

Digital Competence, Knowledge Sharing, and Innovative Work Behavior: The Role of Absorptive Capacity

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Digitalization has changed the way employees perform, communicate, and develop new work practices, particularly in higher education institutions and service organizations that increasingly rely on digital systems. However, digital competence and knowledge sharing may not automatically lead to innovative work behavior unless employees are able to absorb, process, and apply new knowledge. This study aims to analyze the effects of digital competence and knowledge sharing on innovative work behavior, both directly and through absorptive capacity as a mediating variable. This study employed a quantitative explanatory approach. Data were collected through a structured questionnaire using a five-point Likert scale from 254 employees working in higher education institutions and digitalized service organizations. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The measurement model met the required validity and reliability criteria, with all outer loadings above 0.70, AVE values above 0.50, and composite reliability and Cronbach's alpha values above 0.70. The structural model showed that digital competence and knowledge sharing had positive effects on absorptive capacity, while absorptive capacity had a positive effect on innovative work behavior. However, the direct effects of digital competence and knowledge sharing on innovative work behavior were not significant. The specific indirect effects confirmed that absorptive capacity fully mediated both relationships. These findings indicate that innovative work behavior is not formed merely through digital skills or knowledge exchange, but through employees' ability to absorb and apply knowledge in their work.

Keywords: Digital competence; Knowledge sharing; Absorptive capacity; Innovative work behavior; SEM-PLS.

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1. Introduction

Digitalization has reshaped daily work in higher education institutions and service organizations by changing how employees process information, coordinate tasks, deliver services, and solve work-related problems. Administrative services, academic support, reporting systems, student services, customer interaction, document management, and internal communication increasingly depend on digital platforms. In this working environment, employees are expected not only to operate digital tools but also to use them to improve work processes, respond to service demands, and develop new ways of completing tasks. Digital competence has become a relevant capability because employees must manage digital information, adapt to new applications, and integrate technology into their routine activities [1], [2]. At the same time, digital work is rarely performed individually. Employees depend on shared knowledge, practical experience, informal learning, and collaboration across units. Knowledge sharing helps employees exchange work solutions, understand new procedures, and learn from colleagues when facing changes in digital systems [3], [4]. These conditions show that innovative work behavior is increasingly shaped by the interaction between digital capability and knowledge-based collaboration.

The issue becomes urgent because many organizations have invested in digital systems, yet the use of technology does not always lead to meaningful innovation in employee behavior. Employees may be able to use digital applications, but this ability does not automatically create new ideas, better services, or improved work methods. Similarly, knowledge sharing may occur within teams, but shared information may remain unused if employees cannot absorb and transform it into work-related improvements. This challenge is especially visible in higher education and service organizations, where digitalization often produces new administrative demands, changing service standards, and continuous pressure to improve responsiveness. Previous studies have shown that digital competence is related to innovative work behavior among public university employees [2] and that knowledge sharing can support idea generation and idea realization [3]. Other studies also indicate that knowledge management practices can strengthen employees' innovative working behavior [4]. However, these findings suggest a further question: what enables digital skills and shared knowledge to become actual innovation at work? This study addresses that question by focusing on absorptive capacity as the mechanism that explains how employees acquire, understand, transform, and apply knowledge in their work activities.

The scope of this study is limited to the relationship among digital competence, knowledge sharing, absorptive capacity, and innovative work behavior among employees in higher education institutions and digitalized service organizations. Digital competence is positioned as an individual capability that allows employees to access, manage, and use digital resources in work processes. Knowledge sharing is positioned as a social process that enables employees to exchange information, experience, and practical knowledge. Absorptive capacity is placed as a mediating variable because it reflects the ability of employees to absorb and apply knowledge obtained from digital systems and workplace interactions. Innovative work behavior is treated as the outcome, reflected in the ability of employees to generate, promote, and implement new ideas in their work. This study does not examine all possible factors that may influence innovation, such as leadership style, organizational culture, work engagement, or psychological safety. Instead, the study concentrates on the knowledge-based pathway through which digital competence and knowledge sharing may influence innovative work behavior. This focus is important because recent literature has examined digital competence, knowledge sharing, absorptive capacity, and innovative behavior in separate or partial models [2], [3], [5], [6]. Digital competence has been linked to innovative behavior, knowledge sharing has been associated with innovation, and absorptive capacity has been shown to support innovative behavior. Yet fewer studies have integrated digital competence and knowledge sharing as two knowledge sources that shape absorptive capacity and, in turn, drive innovative work behavior. This study also responds to the need for empirical evidence from employees working in digitalized service settings, particularly those whose work involves digital systems, collaboration, and service improvement.

Based on these considerations, this study aims to analyze the effects of digital competence and knowledge sharing on innovative work behavior, both directly and indirectly through absorptive capacity. Specifically, the study examines whether digital competence and knowledge sharing influence absorptive capacity, whether absorptive capacity influences innovative work behavior, and whether absorptive capacity mediates the relationships between digital competence, knowledge sharing, and innovative work behavior. By testing these relationships using a quantitative explanatory design and PLS-SEM, this study seeks to provide a clearer explanation of how digital and social knowledge resources contribute to employee innovation. The expected contribution lies in showing that innovative work behavior is not merely a result of employees' ability to use technology or exchange knowledge, but depends on their capacity to absorb, interpret, and apply knowledge in practical work situations. The findings are expected to enrich human resource management literature on digital competence, knowledge management, and employee innovation,

while offering practical guidance for higher education institutions and service organizations in designing employee development programs that strengthen digital capability, knowledge sharing, and absorptive capacity as foundations for innovation..

