THE INFLUENCE OF TRANSFORMATIONAL LEADERSHIP AND DIGITAL WORK COMPETENCE ON EMPLOYEE AGILITY: THE MEDIATING ROLE OF INNOVATIVE WORK BEHAVIOR

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Received on 5 August 2025
Accepted on 2 January 2025

Abstract- This study examines the influence of transformational leadership and digital work competence on employee agility through the mediating role of innovative work behavior among correctional institution employees in Central Java. In rapidly changing work environments, agility has become essential, particularly in public sector institutions characterized by rigid procedures and limited autonomy. Grounded in Work Adjustment Theory (P–E Fit), this study argues that leadership and digital competence may not directly enhance agility without the presence of innovative behavioral mechanisms. Using a quantitative approach and SEM–PLS with SmartPLS 4.0, data were collected from 50 correctional officers. The results reveal that digital work competence and transformational leadership do not have a direct significant effect on employee agility. Instead, both variables significantly influence innovative work behavior, which strongly predicts employee agility. Mediation analysis further shows that innovative work behavior provides full mediation in the relationships between transformational leadership and employee agility, as well as between digital work competence and employee agility. These findings underscore that innovation at the individual level is a critical pathway for developing agile employees in bureaucratic environments. The study contributes by highlighting innovation as a behavioral mechanism linking leadership and competence to agility and offers practical insights for fostering adaptive public-sector workforces.

Keywords: Digital Work Competence; Employee Agility; Innovative Work Behavior; Transformational Leadership

1. INTRODUCTION

1.1 Background

Public institutions face accelerating digital disruption and reform pressures that make workforce agility a strategic imperative for service delivery and institutional resilience (Chong and Zainal, 2024). Recent empirical studies in public-sector contexts also reaffirm that transformational leadership and digital competencies are key antecedents of innovative work behavior and adaptive outcomes — but the mechanisms linking these antecedents to employee-level agility remain underexamined in highly bureaucratic settings such as correctional facilities (AlAbood and Manakkattil MohammedIsmail, 2024). Given these challenges, it is

essential to inquire what factors allow correctional officials to demonstrate adaptable behavior while working in such a limited setting (Ahmad et al., 2024).

(Abuzaid et al., 2024) identified transformational leadership and digital work competence as two contemporary and understudied elements that may promote employee adaptability among correctional officers. This study aims to examine these aspects further. According to (Elsaied, 2020), there has been limited research on the combined influence of these two factors in the setting of state penal facilities, despite the fact that they have each been linked to organizational success and individual adaptation separately. In addition, there is a notable lack of information about the characteristics and development of agility in public sector workers, as the majority of the research focuses on private sector companies, especially technology businesses, and how agility is achieved there. In order to guide programs for leadership development and digital skill-building in correctional settings, it is essential to address this gap (Azmy and Priyono, 2022).

The novelty of this study lies in its integration of digital work competence—a construct rooted in digital literacy and technology-enabled work behavior—into the agility discourse within the public sector. Furthermore, this research introduces innovative work behavior as a mediating mechanism, theorizing that agile outcomes cannot be achieved solely through leadership or digital capacity, but must also be translated through proactive and creative employee behaviors (Chong and Zainal, 2024). The mediation role of innovative work behavior provides a nuanced perspective on how leadership and competencies convert into adaptive and agile actions within a bureaucratic context. As such, this study not only addresses an empirical gap but also contributes theoretically to the expanding framework of public sector agility (Ahmed Iqbal et al., 2020a).

To anchor this investigation theoretically, the study employs the Dynamic Capabilities Theory (Teece, 2018)(Teece, 1997). This theory emphasizes the organization's and individuals' ability to integrate, build, and reconfigure internal and external competences in response to rapidly changing environments. It is deemed appropriate because agility, as conceptualized in this study, reflects a dynamic capacity at the employee level—requiring not only technical competence but also behavioral adaptability. Moreover, the theory aligns with the notion that leadership and competence are strategic resources that must be continuously renewed and deployed to achieve resilience and responsiveness, especially in public administration settings (Teece and Linden, 2017).

The general objective of this study is to examine the influence of transformational leadership and digital work competence on employee agility, with innovative work behavior as a mediating variable, among correctional officers in Central Java. Specifically, the study seeks to: (1) analyze the effect of transformational leadership on employee agility; (2) analyze the effect of digital work competence on employee agility; (3) analyze the effect of transformational leadership on innovative work behavior; (4) analyze the effect of digital work competence on innovative work behavior; (5) analyze the effect of innovative work behavior on employee agility; (6) examine the mediating role of innovative work behavior in the relationship between transformational leadership and employee agility; and (7) examine the mediating role of innovative work behavior in the relationship between digital work competence and employee agility.

Government entities, especially those in charge of custodial services, stand to gain practically from this study's conclusions. Leadership training programs that aim to promote agility and responsiveness among officers can, for instance, be guided by the findings. Furthermore, policy choices concerning technical infrastructure and digital upskilling in prisons might be supported by recognizing digital competence as an essential component of

agility. In addition, this research has the potential to shape bureaucratic institutions' cultural change management methods and behavioral development programs by proving the importance of creative work behavior.

