

The Impact of Digital Competence and Innovative Organizational Culture on Innovative Performance in Indonesian Public Sector

Digital Competence
and Culture for
Public Innovation

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ABSTRACT

Digital transformation is critical for local governments like Tana Toraja Regency, where limited infrastructure and bureaucratic challenges hinder public service innovation. This study aims to examine how digital competence and innovative organizational culture influence the innovative performance of civil servants. The research used a quantitative approach with an explanatory correlational design, collecting data from 365 civil servants in Tana Toraja through proportionate stratified random sampling. Questionnaires measured digital competence, innovative organizational culture, and innovative performance. Data were analyzed using Structural Equation Modeling–Partial Least Squares. The findings show that digital competence strongly enhances innovative organizational culture (path coefficient 0.63) and innovative performance (path coefficient 0.41), while innovative organizational culture boosts innovative performance (path coefficient 0.46), explaining 57% of its variance. These results, significant at p less than 0.001, highlight the importance of digital skills and a supportive culture in driving innovation. The study, limited to Tana Toraja, offers a strategic human resource management model to improve digital literacy and foster an innovative culture, providing policy recommendations for local governments to enhance public services despite regional constraints.

Keywords: Digital Competence, Innovative Performance, Organizational Culture, Public Sector, Strategic HRM.

ABSTRAK

Transformasi digital sangat penting bagi pemerintah daerah seperti Kabupaten Tana Toraja, di mana keterbatasan infrastruktur dan tantangan birokrasi menghambat inovasi layanan publik. Penelitian ini bertujuan untuk mengkaji bagaimana kompetensi digital dan budaya organisasi inovatif memengaruhi kinerja inovatif pegawai negeri sipil. Penelitian ini menggunakan pendekatan kuantitatif dengan desain korelasional eksplanatori, mengumpulkan data dari 365 pegawai negeri sipil di Tana Toraja melalui pengambilan sampel acak berstrata proporsional. Kuesioner mengukur kompetensi digital, budaya organisasi inovatif, dan kinerja inovatif. Data dianalisis menggunakan Structural Equation Modeling–Partial Least Squares. Temuan menunjukkan bahwa kompetensi digital sangat meningkatkan budaya organisasi inovatif (koefisien jalur 0.63) dan kinerja inovatif (koefisien jalur 0.41), sementara budaya organisasi inovatif meningkatkan kinerja inovatif (koefisien jalur 0.46), menjelaskan 57% variansnya. Hasil ini, yang signifikan pada p kurang dari 0.001, menyoroti pentingnya keterampilan digital dan budaya

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suportif dalam mendorong inovasi. Studi ini, yang terbatas di Tana Toraja, menawarkan model manajemen sumber daya manusia yang strategis untuk meningkatkan literasi digital dan menumbuhkan budaya inovatif, serta memberikan rekomendasi kebijakan bagi pemerintah daerah untuk meningkatkan layanan publik meskipun terdapat kendala di tingkat daerah.

Kata Kunci: Kompetensi Digital, Kinerja Inovatif, Budaya Organisasi, Sektor Publik, HRM Strategis.

INTRODUCTION

In the era of digital transformation, public sector organizations worldwide face growing pressure to improve service quality, transparency, and accountability. Digital transformation has become a key strategy for public entities aiming to enhance the effectiveness and efficiency of their services. This trend is not limited to developed nations but also includes developing countries like Indonesia, where digitalization is critical for modernizing public administration (Ciancarini et al., 2023). Improving the digital competencies of public sector employees, alongside fostering an innovative organizational culture, is seen as essential for delivering responsive, citizen-centered services (De Vries et al., 2018; Potemkin & Rasskazova, 2020; Mollah et al., 2024). Globally, researchers emphasize that digital transformation in the public sector goes beyond adopting technology; it requires a comprehensive shift in human resource skills and organizational culture to support innovative practices (Ciancarini et al., 2023; Ningsih et al., 2023; Pramesworo et al., 2025). This shift is particularly urgent in local governments, where digital adoption often faces unique challenges such as limited infrastructure and bureaucratic rigidity.