2. Literature Review and Problem Statement

Digital competence refers to employees' ability to use digital technologies, digital information, and digital work systems to support job completion, coordination, and service improvement. In digitally transforming organizations, this competence is not limited to technical operation of devices but includes the ability to integrate digital tools into work routines and use digital resources to solve problems. Blanka et al. [1] argued that employee competence is a central requirement in digital transformation because organizational technology can only generate value when employees have the capability to use it effectively. Carvalho et al. [2] also found that digital competence among public university employees had an important relationship with innovative work behavior, indicating that employees with stronger digital abilities are more likely to improve work methods and contribute new ideas. Knowledge sharing complements digital competence by providing a social pathway for employees to exchange work-related information, experience, and practical solutions. Kmiecik [3] showed that knowledge sharing supports innovative work behavior through idea generation and idea realization, while Pham et al. [4] found that knowledge management practices can strengthen innovative working behavior among information technology employees. These studies suggest that both digital competence and knowledge sharing may become important sources of innovation. However, digital skills and shared knowledge do not always directly create innovation because employees still need the ability to understand, reinterpret, and apply knowledge in their work. This is where absorptive capacity becomes theoretically relevant. Absorptive capacity describes the ability to acquire, assimilate, transform, and exploit new knowledge. Frate and Bido [5] demonstrated that individual absorptive capacity promotes innovative behavior at work, while Kastelli et al. [6] showed that absorptive capacity mediates the relationship between digital capacity and innovation performance. These findings support the view that innovation depends not only on access to knowledge but also on employees' ability to process and use it.

Although previous studies have examined several parts of this relationship, the literature still leaves an important gap. Research on digital competence has often focused on its direct contribution to innovative work behavior or digital performance [2], [7]. Research on knowledge sharing has frequently examined its direct influence on idea development and employee innovation [3], [4], [8]. Meanwhile, studies on absorptive capacity have shown its relevance for innovation, but many of them focus on organizational-level innovation or use antecedents such as leadership, motivation, talent management, or general knowledge diversity [5], [6], [9], [10]. This creates an empirical and theoretical gap because limited studies have integrated digital competence and knowledge sharing as two different knowledge sources that shape absorptive capacity and then influence innovative work behavior. Digital competence represents the individual's ability to access and use digital knowledge, while knowledge sharing represents the social exchange of knowledge among employees. Both may contribute to innovative work behavior, but their effects may depend on whether employees can absorb and apply the knowledge they obtain. Some prior findings also indicate that direct relationships between knowledge resources and innovative behavior may vary depending on the mediator used. For example, Islam et al. [8] found that knowledge sharing encourages innovative work behavior through occupational self-efficacy, while Agina et al. [9] found that absorptive capacity plays a mediating role in the relationship between talent management and innovative work behavior. These findings imply that the pathway toward innovation is not always direct. For employees in higher education institutions and digitalized service organizations, this issue is important because digital systems and shared knowledge are useful only when employees can transform them into

concrete improvements in services, procedures, and work practices. Therefore, the main problem addressed in this study is whether digital competence and knowledge sharing influence innovative work behavior directly, or whether their effects operate mainly through absorptive capacity.

Based on the research gap, this study develops a model that positions absorptive capacity as a mediating mechanism between digital competence, knowledge sharing, and innovative work behavior. The problem statement of this study can be formulated as follows: digital competence and knowledge sharing are frequently viewed as important drivers of employee innovation, but there is still limited empirical explanation of how these two factors become innovative work behavior through absorptive capacity among employees in higher education institutions and digitalized service organizations. This study addresses this problem by testing seven hypotheses. **H1:** Digital competence has a positive effect on absorptive capacity. **H2:** Knowledge sharing has a positive effect on absorptive capacity. **H3:** Digital competence has a positive effect on innovative work behavior. **H4:** Knowledge sharing has a positive effect on innovative work behavior. **H5:** Absorptive capacity has a positive effect on innovative work behavior. **H6:** Absorptive capacity mediates the effect of digital competence on innovative work behavior. **H7:** Absorptive capacity mediates the effect of knowledge sharing on innovative work behavior. Through these hypotheses, the study seeks to clarify whether absorptive capacity functions as the key mechanism that converts digital and social knowledge resources into innovative work behavior. This model is expected to extend human resource management literature by linking digital competence, knowledge sharing, and absorptive capacity in one integrated framework, while also offering a practical explanation for why some employees with digital skills and access to shared knowledge may still fail to display innovative behavior if their capacity to absorb and apply knowledge remains limited.

3. Method

This study used a quantitative explanatory research design to examine the direct and indirect relationships among digital competence, knowledge sharing, absorptive capacity, and innovative work behavior. The explanatory design was selected because the study aimed to test a theoretically developed model and explain causal relationships between latent variables. The quantitative approach was considered appropriate because each construct was measured through several observable indicators and analyzed statistically. The model involved two independent variables, namely digital competence and knowledge sharing, one mediating variable, namely absorptive capacity, and one dependent variable, namely innovative work behavior. This design allowed the study to assess not only whether digital competence and knowledge sharing directly influence innovative work behavior, but also whether absorptive capacity explains the mechanism through which these effects occur.