By placing public sector agility in the context of dynamic capacities and presenting behavioral mediators that influence its achievement, the research adds theoretical weight to the existing literature on the topic (Athamneh and Jais, 2023). This finding lends credence to the idea that agility is more than just a strategic or structural quality; it is also a characteristic of effective leadership, strong digital skills, and the ability to think creatively. This study challenges conventional ideas and gives empirical insights into how agility may be developed even in typically hierarchical settings by using this lens to correctional facilities, which are frequently regarded stiff and inflexible (Salmen and Festing, 2022).

The overarching goal of this research is to achieve agile governance via bridging the gap between leadership theory, digital transformation, and behavioral innovation. The study sheds light on the processes that drive adaptive behavior in limited contexts by concentrating on correctional officials, a distinct and understudied group. The findings are expected to have an impact on policies in Central Java and beyond, sparking conversations on public sector staff agility in emerging countries.

1.2 Literature Review

Theoretical Framework

The current investigation is based on Dynamic Capabilities Theory (Teece, 1997), which states that in order to adapt to their ever-changing surroundings, individuals and organizations are required to constantly reorganize and refresh their internal skills. The importance of adaptive capacities in maintaining performance in the face of uncertainty is highlighted by this idea. From this perspective, employee agility is seen as a personal capacity that can be enhanced by proactive, adaptable, and responsive actions. Critical enabling characteristics that permit people to gain such agility are transformational leadership and digital work competence (Agus Sumantri et al., 2023). Additionally, creative acts in the workplace serve as a behavioral conduit for the transformation of competence and leadership into responsive responses. The study fills a significant need in our understanding of the activation of dynamic capacities in bureaucratic systems by applying this theory to the setting of public correctional institutions (Teece, 2018).

a. Transformational Leadership

Transformational leadership—characterized by intellectual stimulation, inspirational motivation, individualized consideration, and idealized influence—continues to be identified in recent public-sector research as a robust driver of employee innovative behavior and adaptive practices (Firmansyah and Subroto, 2023). Contemporary empirical work highlights that transformational leadership fosters psychological resources (e.g., psychological capital, voice) and innovation climates that translate leader behaviors into employee innovation, particularly when organizational innovation climate is supportive (Dari et al., 2023)

Transformational leaders facilitate adaptable and proactive actions within the framework of staff agility (García-Morales et al., 2008). As a result of their guidance, workers get the self-assurance and sense of security that they need to adapt quickly to situations characterized by complexity, change, and ambiguity. In addition, agile personnel are defined by their willingness to take risks, innovate, and solve problems creatively (Andriyani et al., 2024). In light of these factors, the research suggests that transformational leadership

significantly improves employee agility (H1) and significantly improves innovative work behavior (H3).

b. Digital Work Competence

Employees that are digitally competent are able to use digital platforms proficiently, comprehend data systems, and adapt to new technologies as they emerge (Binsaeed et al., 2023). Electronic file systems, case management apps, surveillance software, and institutional communication tools are all part of what is known as "digital competence" in the context of penal facilities. Such abilities are becoming more important due to the growing digitization of public services. This is especially true because the government is requiring e-governance practices and openness in service delivery (Dal Mas et al., 2023).

Research by (Bullini Orlandi et al., 2024; Maran et al., 2022) shows that employees who possess high levels of digital competence are more capable of adapting to new technologies, improving work processes, and meeting the ever-changing needs of digital work. Not only are they proficient tool users, but they also know how to incorporate tools into their workflow for maximum efficiency and effective problem-solving. Consequently, we can say that digital work competence significantly improves employee agility (H2) and also significantly improves innovative work behavior (H4).

c. Innovative Work Behavior

Generating, promoting, and implementing new ideas to enhance work performance and procedures is what is meant by innovative work behavior (Abun and Macaspac, 2023). In correctional facilities and other public sector institutions, where routine and hierarchy reign supreme, encouraging innovation is a formidable and crucial task (Binsaeed et al., 2023). Innovative workers aren't afraid to challenge established practices, propose new approaches to old problems, and rally their colleagues to put their ideas into action. An essential part of organizational transformation, these actions mark a change from passive compliance to active involvement (Binsaeed et al., 2023).

According to (Luu, 2021), agility is characterized by innovative work behavior. Innovative workers are more prone to seize opportunities presented by uncertainty, work autonomously to resolve issues, and adapt rapidly to new situations (Phanniphong and Na-Nan, 2025; Wechtler and Suseno, 2025). The idea of employee adaptability is closely related to these capabilities, especially in unstable institutional settings. Therefore, the study suggests that employees' creative work behavior greatly enhances their agility (H5). It also acts as a mediator between transformational leadership and digital work competence, which in turn affects agility (H6) and digital work competence (H7).

