digital literacy levels.

This research confirms that digital leadership is not only about tools—it is about people. The way leaders empower employees and shape psychological conditions around their work plays a pivotal role in sustaining innovation and collaboration in the digital age. In doing so, organizations can build not only a technologically capable workforce, but also one that is committed, creative, and future-ready.

Limitations and Directions for Future Research

Although the present study offers valuable insights into the role of psychological ownership in explaining the behavioral outcomes of digital leadership, it is not without limitations.

First, the study was conducted using a cross-sectional research design, which limits the ability to draw causal inferences. While PLS-SEM is robust in testing complex mediation models, longitudinal or experimental studies are needed to confirm the temporal direction and causality of the observed relationships.

Second, the data were collected solely from technology park employees in Ankara, Türkiye, which may limit the generalizability of the findings to other sectors, regions, or cultural settings. Future studies could expand the sample to include more diverse populations across industries and countries, allowing for more comparative analysis and external validation of the results.

Third, while the study focused on two sub-dimensions of both digital leadership and psychological ownership, other contextual and personal variables such as organizational culture, digital literacy, psychological safety, or employee autonomy were not examined. These factors might interact with or moderate the observed relationships and could be explored in future research.

Fourth, although the measurement model demonstrated good reliability and convergent validity, discriminant validity was assessed solely through the Fornell–Larcker criterion. Incorporating alternative methods such as the Heterotrait–Monotrait (HTMT) ratio in future studies could strengthen the robustness of construct validation.

Lastly, the study relied on self-reported data, which may be subject to common method bias. Although the statistical analysis did not indicate severe multicollinearity or problematic measurement issues, future research could employ multi-source or longitudinal data to minimize bias and enhance objectivity.

Despite these limitations, the study presents a comprehensive framework that integrates digital leadership, psychological ownership, and employee behaviors—offering a fertile ground for further empirical and theoretical exploration.

Informed Consent

All participants provided informed consent prior to participation in this research. Informed consent was obtained in written form.

Conflicts of Interest

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

Funding Statement

No funding was received for this work.

Process Dates

05, 2025

This manuscript was initially received for consideration for the journal on 01/02/2025, revisions were received for the manuscript following the double-anonymized peer review on 04/15/2025, the manuscript was formally accepted on 04/16/2025, and the manuscript was finalized for publication on 05/02/2025

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