The population of this study consisted of employees working in higher education institutions and digitalized service organizations. These employees were selected because their daily work activities increasingly involve digital systems, online communication, administrative applications, digital documentation, and knowledge-based collaboration. The sample consisted of 254 respondents selected using purposive sampling. This technique was applied because the study required respondents who had relevant experience with digital work systems and knowledge-sharing practices. The inclusion criteria were employees who had worked in their current organization for at least six months, used digital applications or information systems in their job, and participated in work activities that required coordination, communication, or knowledge exchange with colleagues. These criteria ensured that respondents had sufficient experience to evaluate the research variables accurately.

Data were collected using a structured questionnaire distributed to eligible respondents. The questionnaire was designed based on established indicators from previous studies. Digital competence was measured

using six items adapted from studies on employee digital competence and digital transformation [1], [2]. Knowledge sharing was measured using six items reflecting knowledge donating and knowledge collecting [3], [4]. Absorptive capacity was measured using eight items that captured acquisition, assimilation, transformation, and exploitation of knowledge [5], [6]. Innovative work behavior was measured using six items related to idea generation, idea promotion, and idea implementation [2], [3]. All items were measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The use of the Likert scale was suitable because the study measured employees' perceptions, attitudes, and work-related behavior.

Before the main analysis, the data were screened to ensure completeness and suitability for statistical testing. Responses with incomplete answers or inconsistent patterns were excluded from the dataset. The remaining data were coded according to the measurement scale and prepared for analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM was selected because the research model included several latent variables, multiple indicators, and mediating relationships. This method is suitable for explanatory and predictive research, especially when the objective is to estimate complex relationships among constructs and evaluate both measurement and structural models [13], [14]. PLS-SEM also allows stable estimation without requiring strict multivariate normality assumptions, making it appropriate for survey-based research in the field of human resource management.

The analysis was conducted in two main stages: evaluation of the measurement model and evaluation of the structural model. The measurement model was assessed to ensure that all indicators measured their respective constructs validly and reliably. Convergent validity was evaluated using outer loading and Average Variance Extracted (AVE). Indicator loadings were expected to exceed 0.70, while AVE values were expected to exceed 0.50. Reliability was assessed using composite reliability and Cronbach's alpha, with values above 0.70 indicating acceptable internal consistency. Discriminant validity was evaluated using the Heterotrait-Monotrait Ratio (HTMT), with values below 0.90 indicating that the constructs were empirically distinct. These procedures ensured that the constructs of digital competence, knowledge sharing, absorptive capacity, and innovative work behavior were measured properly before testing the hypothesized relationships.

After the measurement model met the required criteria, the structural model was evaluated. The first step was to examine multicollinearity using the Variance Inflation Factor (VIF). VIF values below 5 indicated that the predictor variables did not suffer from serious collinearity problems. The next step was to assess the explanatory power of the model using R-square values for absorptive capacity and innovative work behavior. R-square values indicated the extent to which the independent variables explained the variance of the endogenous variables. The effect size of each predictor was evaluated using f-square to determine whether each exogenous construct had a small, medium, or large contribution to the endogenous construct. Predictive relevance could also be examined using Q-square when required, with values above zero indicating that the model had predictive capability.

Hypothesis testing was conducted using the bootstrapping procedure with 5,000 subsamples. This procedure generated path coefficients, t-statistics, p-values, and confidence intervals for each direct and indirect relationship. A hypothesis was considered supported when the path coefficient was positive, the t-statistic exceeded 1.96, and the p-value was below 0.05. The direct effects tested in this study included digital competence on absorptive capacity, knowledge sharing on absorptive capacity, digital competence on innovative work behavior, knowledge sharing on innovative work behavior, and absorptive capacity on innovative work behavior. The mediating effects were assessed through specific indirect effects, namely digital competence → absorptive capacity → innovative work behavior and knowledge sharing → absorptive capacity → innovative work behavior. The mediation test was important because the main

argument of this study was that absorptive capacity explains how digital competence and knowledge sharing are transformed into innovative work behavior.