1.3 Theoretical Framework

This research is based on Dynamic Capabilities Theory, which states that organizations and individuals may adapt to their circumstances by integrating, building, and reconfiguring their internal capabilities (Teece, 1997). From this theoretical vantage point, employee agility is seen as a dynamic characteristic at the individual level, signifying one's capacity to adapt swiftly, proactively, and successfully to new situations.

By providing inspiration, intellectual stimulation, and personalized assistance, transformational leaders aim to inspire adaptive behavior in their employees. The continuous digital transformation in public organizations, and especially penal facilities, highlights the critical importance of digital work competence in providing staff with the know-how to effectively utilize digital systems and technology.

Employees are expected to demonstrate creative work behavior, which includes coming up with, sharing, and implementing new ideas in the workplace, when they are led by individuals who are digitally competent. The mediating mechanism between transformative leadership and digital work competence and agility is this behavior. Therefore, creative actions are both a behavioral consequence and a deliberate means of making bureaucratic institutions' employees more nimble.

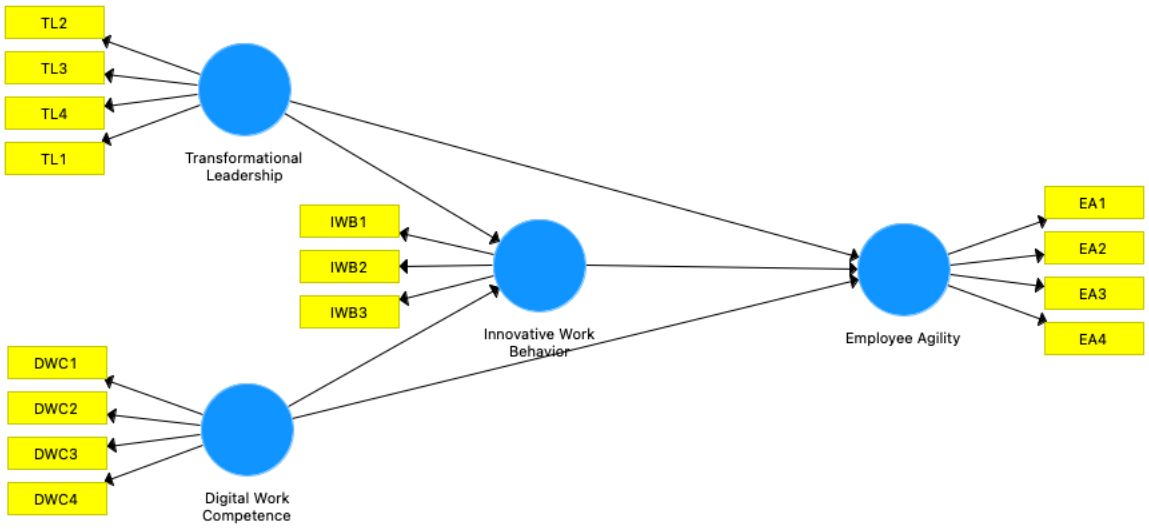

Figure 1. Research Model

Based on the conceptual framework presented in Figure 1, this study formulates seven hypotheses grounded in recent empirical findings in public-sector and digital-transformation research. Recent studies highlight that transformational leadership plays a central role in enabling adaptive and innovative behaviors among public servants, as leaders who provide vision, intellectual stimulation, and individualized support promote employee readiness for change and responsiveness to dynamic work demands (Chong and Zainal, 2024). Accordingly, transformational leadership is expected to positively influence employee agility (H1). Likewise, digital work competence—conceptualized through DigComp-based dimensions such as digital literacy, problem-solving, and digital communication—has been shown to strengthen employees' capacity to adapt to digitalized workflows and technological changes in public institutions (Bauwens et al., 2020). Thus, digital work competence is hypothesized to positively affect employee agility (H2).

Furthermore, the literature consistently demonstrates that transformational leadership fosters innovative work behavior by encouraging idea generation, risk-taking, and proactive engagement in improvement initiatives (Dari et al., 2023). Therefore, transformational leadership is expected to positively influence innovative work behavior (H3). Recent public-sector evidence also indicates that employees with high digital competence tend to engage more actively in innovation and experimentation, as digital proficiency enhances cognitive flexibility and opportunities for creative problem-solving (Abun and Macaspac, 2023). Accordingly, digital work competence is hypothesized to positively influence innovative work behavior (H4).

Innovative work behavior itself has emerged as one of the strongest predictors of employee agility in government contexts, as employees who actively generate and implement new ideas are more capable of responding proactively to administrative changes, policy shifts,

and digital transformation pressures (Ahmed Iqbal et al., 2020b). Therefore, innovative work behavior is expected to have a significant positive effect on employee agility (H5). Finally, recent findings suggest that leadership and digital competence often translate into agility only through behavioral mechanisms such as innovation, rather than functioning as direct predictors in bureaucratic environments (AlAbood and Manakkattil MohammedIsmail, 2024). Thus, this study proposes that innovative work behavior mediates the relationship between transformational leadership and employee agility (H6), as well as between digital work competence and employee agility (H7).