In Indonesia, the push for modernizing public services is evident through policies like Presidential Regulation Number 95 of 2018 on the Electronic-Based Government System (*Sistem Pemerintahan Berbasis Elektronik/SPBE*), which highlights the importance of integrating information technology into public services (Janowski et al., 2018). However, the success of such policies depends on the readiness of human resources equipped with strong digital competencies and a supportive organizational culture that embraces change (Manalu, 2025; Zervas & Stiakakis, 2025). Studies in various Indonesian regions show that employees' digital competencies significantly improve service quality. For example, Ingsih et al. (2024) found that digital skills directly enhance service quality and employee performance in Central Java's public sector. Similarly, Nur (2024) emphasized that digital competencies are a key factor in advancing public service performance. These findings highlight the need to strengthen digital literacy among civil servants to meet the demands of the digital era, especially in regions with distinct local challenges.

Beyond digital competencies, organizational culture plays a crucial role in shaping employees' innovative behaviors (Lestari et al., 2024; Murniawati & Achmad, 2024; Wahyuni & Waskito, 2024). A culture that encourages creativity, collaboration, and openness to change fosters innovative performance in public services (Mollah et al., 2024; Ningsih et al., 2023). Research by Santoso and Nurcholis (2024) in the Semarang customs sector shows that combining organizational culture with digital competencies enhances knowledge creation, leading to better human resource performance. Similarly, Sadat (2025) noted that organizational culture strengthens the impact of digitalization on civil servants' competencies in Indonesia's public sector. However, most studies focus on specific sectors like customs or banking, leaving a gap in understanding how these factors apply to local government contexts, where bureaucratic and cultural dynamics differ significantly.

The research gap is evident in the limited exploration of digital competencies and organizational culture in local government settings like Tana Toraja Regency. According to Firman et al. (2024), digital competencies and organizational culture significantly influence performance in the banking sector, but their findings do not address the unique bureaucratic challenges of local governments. Similarly, Ingsih et al. (2024) focused on

digital competencies and service quality without integrating organizational culture into a comprehensive strategic Human Resource Management (HRM) model. Rezaei et al. (2024) developed a model for digital competencies in public sector organizations but centered on Kermanshah, Iran, not addressing Indonesia's local government context with its distinct cultural and infrastructural challenges. This study aims to fill this gap by examining how digital competencies and innovative organizational culture influence innovative performance among civil servants in Tana Toraja, a region marked by diverse geography, limited infrastructure, and unique cultural wisdom. By integrating these dimensions, the study offers theoretical contributions to strategic HRM and practical insights for improving public services at the local level.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Digital Competence and Innovative Organizational Culture

Digital competence, innovative organizational culture, and innovative performance are interconnected variables that shape public sector outcomes. According to Van Laar et al. (2020), digital competence includes 21st-century skills like information literacy and digital problem-solving, which improve employees' ability to perform tasks efficiently. Studies show that digital competence enhances service quality and employee performance in Indonesia's public sector (Kurniasih et al., 2022; Anggiani et al., 2024; Natasha et al., 2025). For example, employees with strong digital skills can use technology to streamline processes, making them more likely to propose innovative solutions. This suggests that digital competence directly influences innovative performance by enabling employees to generate and implement new ideas.

Beyond its direct effect on performance, digital competence also plays a foundational role in shaping innovative organizational culture. Employees with higher digital literacy demonstrate adaptability and openness to technological change, fostering a climate that values collaboration and creativity (Deep, 2023; Firman et al., 2024). Research by Zervas and Triantari (2025) emphasizes that digital HRM practices strengthen perceived digital competence, which in turn cultivates an innovative culture through shared technological values and collective learning. Similarly, Rezaei et al. (2024) found that the development of digital competence among public employees contributes to cultural transformation, encouraging experimentation and digital knowledge sharing. This transformation reduces bureaucratic rigidity and builds a more responsive and innovation-oriented work environment. Hence, digital competence not only enhances technical ability but also becomes a catalyst for fostering a culture that continuously seeks improvement and innovation across public institutions.

H1: Digital competence has a positive influence on innovative organizational culture.