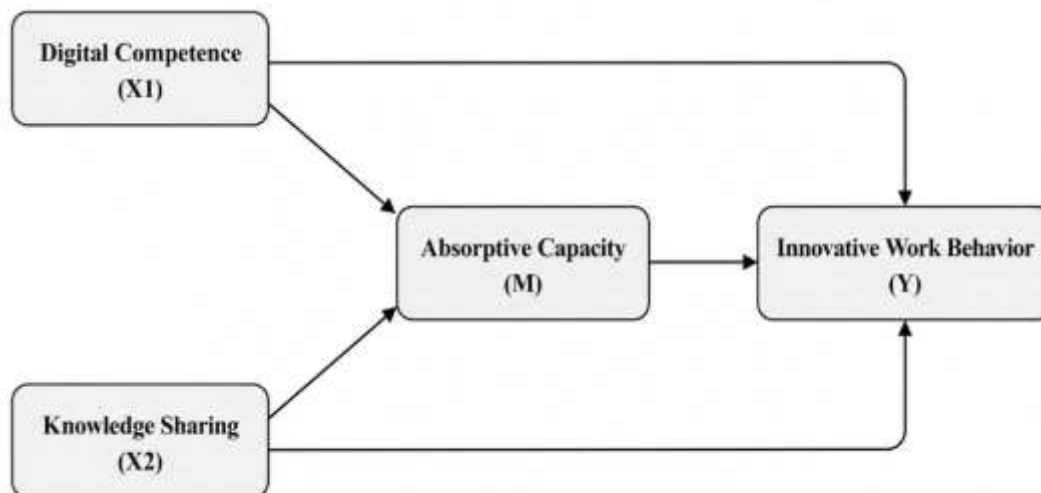


Fig. 1. Conceptual Framework

Overall, this methodological procedure was designed to ensure that the analysis produced accurate and stable results consistent with the characteristics of the data and the research model. By combining validated measurement indicators, purposive sampling, and PLS-SEM analysis, the study was able to test the proposed conceptual framework and explain the role of absorptive capacity as a mediating mechanism in the relationship between digital competence, knowledge sharing, and innovative work behavior.

4. Results And Discussion

The results of this study are presented in a structured manner by combining descriptive findings, measurement model assessment, structural model assessment, and hypothesis testing. The analysis was conducted using PLS-SEM to examine the relationships among digital competence, knowledge sharing, absorptive capacity, and innovative work behavior. The presentation of results begins with respondent characteristics and descriptive statistics, followed by the evaluation of validity and reliability, discriminant validity, collinearity, explanatory power, effect size, direct effects, and specific indirect effects. The discussion then compares the findings with previous studies and explains the theoretical and practical meaning of the results.

Table 1. Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Gender	Male	112	44.1%
	Female	142	55.9%
Age	< 25 years	24	9.4%
	25–34 years	86	33.9%
	35–44 years	91	35.8%
	45–54 years	43	16.9%
	> 54 years	10	3.9%
Education	Diploma	29	11.4%
	Bachelor	147	57.9%
	Master	68	26.8%
	Doctoral	10	3.9%

Characteristic	Category	Frequency	Percentage
Work Tenure	< 1 year	18	7.1%
	1–5 years	76	29.9%
	6–10 years	84	33.1%
	> 10 years	76	29.9%
Organization Type	Higher education institution	171	67.3%
	Digitalized service organization	83	32.7%
Total		254	100.0%

Table 1 shows that the respondents were relatively balanced by gender, although female respondents were slightly dominant at 55.9%. Most respondents were in the productive age range of 25–44 years, accounting for 69.7% of the total sample. This profile indicates that most respondents were at an age where they were likely to be actively involved in work processes, digital adaptation, and organizational service activities. In terms of education, most respondents held a bachelor’s degree, followed by master’s degree holders. This educational profile supports the relevance of the sample because digital competence, knowledge sharing, absorptive capacity, and innovative work behavior require respondents who are familiar with knowledge-based work. The majority of respondents had worked for more than one year, indicating that they had sufficient organizational experience to assess the research variables. Most respondents came from higher education institutions, while the rest worked in digitalized service organizations.

Table 2. Descriptive Statistics

Variable	Mean	Standard Deviation	Category
Digital Competence	4.08	0.61	High
Knowledge Sharing	4.02	0.64	High
Absorptive Capacity	3.96	0.59	High
Innovative Work Behavior	3.91	0.66	High

Table 2 presents the descriptive statistics of the research variables. The mean value of digital competence was 4.08, indicating that respondents generally perceived themselves as capable of using digital tools, managing digital information, and adapting to work-related digital systems. Knowledge sharing also showed a high mean value of 4.02, suggesting that respondents were generally willing to share information, exchange experience, and seek knowledge from colleagues. Absorptive capacity had a mean value of 3.96, showing that employees were relatively able to acquire, understand, transform, and apply new knowledge. Innovative work behavior had the lowest mean among the variables, although it remained in the high category. This pattern suggests that employees may already possess digital competence and knowledge-sharing behavior, but translating these resources into innovative actions requires a further internal capability.

The measurement model was evaluated using outer loading, Average Variance Extracted (AVE), composite reliability, and Cronbach’s alpha. The results showed that all constructs met the recommended validity and reliability criteria.

Table 3. Measurement Model Assessment

Construct	Item Code	Outer Loading Range	AVE	Composite Reliability	Cronbach’s Alpha
Digital Competence	X1.1–X1.6	0.724–0.879	0.667	0.923	0.899
	X2.1–X2.6	0.741–0.872	0.642	0.915	0.888
Absorptive Capacity	M.1–M.8	0.731–0.891	0.669	0.941	0.928

Innovative Behavior	Work	Y.1–Y.6	0.739–0.884	0.664	0.922	0.898
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Table 3 shows that all outer loading values were above 0.70, indicating that all indicators were valid. The highest loading was found in absorptive capacity, while another high loading appeared in innovative work behavior. All AVE values exceeded 0.50, confirming convergent validity. Composite reliability and Cronbach’s alpha values were also above 0.70, indicating that all constructs had strong internal consistency. These results confirm that the measurement model met the required validity and reliability criteria.

Discriminant validity was evaluated using the Heterotrait-Monotrait Ratio (HTMT). The purpose of this test was to ensure that each construct was empirically distinct from the others.