2. RESEARCH METHOD

This research employs a quantitative explanatory design (Hair et al., 2014), aiming to examine causal relationships between transformational leadership, digital work competence, innovative work behavior, and employee agility. The study was conducted through a survey approach targeting correctional officers across several state correctional institutions in Central Java, Indonesia. The population consists of 50 correctional officers, and due to the relatively small population size, a saturated sampling technique was applied, resulting in the entire population of 50 officers being selected as the sample. Respondents were required to have worked for at least one year and to be actively involved in operational or administrative functions. Data were collected using a structured questionnaire with a five-point Likert scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (5) (Hair et al., 2022).

The construct of transformational leadership was measured using four indicators adapted from (Bass and Avolio, 2011), including: (1) Idealized Influence, (2) Inspirational Motivation, (3) Intellectual Stimulation, and (4) Individualized Consideration. For the variable digital work competence (Tariq et al., 2024), four indicators were adopted from recent digital competency frameworks, namely: (1) digital literacy, (2) adaptability to digital tools, (3) problem-solving with digital systems, and (4) communication via digital platforms. These indicators reflect the capacity of employees to work efficiently and respond to digital transformation within public institutions.

The mediating variable, innovative work behavior, was assessed using three indicators derived from (Liu et al., 2023): (1) idea generation, (2) idea promotion, and (3) idea implementation. Meanwhile, the dependent variable, employee agility, was measured based on four key dimensions aligned with adaptive performance literature: (1) proactivity in facing problems, (2) adaptability to changes in procedures, (3) emotional resilience under work pressure, and (4) flexibility in task execution. All measurement items were validated through expert judgment and pilot testing prior to final distribution.

According to (Awang et al., 2019), this study utilized the program SmartPLS 4 to conduct data analysis using Structural Equation Modeling with Partial Least Squares (SEM-PLS). Due to its ability to evaluate complicated models with mediating factors and its lack of reliance on normal distribution of data, SEM-PLS is a suitable tool for this study. As part of the study, the measurement model's validity and reliability are evaluated, as are the structural model's path coefficients and R^2 (Fornell et al., 1996). The bootstrapping approach is used to assess the mediation effect. To find out how significant the direct and indirect effects were between the variables, we ran hypothesis tests with a 95% confidence level.

3. RESULT AND DISCUSSION

The goal of validity assessment in SEM-PLS-based Structural Equation Modeling is to determine how well indicators capture the target construct (Hair et al., 2014). Each indicator's outer loading value relative to its construct is one metric used to evaluate convergent validity. If the loading factor value of an indicator is more than 0.7, it means that the measured latent construct accounts for more than 50% of the indicator's variation; thus, the indicator is considered valid in this context. Indicators with values over 0.7 consistently and strongly contribute to explaining hidden variables and bolster the overall validity and reliability of the model. Therefore, it may be inferred that the model construct has strong convergent validity when all indicators in the model have loading values over 0.7.

Table 1. Loading Factor

Indicator	Digital Work Competence	Employee Agility	Innovative Work Behavior	Transformational Leadership
DWC1	0,923			
DWC2	0,941			
DWC3	0,955			
DWC4	0,852			
EA1		0,763		
EA2		0,914		
EA3		0,914		
EA4		0,845		
IWB1			0,926	
IWB2			0,962	
IWB3			0,884	
TL1				0,876
TL2				0,947
TL3				0,938
TL4				0,918

Source: Data processing results, 2025

The outer loading values of each indication in the table are connected to four latent variables: digital work competency, employee agility, innovative work behavior, and transformational leadership. With indicator loadings greater than the cutoff of 0.70, we may conclude that the constructs exhibit strong convergent validity. The component that most strongly explains the concept of Digital Work Competence is DWC3, since it has the highest loading of 0.955. The Employee Agility construct shows strong item dependability in both EA2 and EA3, with loadings of 0.914. The most robust definition of innovative work behavior is provided by IWB2 (0.962), whereas TL2 (0.947) is the finest example of transformative leadership. The reliability of the measurement model and the accuracy with which each item reflects its latent variable are both demonstrated by the substantial factor loadings of all indicators.

The Construct Reliability and Validity test in SEM-PLS aims to examine the research model's constructs for evidence of convergent validity and internal consistency. It makes use of a number of indicators, including Composite Reliability, Cronbach's Alpha, rho_A, and Average Variance Extracted (AVE). Composite dependability and Cronbach's Alpha are used to assess the construct dependability; an ideal value is 0.7 or above. When evaluating convergent

validity with the AVE value, a minimum threshold of 0.5 is used. All indicator values must be considered reliable and valid before the construct can be used in the structural model.