Digital Competence and Innovative Performance

According to Carretero et al. (2021), the Digital Competence Framework (DigComp 2.1) defines digital competence as the ability to use digital technologies effectively for tasks like information processing, communication, and problem-solving. This framework is highly relevant to public sector employees, as it outlines the skills needed to navigate digital tools in bureaucratic settings. DigComp emphasizes five key areas: information literacy, digital communication, content creation, digital security, and problem-solving, all of which are critical for civil servants in modern governance (Carretero et al., 2021; Trindade et al., 2023). These skills enable employees to adapt to digital systems, such as Indonesia's SPBE, which aims to improve service delivery (Janowski et al., 2018).

In addition, digital competence has become a critical determinant of innovative performance, particularly in public and service-oriented organizations. Employees with high digital competence are more capable of adopting new technologies, integrating information systems, and using data to design creative solutions (Van Laar et al., 2020; Ingsih et al., 2024). Wibowo et al. (2022) emphasized that civil servants with strong digital skills can enhance innovation in public service delivery, while Firman et al. (2024)

highlighted that digital competence, supported by a digital culture, improves employee adaptability and collaboration. Rezaei et al. (2024) also demonstrated that continuous digital training fosters organizational innovation. Thus, digital competence not only strengthens individual creativity but also acts as a catalyst that connects knowledge sharing, collaboration, and technological readiness to innovative performance (Deep, 2023; Zervas & Triantari, 2025).

H2: Digital competence has a positive influence on innovative performance.

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Innovative Organizational Culture and Innovative Performance

Another key theory is the innovation behavior framework by De Jong and Den Hartog (2010), which explains how individual behaviors like idea generation, promotion, and implementation drive innovative performance. This theory connects directly to the public sector, where employees must create and apply new ideas to enhance services. Similarly, Naranjo-Valencia et al. (2019) highlight organizational culture as a driver of innovation, emphasizing values like creativity, collaboration, and openness to change. These theories align with the variables in this study, as digital competence equips employees with technical skills, while an innovative organizational culture fosters the environment needed for creative behaviors. By integrating these theories, this research builds a foundation for understanding how digital skills and cultural factors enhance innovation in local government settings like Tana Toraja.

Innovative organizational culture, characterized by openness to change and collaboration, also plays a key role. Bracht et al. (2023) found that organizations with cultures that encourage creativity see higher innovation outcomes. In Indonesia, Santoso and Nurcholis (2024) showed that a supportive work culture enhances knowledge creation, leading to better performance. Similarly, Mollah et al. (2024) noted that digital culture strengthens organizational strategies, boosting employee innovation. These findings indicate that innovative organizational culture fosters behaviors like idea generation and implementation, directly impacting innovative performance. Additionally, digital competence can shape organizational culture by promoting collaborative and adaptive practices (Deep, 2023; Junaedi et al., 2023; Zervas & Triantari, 2025).

H3: Innovative organizational culture has a positive influence on innovative performance.

The research framework integrates digital competence, innovative organizational culture, and innovative performance to explain innovation in Tana Toraja's local government. According to Rezaei et al. (2024), digital competence drives performance by equipping employees with skills to handle digital tools, while organizational culture creates an environment that supports innovation. This framework is grounded in the idea that digital skills enable employees to propose and implement new ideas, while a culture of creativity and collaboration amplifies these efforts (Ahmed et al., 2019; Albi, 2024). In Tana Toraja, where infrastructure and bureaucratic challenges limit digital adoption, this framework highlights how digital competence and culture work together to improve public services.