Table 4. HTMT Assessment

Construct Relationship	HTMT
Digital Competence – Knowledge Sharing	0.711
Digital Competence – Absorptive Capacity	0.768
Digital Competence – Innovative Work Behavior	0.694
Knowledge Sharing – Absorptive Capacity	0.781
Knowledge Sharing – Innovative Work Behavior	0.719
Absorptive Capacity – Innovative Work Behavior	0.823

Table 4 shows that all HTMT values were below 0.90. This result indicates that discriminant validity was achieved. Although absorptive capacity and innovative work behavior had the highest HTMT value at 0.823, the value remained within the acceptable range. This means that absorptive capacity and innovative work behavior are related but not identical constructs. The result is important because absorptive capacity reflects the ability to process and apply knowledge, while innovative work behavior reflects the behavioral outcome of generating, promoting, and implementing new ideas.

The structural model was then assessed using VIF, R-square, and f-square. VIF was used to examine collinearity among predictor variables, R-square was used to evaluate explanatory power, and f-square was used to assess the effect size of each predictor.

Table 5. Structural Model Assessment

Path / Endogenous Construct	VIF	f-square	R-square
Digital Competence → Absorptive Capacity	1.642	0.286	
Knowledge Sharing → Absorptive Capacity	1.642	0.337	
Absorptive Capacity			0.548
Digital Competence → Innovative Work Behavior	1.914	0.018	
Knowledge Sharing → Innovative Work Behavior	2.038	0.012	
Absorptive Capacity → Innovative Work Behavior	2.316	0.412	
Innovative Work Behavior			0.621

Table 5 shows that all VIF values were below 5.00, indicating that the model did not have serious multicollinearity problems. The R-square value for absorptive capacity was 0.548, meaning that digital competence and knowledge sharing explained 54.8% of the variance in absorptive capacity. This value indicates a moderate explanatory power. The R-square value for innovative work behavior was 0.621, indicating that digital competence, knowledge sharing, and absorptive capacity explained 62.1% of the variance in innovative work behavior. This value shows that the model had a satisfactory explanatory ability in predicting employees’ innovative behavior.

The f-square values provide further insight into the contribution of each predictor. Digital competence had a moderate effect on absorptive capacity, while knowledge sharing had a moderate effect that approached

a large level. This means that both digital competence and knowledge sharing contributed meaningfully to employees' ability to absorb and apply knowledge. In contrast, digital competence and knowledge sharing had very small effect sizes on innovative work behavior. Absorptive capacity had the largest effect size on innovative work behavior, with an f-square value of 0.412. This finding indicates that absorptive capacity was the strongest predictor of innovative work behavior in this model.

The direct effect results were assessed using bootstrapping with 5,000 subsamples. The results are presented in Table 6.

Table 6. Direct Effect and Hypothesis Testing

Hypothesis	Path	Path Coefficient	T-statistics	P-values	Decision
H1	Digital Competence → Absorptive Capacity	0.386	6.214	0.000	Supported
H2	Knowledge Sharing → Absorptive Capacity	0.452	7.381	0.000	Supported
H3	Digital Competence → Innovative Work Behavior	0.108	1.421	0.156	Not supported
H4	Knowledge Sharing → Innovative Work Behavior	0.084	1.118	0.264	Not supported
H5	Absorptive Capacity → Innovative Work Behavior	0.612	9.746	0.000	Supported

Table 6 indicates that H1 was supported. Digital competence had a positive and significant effect on absorptive capacity, with a path coefficient of 0.386, t-statistic of 6.214, and p-value of 0.000. This result suggests that employees with stronger digital competence tend to have a higher ability to acquire, understand, transform, and apply knowledge. The finding is consistent with Blanka et al. [1], who emphasized the importance of employee competence in digital transformation, and Carvalho et al. [2], who showed the relevance of digital competence in university work settings. The result also supports Huu [6], who positioned digital competence as closely related to learning and innovative behavior. In this study, digital competence appears to function as an entry point for knowledge absorption rather than as an immediate driver of innovation.

H2 was also supported. Knowledge sharing had a positive and significant effect on absorptive capacity, with a path coefficient of 0.452, t-statistic of 7.381, and p-value of 0.000. This finding indicates that employees who actively share and collect knowledge are more capable of developing absorptive capacity. The result supports Kmiecik [3], who showed that knowledge sharing contributes to the development and realization of ideas. It is also in line with Pham et al. [4], who found that knowledge management practices support innovative working behavior. The present finding adds a more specific explanation: knowledge sharing first strengthens absorptive capacity before it becomes useful for innovation. Knowledge exchanged among employees provides raw material for learning, but employees still need to process and apply that knowledge.

H3 was not supported. Digital competence did not have a significant direct effect on innovative work behavior, with a path coefficient of 0.108, t-statistic of 1.421, and p-value of 0.156. This result differs from Carvalho et al. [2] and Liu et al. [7], who found that digital competence or digital competencies contributed to innovative work behavior. However, the non-significant finding in this study can be explained by the nature of digital competence itself. Digital competence may help employees operate systems, manage information, and adapt to digital work, but it does not automatically make them innovative. Employees may be digitally capable but still use technology only for routine tasks. Innovation requires a further process in

which digital information is interpreted, combined with prior knowledge, and applied to improve work practices. This explains why digital competence becomes significant through absorptive capacity rather than through a direct path.