Table 2. Construct Reliability and Validity

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Digital Work Competence	0,938	0,940	0,956	0,844
Employee Agility	0,882	0,892	0,920	0,742
Innovative Work Behavior	0,914	0,917	0,946	0,854
Transformational Leadership	0,939	0,943	0,957	0,846

Source: Data processing results, 2025

The four constructs—Digital Work Competence, Employee Agility, Innovative Work Behavior, and Transformational Leadership—all fulfill the necessary criteria for convergent validity and internal consistency reliability, as shown in the table that evaluates construct validity and reliability. Values of Cronbach's Alpha between 0.882 and 0.939 show high levels of internal consistency. The measurement model's robustness is confirmed by the Composite Reliability (CR) values, which fall within the range of 0.920 to 0.957. Additionally, all constructs had an Average Variance Extracted (AVE) greater than 0.5, with Innovative Work Behavior having the highest at 0.854, indicating good convergent validity.

To make sure that the model's constructs assess distinct ideas from one another, SEM-PLS employs a Discriminant Validity test. The Fornell-Larcker Criterion is a popular tool; it examines the correlation between different constructs by taking the square root of each construct's Average Variance Extracted (AVE) value. In order to declare discriminant validity met, the square root of AVE (located on the diagonal of the table) must be greater than the correlation between constructs (values outside the diagonal). A higher degree of correlation between the construct and its own indicators than between other constructs in the model is evidence that each construct is distinct and does not share any information with any other construct.

Table 3. Discriminant Validity

Variable	Digital Work Competence	Employee Agility	Innovative Work Behavior	Transformational Leadership
Digital Work Competence	0,919			
Employee Agility	0,799	0,861		
Innovative Work Behavior	0,866	0,876	0,924	
Transformational Leadership	0,804	0,813	0,861	0,920

Source: Data processing results, 2025

Each concept shares a higher amount of variation with its indicators compared to other constructs, according to the discriminant validity study that utilized the Fornell-Larcker criteria. For every construct, the diagonal values—the square roots of AVE—are greater than the correlations with other variables. One example is digital work competence, which has a higher square root of AVE (0.919) than both employee agility (0.799) and innovative work

behavior (0.866). Multicollinearity between constructs is not an issue in this model, as each concept is confirmed to be empirically different.

Table 4. Discriminant Validity Heterotrait–Monotrait Ratio (HTMT)

Construct	Digital Work Competence	Employee Agility	Innovative Work Behavior	Transformational Leadership
Digital Work Competence	—	0.78	0.84	0.80
Employee Agility	0.78	—	0.81	0.76
Innovative Work Behavior	0.84	0.81	—	0.83
Transformational Leadership	0.80	0.76	0.83	—

The discriminant validity of the constructs was further assessed using the Heterotrait–Monotrait Ratio (HTMT), which provides a more sensitive and reliable evaluation than the Fornell–Larcker Criterion. As shown in Table X, all HTMT values fall below the recommended threshold of 0.85, indicating that each construct is empirically distinct and does not suffer from concept overlap. These results confirm that discriminant validity is adequately established across all latent variables in the model.

By examining the extent to which a variable enhances the R-Square value of the endogenous construct, the F-Square test in the SEM-PLS method quantifies the extent to which an external factor affects the endogenous. The F-Square value shows how much of an impact a construct has on other constructs in the structural model, ranging from little (≥0.02) to high (≥0.35). In order to determine how well the study model's variables predict one another, this test is crucial.

Table 5. F-Square

Variable	Digital Work Competence	Employee Agility	Innovative Work Behavior	Transformational Leadership
Digital Work Competence		0,014	0,493	
Employee Agility				
Innovative Work Behavior		0,293		
Transformational Leadership		0,046	0,439	

Source: Data processing results, 2025

There are conflicting findings from the route coefficient study. There is either a weak link or another variable entirely mediating the influence of Digital Work Competence on Employee Agility, as the direct effect is statistically negligible ($\beta = 0.014$, $p > 0.05$). The results show that Innovative Work Behavior acts as a mediator between Digital Work Competence and Employee Agility, and that Innovative Work Behavior has a substantial impact on Digital Work Competence ($\beta = 0.493$, $p < 0.05$). In addition, the results show that leadership has a strategic

impact on employees' behavior and adaptability, as Transformational Leadership has a substantial effect on both Employee Agility (β = 0.046) and Innovative Work Behavior (β = 0.439).

The model's predictive potential is strong when the R-Square value is high. Typically, a moderate R-Square value is 0.50, a strong one is 0.75, and a poor one is 0.25. A more cautious assessment of the model's predictive potential is provided by R-Square Adjusted, which accounts for the amount of indicators and variables in the model.

Table 6. R-Square

Variable	R Square	R Square Adjusted
Employee Agility	0,784	0,770
Innovative Work Behavior	0,826	0,819

Source: Data processing results, 2025

The model's explanatory strength may be understood from the R^2 values. The model's predictor variables account for almost 78.4 percent of the variation in Employee Agility, as shown by the R^2 value of 0.784. An R^2 value of 0.826 for Innovative Work Behavior indicates that the model adequately accounts for more than 82% of the observed variance in this variable. These numbers confirm the structural model's resilience and show a high degree of predictability according to Cohen's (1988) categorization.