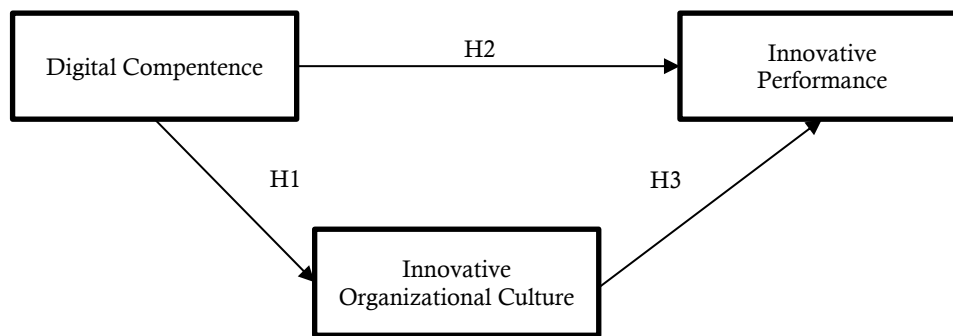


Figure 1. Research Framework

The framework is illustrated in Figure 1 shows digital competence as the starting point, influencing both innovative organizational culture and innovative performance. The culture then supports employees' ability to generate, promote, and implement innovative ideas. Studies like Rohayati (2024) emphasize that integrating digital competence into HRM strategies enhances organizational outcomes, particularly in public sector settings. Similarly, Sadat (2025) highlights how digitalization and culture improve civil servants' competencies in Indonesia. This framework addresses a gap in prior research by focusing on local government contexts, where cultural and infrastructural factors create unique challenges for innovation. It guides the study's exploration of how these variables interact to enhance public sector performance.

RESEARCH METHODS

This study uses a quantitative approach with an explanatory correlational design to examine the relationships between digital competence, innovative organizational culture, and innovative performance among civil servants in Tana Toraja Regency. The design was chosen to assess how digital competence influences innovative performance and organizational culture, as it allows for measurable and generalizable data through standardized instruments (Creswell & Creswell, 2023). Primary data were collected directly from respondents using questionnaires, providing accurate insights into local government employees' perceptions. Secondary data, such as local government performance reports and Statistics Indonesia publications, were used to support contextual analysis and strengthen findings. This combination of data sources ensures a comprehensive understanding of the study's context and variables.

Questionnaires were distributed both online and offline, using a five-point Likert scale ranging from "strongly disagree" to "strongly agree" to measure employees' perceptions of the variables. Digital competence was defined as the ability to use digital technologies effectively for tasks like searching and evaluating information, digital communication, content creation, data protection, and problem-solving. Innovative organizational culture was characterized by values and practices that encourage creativity, collaboration, openness to change, and risk tolerance. Innovative performance was assessed as employees' behaviors in generating, promoting, and implementing new ideas that benefit the organization. To ensure ethical research, informed consent was obtained from all participants, and their anonymity was protected during data collection to maintain confidentiality.

The study population included approximately 4,137 civil servants in Tana Toraja Regency, based on the latest records (Badan Pusat Statistik, 2023). Using Slovin's formula with a 5% margin of error, a sample of 365 respondents was selected, which meets the requirements for stable parameter estimation in Structural Equation Modeling (SEM) analysis (Kline, 2021). Proportionate stratified random sampling was applied to ensure representation from various organizational units, such as agencies, departments, and the regional secretariat. This method ensured that each unit was proportionally included, enhancing the generalizability of findings across the local government.

Data analysis was conducted in two stages. First, descriptive analysis provided an overview of respondents' responses, including means, percentages, and standard deviations (Sugiyono, 2018). Second, inferential analysis used Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS version 4.0 to test relationships between variables (Chin, 1998; Ghozali, 2018). The SEM-PLS approach was chosen because it effectively handles complex latent relationships and large sample sizes, suitable for this study's model. The analytical procedure involved two main steps: outer model assessment and inner model assessment. The analysis included testing convergent and discriminant validity, construct reliability, and path coefficients, with significance determined through bootstrapping (5,000 resamples). To minimize bias, questionnaires were pre-tested on a small group to ensure clarity, and data collection was monitored to balance online and offline responses.

RESULTS

This section presents the findings of the study, examining the relationships between digital competence, innovative organizational culture, and innovative performance among 365 civil servants in Tana Toraja Regency. The analysis includes descriptive statistics to describe respondents' characteristics and inferential statistics using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to test the proposed hypotheses (H1-H3). The results are organized into respondent demographics, measurement model analysis, structural model analysis, and model explanatory power, with detailed findings reported in Tables 1 to 4. The data provide insights into how digital skills and organizational culture influence innovative behaviors in a local government context.