H4 was not supported. Knowledge sharing did not have a significant direct effect on innovative work behavior, with a path coefficient of 0.084, t-statistic of 1.118, and p-value of 0.264. This finding differs from studies that reported a direct relationship between knowledge sharing and innovative work behavior [3], [4], [8]. However, the result does not mean that knowledge sharing is unimportant. Instead, it suggests that shared knowledge does not automatically become innovation. Employees may exchange information, but innovation will not occur if the shared knowledge is not understood, adapted, and implemented. This result provides an important refinement to previous findings by showing that knowledge sharing may require absorptive capacity to become effective in shaping innovative work behavior. In service organizations and higher education institutions, knowledge is often procedural, experiential, and context-specific. Therefore, employees must translate shared knowledge into practical improvements before it can become innovation.

H5 was supported. Absorptive capacity had a positive and significant effect on innovative work behavior, with a path coefficient of 0.612, t-statistic of 9.746, and p-value of 0.000. This was the strongest direct effect in the model. The result confirms that employees who are able to acquire, assimilate, transform, and exploit knowledge are more likely to generate and implement new ideas. This finding supports Frate and Bido [5], who found that individual absorptive capacity promotes innovative behavior at work. It is also aligned with Kastelli et al. [6], who emphasized the mediating role of absorptive capacity in linking digital capacity and innovation performance. The finding highlights that absorptive capacity is not merely a learning-related capability but a critical bridge between knowledge resources and innovative behavior. The mediating effects were examined through specific indirect effects. The results are shown in Table 7.

Table 7. Specific Indirect Effects

Hypothesis	Indirect Path	Coefficient	T-statistics	P-values	Decision
H6	Digital Competence → Absorptive Capacity → Innovative Work Behavior	0.236	5.482	0.000	Supported
H7	Knowledge Sharing → Absorptive Capacity → Innovative Work Behavior	0.277	6.103	0.000	Supported

Table 7 shows that H6 was supported. Absorptive capacity significantly mediated the effect of digital competence on innovative work behavior, with an indirect effect of 0.236, t-statistic of 5.482, and p-value of 0.000. Since the direct effect of digital competence on innovative work behavior was not significant, the result indicates full mediation. This means that digital competence contributes to innovative work behavior only when employees are able to absorb and apply knowledge gained from digital work systems. The finding strengthens the argument that digital capability is not enough by itself. Employees need absorptive capacity to convert digital resources into new work practices.

H7 was also supported. Absorptive capacity significantly mediated the effect of knowledge sharing on innovative work behavior, with an indirect effect of 0.277, t-statistic of 6.103, and p-value of 0.000. Since the direct effect of knowledge sharing on innovative work behavior was not significant, this relationship also indicates full mediation. This finding suggests that knowledge sharing becomes valuable for innovation when employees are able to understand and use the knowledge exchanged. Compared with the indirect effect of digital competence, the indirect effect of knowledge sharing was slightly higher. This implies that social knowledge exchange may provide a stronger contribution to absorptive capacity and innovative behavior than individual digital competence, although both remain important.

Overall, the findings show a clear pattern: digital competence and knowledge sharing are important antecedents of absorptive capacity, while absorptive capacity is the key driver of innovative work behavior. The rejection of H3 and H4 is not a weakness of the model; instead, it strengthens the role of absorptive capacity as the main explanatory mechanism. The findings suggest that employees may possess digital skills and participate in knowledge sharing, but innovative work behavior emerges only when those resources are absorbed, interpreted, transformed, and applied in real work situations.

These results contribute to human resource management literature in three ways. First, the study clarifies the role of digital competence in employee innovation. Rather than assuming that digital competence directly creates innovative behavior, the study shows that digital competence first strengthens absorptive capacity. Second, the study refines the role of knowledge sharing. Knowledge sharing is useful, but its influence on innovation depends on whether employees can process and apply shared knowledge. Third, the study confirms absorptive capacity as a full mediator in the relationship between digital and social knowledge resources and innovative work behavior.

From a practical perspective, the results indicate that higher education institutions and digitalized service organizations should not rely only on digital training or knowledge-sharing activities. Digital training may improve employees' technical capability, but it must be followed by activities that help employees interpret and apply digital knowledge. Knowledge-sharing programs may increase information exchange, but they must be designed to encourage reflection, experimentation, and implementation. Organizations can strengthen absorptive capacity through peer learning, mentoring, problem-solving forums, cross-unit collaboration, and continuous improvement projects. These practices can help employees move from merely using technology and exchanging knowledge to producing meaningful innovation in their work.

The findings also explain why digital transformation sometimes fails to produce expected behavioral changes. Organizations may introduce new applications or digital platforms, but employees may use them only for routine compliance. Likewise, organizations may encourage knowledge sharing, but the knowledge exchanged may not affect work practices if it is not transformed into action. Absorptive capacity is the missing mechanism that connects knowledge resources with innovation. Therefore, employee development programs should focus not only on digital competence and knowledge-sharing culture but also on the ability to acquire, understand, adapt, and exploit knowledge.

In summary, the results provide strong support for the central argument of this study. Innovative work behavior among employees in higher education institutions and digitalized service organizations is shaped less by direct digital capability or knowledge exchange, and more by the ability to absorb and apply knowledge. This finding gives a more precise explanation of how employees become innovative in digitalized work settings. It also provides a practical foundation for human resource managers to develop intervention programs that integrate digital capability, knowledge-sharing routines, and absorptive capacity development.