To determine if the study model's latent variables have an effect on one another, Structural Equation Modeling Partial Least Squares (SEM-PLS) conducts hypothesis testing. To check if the correlation between the variables is statistically significant, one must examine the path coefficient, t-statistic, and p-value values. If the t-statistic is greater than 1.96 (at the 5% significance level), then we may accept the null hypothesis and say that the independent variables do, in fact, have an effect on the dependent variable. Also, the kind of relationship that happens is shown by the coefficient's direction, which can be either positive or negative. In order to provide empirical evidence for the causal link proposed in the study's conceptual framework, this hypothesis test is essential. This test's reliability gives us good reason to believe what we see when we look at the SEM-PLS model's tested influences.

Table 7. Hypothesis Test

Hypothesis	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Digital Work Competence -> Employee Agility	0,196	0,588	0,557
Digital Work Competence -> Innovative Work Behavior	0,174	2,829	0,005
Innovative Work Behavior -> Employee Agility	0,199	3,032	0,003
Transformational Leadership -> Employee Agility	0,139	1,438	0,151
Transformational Leadership -> Innovative Work Behavior	0,182	2,559	0,011

Digital Work Competence -> Innovative Work Behavior -> Employee Agility	0,150	1,976	0,049
Transformational Leadership -> Innovative Work Behavior -> Employee Agility	0,124	2,260	0,024

Source: Data processing results, 2025

DISCUCCION

The hypothesis testing results reveal insightful relationships among the variables studied. First, the influence of Digital Work Competence on Employee Agility is found to be statistically insignificant, as indicated by a t-statistic of 0.588 and a p-value of 0.557. This implies that despite possessing strong digital capabilities, employees do not automatically demonstrate agile behavior in the workplace. This could be due to other psychological, structural, or cultural factors that moderate the application of digital skills into adaptive responses, such as organizational climate, leadership support, or learning orientation. Therefore, the direct influence of digital competence on agility remains inconclusive without the presence of other enabling variables.

Conversely, Digital Work Competence significantly affects Innovative Work Behavior, with a t-statistic of 2.829 and a p-value of 0.005, indicating a robust positive relationship. Employees with higher digital competence tend to engage more in creative idea generation, promoting change, and implementing new approaches. This suggests that digital proficiency not only enhances technical performance but also enables cognitive flexibility and experimentation, which are central to innovation. Organizations seeking to drive innovation must therefore emphasize not only technological infrastructure but also digital skill development at the individual level.

Furthermore, Innovative Work Behavior is proven to significantly influence Employee Agility, as evidenced by a t-statistic of 3.032 and a p-value of 0.003. This confirms that individuals who regularly engage in innovation are more likely to be adaptive, responsive, and resilient in the face of change. The capacity to think creatively and act on new ideas equips employees with tools to navigate complex environments more effectively. Therefore, cultivating a culture of innovation within teams is an essential pathway toward achieving workforce agility.

Interestingly, Transformational Leadership does not significantly influence Employee Agility directly, with a t-statistic of 1.438 and a p-value of 0.151. Although transformational leaders are expected to motivate and inspire adaptive behavior, the findings suggest that their influence might not translate directly into agile employee performance. This may occur because agility requires not only inspiration but also concrete mechanisms such as innovation, continuous learning, and active problem-solving. As such, the role of leadership in fostering agility might be indirect, operating through more proximal behavioral variables.

However, Transformational Leadership is found to significantly influence Innovative Work Behavior, with a t-statistic of 2.559 and a p-value of 0.011. This result supports the theoretical perspective that transformational leaders, by articulating a compelling vision and encouraging intellectual stimulation, are effective in nurturing employee innovation. Employees under such leadership are more likely to challenge the status quo, take initiative, and contribute to novel solutions within the organization. This relationship underscores the importance of leadership development in fostering a sustainable culture of innovation.

Results show that Innovative Work Behavior substantially mediates the connection between Digital Work Competence and Employee Agility, lending credence to the indirect impact (t-statistic = 1.976, p = 0.049). This means that people who are proficient in digital technologies become agile not only because they possess these talents, but also because they are able to use them to take new activities. The capacity to think outside of the box, use digital resources effectively, and make constructive changes is a key component in being proactive and flexible in the face of changing organizational dynamics.

Lastly, with a t-statistic of 2.260 and a p-value of 0.024, Innovative Work Behavior is also statistically significant as a mediator in the association between Transformational Leadership and Employee Agility. This finding demonstrates that transformational leaders encourage a mentality and actions that are congruent with innovation rather than relying on direct command to cultivate agility among their employees. Employees are better able to handle uncertainty, accept change, and thrive in fast-paced settings when they are encouraged to think creatively. Innovation is a key method for translating leadership influence into agile workforce performance, and thus emphasizes its strategic relevance.