Table 1. Respondents' Characteristics

Characteristic	Category	Number (n=365)	Percentage (%)
Gender	Male	198	54.2
	Female	167	45.8
Age Group	< 30 years	63	17.3
	31–40 years	152	41.6
	41–50 years	110	30.1
	> 50 years	40	11.0
Education Level	Senior High/Vocational	20	5.5
	Diploma (D3)	59	16.2
	Bachelor's Degree (S1)	214	58.6
	Postgraduate (S2/S3)	72	19.7
Length of Service	< 5 years	81	22.2
	6–10 years	137	37.5
	11–20 years	102	27.9
	> 20 years	45	12.3

The demographic profile of the 365 respondents is summarized in Table 1. Male employees slightly outnumbered females, with 198 males (54.2%) and 167 females (45.8%), reflecting the gender distribution in Tana Toraja's civil service. Most respondents were aged 31–40 years (152 respondents, 41.6%), followed by 41–50 years (110 respondents, 30.1%), under 30 years (63 respondents, 17.3%), and over 50 years (40 respondents, 11.0%). This age distribution indicates a workforce in the mid-career stage, likely adaptable to digitalization. In terms of education, the majority held a Bachelor's degree (214 respondents, 58.6%), followed by postgraduate degrees (72 respondents, 19.7%), Diploma (59 respondents, 16.2%), and Senior High/Vocational school (20 respondents, 5.5%). This high level of education suggests strong academic competence for adopting digital skills. Regarding length of service, 137 respondents (37.5%) had 6–10 years of experience, 102 (27.9%) had 11–20 years, 81 (22.2%) had less than 5 years, and 45 (12.3%) had over 20 years. This diverse mix of experience levels supports the study's validity, as it captures perspectives from both junior employees, who may be more tech-savvy, and senior employees with deep bureaucratic knowledge. Table 1 provides a

comprehensive overview of these characteristics, highlighting the workforce's diversity in gender, age, education, and experience.

Table 2. Summary of Outer Model Analysis

Latent Variable	Highest Loading Indicator	Loading	Lowest Loading Indicator	Loading	Notes
Digital Competence	A1 (Information Literacy)	0.787	A5 (Digital Problem-Solving)	0.412	All indicators significant at $p < 0.001$
Innovative Organizational Culture	D1 (Collaboration)	0.835	D12 (Risk Tolerance)	0.668	Construct reliability (CR > 0.70), AVE > 0.50, convergent validity achieved
Innovative Performance	E4 & E9 (Idea Implementation)	0.842	E8 (Idea Promotion)	0.427	Discriminant validity achieved (Fornell-Larcker & HTMT)

The measurement model analysis (outer model) evaluated the validity and reliability of the constructs: digital competence, innovative organizational culture, and innovative performance. All indicators met the minimum loading factor threshold of 0.60, ranging from 0.41 to 0.84, with the highest loadings for organizational collaboration (0.835) and idea implementation (0.842), and the lowest for digital problem-solving (0.412). All indicators were statistically significant at $p < 0.001$, confirming the validity of the measurement instrument (Hair et al., 2022). Construct reliability testing showed Cronbach's Alpha and Composite Reliability (CR) values above 0.70, indicating strong internal consistency. The Average Variance Extracted (AVE) values exceeded 0.50 for all constructs, confirming convergent validity (Carretero et al., 2021). Discriminant validity, assessed using the Fornell-Larcker criterion and Heterotrait-Monotrait Ratio (HTMT), verified clear distinctions among constructs, ensuring model fit. These findings, detailed in Table 2, demonstrate that the measurement instrument reliably captures the study's variables.