5. Conclusion

This study examined the effects of digital competence and knowledge sharing on innovative work behavior, with absorptive capacity positioned as a mediating variable. The findings show that digital competence has a positive and significant effect on absorptive capacity. This result indicates that employees who are more capable of using digital tools, managing digital information, and adapting to digital work systems tend to have stronger ability to acquire, understand, transform, and apply new knowledge. Knowledge sharing also has a positive and significant effect on absorptive capacity, suggesting that the exchange of information, experience, and work-related knowledge among employees strengthens their ability to absorb and use

knowledge effectively. These findings answer the first part of the research objective by confirming that both digital competence and knowledge sharing serve as important antecedents of absorptive capacity.

The study also found that absorptive capacity has a positive and significant effect on innovative work behavior. This result confirms that employees who are able to process and apply new knowledge are more likely to generate, promote, and implement new ideas in their work. However, the direct effects of digital competence and knowledge sharing on innovative work behavior were not significant. This finding differs from several previous studies that reported direct relationships between digital competence or knowledge sharing and innovative behavior. The difference may occur because digital skills and knowledge exchange do not automatically produce innovation. Employees may be able to use digital systems and share information, yet innovation requires an additional process in which knowledge is interpreted, adapted, and applied to solve work problems.

The mediation test provides the main contribution of this study. Absorptive capacity fully mediates the relationship between digital competence and innovative work behavior, as well as the relationship between knowledge sharing and innovative work behavior. This means that innovative work behavior is not formed merely by digital capability or knowledge-sharing activities, but by employees' ability to transform those resources into useful work improvements. This result strengthens the theoretical position of absorptive capacity as a key mechanism in digital human resource management and knowledge-based innovation. It also refines previous findings by showing that digital competence and knowledge sharing may become effective only when employees have sufficient capacity to absorb and apply knowledge.

Practically, the findings suggest that higher education institutions and digitalized service organizations should not focus only on providing digital training or encouraging knowledge-sharing forums. These efforts need to be supported by programs that develop absorptive capacity, such as problem-solving discussions, mentoring, peer learning, cross-unit collaboration, and continuous improvement projects. Human resource managers should design employee development programs that help employees connect digital skills and shared knowledge with real work improvements. In this way, digital transformation can move beyond system adoption and become a driver of innovative behavior.

This study has several limitations. The data were collected using a cross-sectional survey, so the findings cannot fully capture changes in employee behavior over time. The study also relied on self-reported responses, which may contain subjective bias. Future research may use longitudinal designs, multi-source data, or comparative samples across sectors to strengthen the findings. Further studies may also include variables such as digital leadership, organizational learning, work engagement, or psychological safety to explain broader conditions that support innovative work behavior in digitalized organizations.

6. References

- [1] C. Blanka, B. Krumay, and D. Rückel, "The interplay of digital transformation and employee competency: A design science approach," *Technological Forecasting and Social Change*, vol. 178, p. 121575, 2022, doi: 10.1016/j.techfore.2022.121575.
- [2] L. P. Carvalho, T. Poletto, C. C. Ramos, F. A. Rodrigues, V. D. H. Carvalho, and T. C. C. Nepomuceno, "Predictors of digital competence of public university employees and the impact on innovative work behavior," *Administrative Sciences*, vol. 13, no. 5, p. 131, 2023, doi: 10.3390/admsci13050131.
- [3] R. Kmiecik, "Trust, knowledge sharing, and innovative work behavior: Empirical evidence from Poland," *European Journal of Innovation Management*, vol. 24, no. 5, pp. 1832–1859, 2021, doi: 10.1108/EJIM-04-2020-0134.
- [4] Q. T. Pham, A. V. Pham-Nguyen, S. Misra, and R. Damaševičius, "Increasing innovative working behaviour of information technology employees in Vietnam by knowledge management approach," *Digital Competence, Knowledge Sharing, and Innovative Work Behavior: The Role of Absorptive Capacity*. Wachyu Hari Haji