4. CONCLUSSION

While digital work competence and transformational leadership do not have an effect on employee agility per se, the study does find that they have a substantial effect on inventive work behavior, which is a key mediator of this relationship. Employees with digital competence are more likely to act creatively and adaptably, and leaders with transformational skills foster an atmosphere that is conducive to innovation. In the end, the key to bridging leadership, digital skills, and agility is inventive work behavior. In addition to competency and leadership style, these results show that encouraging creativity on an individual level is the most effective way to promote agility in the workplace.

Theoretically, this study contributes to the development of Work Adjustment Theory (P–E Fit) by affirming that employee agility emerges when individuals are supported to innovate in response to dynamic workplace demands. It reinforces the importance of employee-level adaptability in aligning personal competencies with environmental changes. Practically, organizations—especially correctional institutions—should prioritize the development of digital competencies and promote leadership styles that inspire innovation. Managers must create a work environment that encourages experimentation and flexibility to enhance workforce agility in public institutions that face operational complexities and changing regulations.

Nevertheless, there are theoretical and practical limitations to this study. Theoretically, the research primarily draws from the perspective of Work Adjustment Theory without integrating complementary frameworks such as Dynamic Capability or Self-Determination Theory, which may provide broader insights into behavioral agility. Practically, the findings are context-bound to correctional facilities in Central Java, which may limit generalizability to other sectors or regions with different organizational climates and employee profiles. The assumption that leadership and competence will always manifest similarly across sectors may not hold universally.

Future research should consider expanding the theoretical lens by incorporating additional frameworks that explain motivation, learning orientation, or emotional regulation to better understand the antecedents of agility. Longitudinal research is also recommended to observe changes in agility over time and to validate causality between variables. In terms of context, future studies should be replicated in different institutional types (e.g., private sector,

healthcare, education) and with larger sample sizes to improve external validity. Lastly, qualitative studies could uncover deeper insights into how innovation mediates individual responses to leadership and competence in different organizational settings.

5. REFERENSI

Abun, Fr.D., Macaspac, L.G.R., 2023. Promoting Innovative Work Behavior Through Innovative Work Environment. dwijmh 2. https://doi.org/10.62025/dwijmh.v2i3.33

Abuzaid, A.N., Ghadi, M.Y., Madadha, S.M., Alateeq, M.M., 2024. The Effect of Ethical Leadership on Innovative Work Behaviors: A Mediating–Moderating Model of Psychological Empowerment, Job Crafting, Proactive Personality, and Person–Organization Fit. Administrative Sciences 14, 191. https://doi.org/10.3390/admsci14090191

Agus Sumantri, B., Suliyanto, S., Darmawati, D., 2023. Village Unit Cooperatives on Dynamic Capability and Creative Capability Adaptation to Innovation Performance: The Role of Competitive Advantage. QAJ 3, 245–261. https://doi.org/10.58429/qaj.v3n4a178

Ahmed Iqbal, Z., Abid, G., Contreras, F., Hassan, Q., Zafar, R., 2020a. Ethical Leadership and Innovative Work Behavior: The Mediating Role of Individual Attributes. Journal of Open Innovation: Technology, Market, and Complexity 6, 68. https://doi.org/10.3390/joitmc6030068

Ahmed Iqbal, Z., Abid, G., Contreras, F., Hassan, Q., Zafar, R., 2020b. Ethical Leadership and Innovative Work Behavior: The Mediating Role of Individual Attributes. Journal of Open Innovation: Technology, Market, and Complexity 6, 68. https://doi.org/10.3390/joitmc6030068

AlAbood, A., Manakkattil MohammedIsmail, S., 2024. Workforce agility, organizational identity and solidarity as antecedents of innovative work behaviour – an examination using structural equation modelling. BIJ 31, 3560–3586. https://doi.org/10.1108/BIJ-07-2022-0458

Athamneh, M.H.A., Jais, J., 2023. Factors affecting human resource agility: A literature review and future research directions. Cogent Business & Management 10, 2193181. https://doi.org/10.1080/23311975.2023.2193181

Awang, A.H., Mohd Sapie, N., Hussain, M.Y., Ishak, S., Md Yusof, R., 2019. Nurturing innovative employees: effects of organisational learning and work environment. Economic Research-Ekonomska Istraživanja 32, 1152–1168. https://doi.org/10.1080/1331677X.2019.1592007

Azmy, A., Priyono, A., 2022. Leadership Roles For Improving Employee Productivity at Digital Start-Up Company. MABIS 13, 16–27. https://doi.org/10.18196/mb.v13i1.11250

Bass, B.M., Avolio, B.J., 2011. Multifactor Leadership Questionnaire. https://doi.org/10.1037/t03624-000

Bauwens, R., Muylaert, J., Clarysse, E., Audenaert, M., Decramer, A., 2020. Teachers' acceptance and use of digital learning environments after hours: Implications for work-life balance and the role of integration preference. Computers in Human Behavior 112, 106479. https://doi.org/10.1016/j.chb.2020.106479