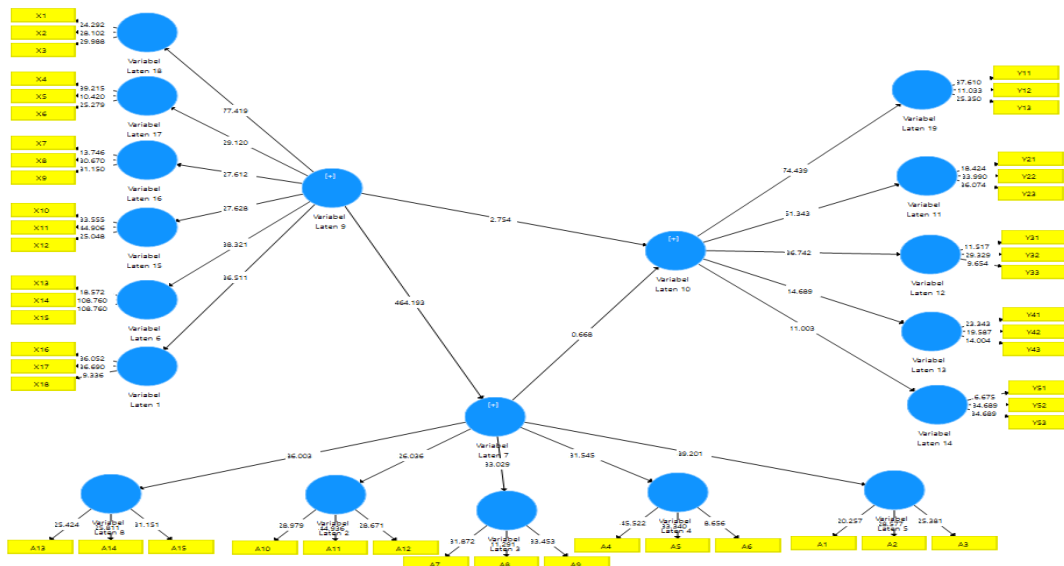


Figure 2. SEM -PLS Results

These relationships are visualized in Figure 2, which displays the path coefficients and their significance, showing how digital competence drives both culture and performance, with culture further enhancing performance. Figure 2 provides a clear visual

representation of the model's paths, reinforcing the strength of these relationships in Tana Toraja's context.

Table 3. Summary of Inner Model Analysis

Relationship	Path Coefficient (β)	p-value	Notes
Digital Competence → Innovative Culture	0.63	0.000	Positive, significant
Digital Competence → Innovative Performance	0.41	0.000	Positive, significant
Innovative Culture → Innovative Performance	0.46	0.000	Positive, significant

The structural model analysis (inner model) tested the relationships between digital competence, innovative organizational culture, and innovative performance. Table 3 shows the path coefficients and significance levels for the hypotheses. Digital competence significantly influences innovative organizational culture ($\beta = 0.63$, $p < 0.001$), supporting H1. This indicates that employees with stronger digital skills are more likely to foster a culture of creativity and collaboration. Similarly, digital competence positively affects innovative performance ($\beta = 0.41$, $p < 0.001$), supporting H2, suggesting that digital skills enable employees to generate and implement new ideas. Innovative organizational culture also significantly impacts innovative performance ($\beta = 0.46$, $p < 0.001$), supporting H3, highlighting the role of a supportive culture in driving innovation. These results, illustrated in Figure 1, confirm the direct relationships between the variables, with the model's paths visualized to show how digital competence and culture drive innovative outcomes.

Table 4. Coefficient of Determination (R^2)

Construct	R^2 Value	Notes
Innovative Organizational Culture	0.40	Moderate explanatory power
Innovative Performance	0.57	Moderate to substantial power

The explanatory power of the model is summarized in Table 4. The R^2 value for innovative organizational culture is 0.40, indicating that digital competence explains 40% of the variance in this construct. For innovative performance, the R^2 value is 0.57, meaning that digital competence and innovative organizational culture together explain 57% of the variance, which is considered moderate to substantial. Table 4 highlights the model's ability to account for a significant portion of innovative performance in Tana Toraja's local government. Additionally, the predictive relevance ($Q^2 > 0$) confirms the model's predictive validity. These findings suggest that the model effectively captures the influence of digital skills and organizational culture on innovative behaviors, providing a robust foundation for policy recommendations in local government settings.

DISCUSSION

The findings of this study confirm that digital competence and innovative organizational culture significantly influence innovative performance among civil servants in Tana Toraja Regency, providing valuable insights into improving public sector innovation. The results align with the hypotheses tested: digital competence positively affects innovative organizational culture (H1), digital competence enhances innovative performance (H2), and innovative organizational culture boosts innovative performance (H3). These findings highlight the critical role of digital skills and a supportive work environment in fostering innovation within local government settings. By examining these relationships in Tana Toraja, a region with unique cultural and infrastructural challenges, this study addresses a gap in prior research focused on other sectors or regions.