- Computers*, vol. 9, no. 3, p. 61, 2020, doi: 10.3390/computers9030061.
- [5] F. Frate and D. Bido, "Autonomy, motivation, knowledge and individual absorptive capacity as promoters of innovative behavior at work," *RAUSP Management Journal*, vol. 59, no. 3, pp. 212–228, 2024, doi: 10.1108/RAUSP-12-2022-0260.
- [6] I. Kastelli, P. Dimas, D. Stamopoulos, and A. Tsakanikas, "Linking digital capacity to innovation performance: The mediating role of absorptive capacity," *Journal of the Knowledge Economy*, vol. 15, pp. 238–272, 2024, doi: 10.1007/s13132-022-01092-w.
- [7] P. T. Huu, "Impact of employee digital competence on the relationship between digital autonomy and innovative work behavior: A systematic review," *Artificial Intelligence Review*, vol. 56, pp. 14193–14222, 2023, doi: 10.1007/s10462-023-10492-6.
- [8] Z. Liu, X. Chen, and Y. Ni, "Good tools are essential to do the job: A study of impact of digital competencies on innovative work behavior of Chinese remote work employees," *Information Development*, 2024, doi: 10.1177/02666669241264748.
- [9] T. Islam, I. Zahra, S. U. Rehman, and S. Jamil, "How knowledge sharing encourages innovative work behavior through occupational self-efficacy? The moderating role of entrepreneurial leadership," *Global Knowledge, Memory and Communication*, vol. 73, no. 1/2, pp. 67–83, 2024, doi: 10.1108/GKMC-02-2022-0041.
- [10] M. F. Agina, D. A. Farrag, H. A. Khairy, A. Alhemimah, and B. S. Al-Romeedy, "Talent management and innovative work behavior in tourism and hospitality businesses: Does absorptive capacity matter?," *Journal of Human Resources in Hospitality & Tourism*, vol. 24, no. 2, pp. 367–391, 2025, doi: 10.1080/15332845.2025.2432621.
- [11] E. Sinaga, S. Wijoyo, Y. D. Lestari, F. Suhariadi, A. Indaryanto, D. Bambang, and M. Hikmah, "Unlocking innovation: How absorptive capability unleashes the potential of motivation and leadership to catalyze innovative work behaviors in Batam," *F1000Research*, vol. 13, p. 663, 2024, doi: 10.12688/f1000research.148807.1.
- [12] P. C. Verhoef, T. Broekhuizen, Y. Bart, A. Bhattacharya, J. Q. Dong, N. Fabian, and M. Haenlein, "Digital transformation: A multidisciplinary reflection and research agenda," *Journal of Business Research*, vol. 122, pp. 889–901, 2021, doi: 10.1016/j.jbusres.2019.09.022.
- [13] J. F. Hair, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*. Cham, Switzerland: Springer, 2021, doi: 10.1007/978-3-030-80519-7.
- [14] M. Sarstedt, C. M. Ringle, and J. F. Hair, "Partial least squares structural equation modeling," in *Handbook of Market Research*, C. Homburg, M. Klarmann, and A. Vomberg, Eds. Cham, Switzerland: Springer, 2022, doi: 10.1007/978-3-319-57413-4_15.
- [15] P. N. Sharma, M. Sarstedt, G. Shmueli, K. H. Kim, and K. O. Thiele, "PLS-based model selection: The role of alternative explanations in information systems research," *Journal of the Association for Information Systems*, vol. 22, no. 4, pp. 925–952, 2021, doi: 10.17705/1jais.00675.
- [16] B. Afsar and W. A. Umrani, "Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity and innovation climate," *European Journal of Innovation Management*, vol. 23, no. 3, pp. 402–428, 2020, doi: 10.1108/EJIM-12-2018-0257.
- [17] B. Afsar, B. M. Al-Ghazali, S. Cheema, and F. Javed, "Cultural intelligence and innovative work behavior: The role of work engagement and interpersonal trust," *European Journal of Innovation Management*, vol. 24, no. 4, pp. 1082–1109, 2020, doi: 10.1108/EJIM-01-2020-0008.
- [18] T. Erhan, H. H. Uzunbacak, and E. Aydin, "From conventional to digital leadership: Exploring digitalization of leadership and innovative work behavior," *Management Research Review*, vol. 45, no. 11, pp. 1524–1543, 2022, doi: 10.1108/MRR-05-2021-0338.

- [19] R. H. Binsaeed, Z. Yousaf, A. Grigorescu, R. A. Trandafir, and A. A. Nassani, "Knowledge sharing and the moderating role of digital innovation on employees innovative work behavior," *Sustainability*, vol. 15, no. 14, p. 10788, 2023, doi: 10.3390/su151410788.
- [20] A. M. Elamin, H. Aldabbas, A. Z. E. Ahmed, and A. N. Abdullah, "Employee engagement and innovative work behavior: The mediating role of knowledge-sharing behavior in the United Arab Emirates service context," *Administrative Sciences*, vol. 14, no. 9, p. 232, 2024, doi: 10.3390/admsci14090232.
- [21] M. Yasir, A. Majid, Z. Yousaf, A. A. Nassani, and M. Haffar, "An integrative framework of innovative work behavior for employees in SMEs linking knowledge sharing, functional flexibility and psychological empowerment," *European Journal of Innovation Management*, vol. 26, no. 2, pp. 289–308, 2023, doi: 10.1108/EJIM-02-2021-0091.
- [22] N. Usmanova, J. Yang, E. Sumarliah, S. U. Khan, and S. Z. Khan, "Impact of knowledge sharing on job satisfaction and innovative work behavior: The moderating role of motivating language," *VINE Journal of Information and Knowledge Management Systems*, vol. 51, no. 3, pp. 515–532, 2021, doi: 10.1108/VJKMS-11-2019-0177.
- [23] F. P. Sary, N. Dudija, and M. Moslem, "Do digital competency and self-leadership influence teachers' innovative work behavior?," *European Journal of Educational Research*, vol. 12, no. 3, pp. 1449–1463, 2023, doi: 10.12973/eu-jer.12.3.1449.
- [24] R. Saif, N. Amelia, M. N. Tunio, B. Obrenovic, and A. Ahmed, "Influence of transformational leadership on innovative work behavior and task performance of individuals: The mediating role of knowledge sharing," *Heliyon*, vol. 10, no. 11, p. e32280, 2024, doi: 10.1016/j.heliyon.2024.e32280.
- [25] J. Henseler, *Composite-Based Structural Equation Modeling: Analyzing Latent and Emergent Variables*. New York, NY, USA: Guilford Press, 2021, doi: 10.31219/osf.io/at3q7.