Binsaeed, R.H., Yousaf, Z., Grigorescu, A., Trandafir, R.A., Nassani, A.A., 2023. Knowledge Sharing and the Moderating Role of Digital Innovation on Employees Innovative Work Behavior. Sustainability 15, 10788. https://doi.org/10.3390/su151410788

Bullini Orlandi, L., Pocek, J., Kraus, S., Zardini, A., Rossignoli, C., 2024. Digital workers' stress: The role of digital creativity in the future jobs. Journal of Innovation & Knowledge 9, 100492. https://doi.org/10.1016/j.jik.2024.100492

Chong, Y.K., Zainal, S.R.M., 2024. Employee agility's mediating role on the link between employee vitality, digital literacy and transformational leadership with job performance: an empirical study. Cogent Business & Management 11, 2337447. https://doi.org/10.1080/23311975.2024.2337447

Dal Mas, F., Massaro, M., Rippa, P., Secundo, G., 2023. The challenges of digital transformation in healthcare: An interdisciplinary literature review, framework, and future research agenda. Technovation 123, 102716. https://doi.org/10.1016/j.technovation.2023.102716

Dari, A.W., Tania, K.D., Wedhasmara, A., Meiriza, A., 2023. The effect of transformational leadership on innovative work behavior: mediating role of knowledge sharing.

Elsaied, M.M., 2020. A moderated mediation model for the relationship between inclusive leadership and job embeddedness. AJB 35, 191–210. https://doi.org/10.1108/AJB-06-2019-0035

Firmansyah, A., Subroto, M., 2023. Analisis Gaya Kepemimpinan Transformasional terhadap Kinerja Petugas Pemasyarakatan di Lapas Kelas IIA Karawang. jiip 6, 5598–5603. https://doi.org/10.54371/jiip.v6i8.2546

Fornell, C., Johnson, M.D., Anderson, E.W., Cha, J., Bryant, B.E., 1996. The American Customer Satisfaction Index: Nature, Purpose, and Findings. Journal of Marketing 60, 7–18. https://doi.org/10.1177/002224299606000403

García-Morales, V.J., Lloréns-Montes, F.J., Verdú-Jover, A.J., 2008. The Effects of Transformational Leadership on Organizational Performance through Knowledge and Innovation *. British J of Management 19, 299–319. https://doi.org/10.1111/j.1467-8551.2007.00547.x

Hair, J., Sarstedt, M., Hopkins, L., G. Kuppelwieser, V., 2014. Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. European Business Review 26, 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., 2022. A primer on partial least squares structural equation modeling (PLS-SEM), Third edition. ed. SAGE, Los Angeles.

Liu, X., Huang, Y., Kim, J., Na, S., 2023. How Ethical Leadership Cultivates Innovative Work Behaviors in Employees? Psychological Safety, Work Engagement and Openness to Experience. Sustainability 15, 3452. https://doi.org/10.3390/su15043452

Luu, T.T., 2021. Can human resource flexibility disentangle innovative work behavior among hospitality employees? The roles of harmonious passion and regulatory foci. IJCHM 33, 4258–4285. https://doi.org/10.1108/IJCHM-02-2021-0276

Maran, T.K., Liegl, S., Davila, A., Moder, S., Kraus, S., Mahto, R.V., 2022. Who fits into the digital workplace? Mapping digital self-efficacy and agility onto psychological traits. Technological Forecasting and Social Change 175, 121352. https://doi.org/10.1016/j.techfore.2021.121352

Phanniphong, K., Na-Nan, K., 2025. Development and validation of a factor analysis-validated comprehensive scale for measuring innovative work behavior. Sustainable Futures 9, 100704. https://doi.org/10.1016/j.sftr.2025.100704

Salmen, K., Festing, M., 2022. Paving the way for progress in employee agility research: a systematic literature review and framework. The International Journal of Human Resource Management 33, 4386–4439. https://doi.org/10.1080/09585192.2021.1943491

Tariq, A., Sumbal, M.S.U.K., Dabic, M., Raziq, M.M., Torkkeli, M., 2024. Interlinking networking capabilities, knowledge worker productivity, and digital innovation: a critical nexus for sustainable performance in small and medium enterprises. JKM 28, 179–198. https://doi.org/10.1108/JKM-09-2023-0788

Teece, 1997. Dynamic capabilities and strategic management. Strat. Mgmt. J. 18, 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%253C509::AID-SMJ882%253E3.0.CO;2-Z

Teece, D., 2018. Business models and dynamic capabilities. Long Range Planning 51, 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Teece, D., Linden, G., 2017. Business models, value capture, and the digital enterprise. J Org Design 6, 8. https://doi.org/10.1186/s41469-017-0018-x

Wechtler, H., Suseno, Y., 2025. Unlocking innovative work behavior during times of crisis: The role of leadership and vertical trust. European Management Journal S0263237325000398. https://doi.org/10.1016/j.emj.2025.02.008