The significant influence of digital competence on innovative organizational culture ($\beta = 0.63$, $p < 0.001$) supports the idea that employees with strong digital skills can shape a creative and collaborative workplace. According to Ingsih et al. (2024), digital

competence enables employees to use technology effectively, encouraging knowledge-sharing and innovation-friendly practices. This is particularly relevant in Tana Toraja, where limited digital infrastructure requires skilled employees to adapt and promote change. Similarly, Santoso and Nurcholis (2024) found that digital skills foster a culture of knowledge creation in Indonesia's customs sector, suggesting that digital competence drives cultural shifts. This finding underscores the need for local governments to prioritize digital literacy to cultivate an innovative culture, especially in regions with bureaucratic and technological constraints.

Digital competence also directly enhances innovative performance ($\beta = 0.41$, $p < 0.001$), confirming its role in enabling employees to generate and implement new ideas. Nur (2024) noted that digital skills improve public service performance by allowing employees to streamline processes and propose creative solutions. In Tana Toraja, where digital adoption is still developing, employees with skills like information literacy and digital problem-solving can introduce innovative practices, such as faster service delivery through digital platforms. This aligns with Wibowo et al. (2022), who found that digital competence drives public service innovation in Indonesia, emphasizing its importance in local government contexts.

Innovative organizational culture significantly impacts innovative performance ($\beta = 0.46$, $p < 0.001$), highlighting its role in encouraging behaviors like idea generation and implementation. According to Naranjo-Valencia et al. (2019), a culture that values creativity and openness to change fosters employee innovation. In Tana Toraja, a culture that supports collaboration and risk-taking enables civil servants to propose new ways to improve services, despite bureaucratic challenges. De Vries et al. (2018) emphasize that such a culture is critical for public sector innovation, as it overcomes resistance to change. This finding suggests that fostering a supportive culture is essential for maximizing the innovative potential of digitally competent employees in local governments.

Despite these insights, the study has limitations that should be considered. The focus on Tana Toraja limits the generalizability of findings to other regions with different cultural or infrastructural contexts. Additionally, the quantitative approach may not fully capture the nuanced influence of local cultural factors, such as Tana Toraja's traditional values, on innovation. Future research could explore these dynamics using mixed methods or compare multiple local governments to enhance generalizability. The absence of significant anomalies in the data strengthens the reliability of the findings, but exploring demographic differences could provide deeper insights.

The implications of this study are twofold. It enriches the literature on strategic HRM by integrating digital competence and organizational culture in a local government context, addressing a gap noted by Rezaei et al. (2024). The findings suggest that Tana Toraja's local government should invest in digital training programs, such as workshops on SPBE applications, to enhance employees' skills. Additionally, leaders should foster a culture of collaboration and openness through regular innovation forums or cross-unit teamwork to boost innovative performance. These strategies can help local governments overcome infrastructural and bureaucratic challenges, improving public service delivery.

CONCLUSION

This study confirms that digital competence and innovative organizational culture significantly enhance innovative performance among civil servants in Tana Toraja Regency. The findings show that employees with strong digital skills, such as using digital tools for communication and problem-solving, are more likely to foster a creative and collaborative workplace culture. This culture, in turn, encourages behaviors like generating and implementing new ideas, leading to improved public services. The results highlight the importance of equipping civil servants with digital skills and building a supportive work environment to drive innovation in local government settings. These insights align with the study's goal of developing a strategic human resource management model tailored to Tana Toraja's unique context.

The study offers practical implications for local governments, particularly in regions like Tana Toraja facing infrastructural and bureaucratic challenges. Training programs focused on digital tools, such as SPBE applications, can enhance employees' skills, while regular innovation forums can strengthen a culture of creativity and collaboration. However, the study's focus on Tana Toraja limits its generalizability to other regions with different cultural or technological contexts. Additionally, the quantitative approach may not fully capture the influence of local cultural values, such as Tana Toraja's traditional wisdom, on innovation. Future research could use mixed methods to explore these cultural nuances or compare multiple local governments to broaden the model's applicability. These efforts could further refine strategies for improving public sector innovation.

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