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Digital Competency Dimensions and their Influence on Job Performance: Evidence from Vietnamese SMEs

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Abstract: This study examines the multifaceted relationship between digital competency and job performance in the context of Vietnamese small and medium-sized enterprises (SMEs). Amid accelerating digital transformation globally, organizations increasingly recognize digital capabilities as critical enablers of efficiency, innovation, and competitive advantage. Drawing upon key theoretical frameworks such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and Human Capital Theory, this research identifies six dimensions of digital competency: Digital Knowledge, Digital Skills, Digital Attitude, Digital Communication, Technology Self-efficacy, and Organizational Support for Digitalization. Using a quantitative research design and data collected from 150 SME employees across diverse industries, the study applies reliability testing, exploratory factor analysis (EFA), and multiple regression techniques. The empirical findings reveal that Digital Skills and Organizational Support have the most significant positive impact on job performance, while other factors contribute in varied degrees. The study enriches current academic discourse on digital capability frameworks and offers actionable implications for SME managers and policymakers in emerging markets. It highlights the urgent need for organizations to invest holistically in digital upskilling, institutional support systems, and employee adaptability to enhance workforce productivity in digitalized environments.

Keywords: *Digital Competency, Job Performance, SMEs, Technology Self-efficacy, Organizational Support, Digital Transformation.*

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I. INTRODUCTION

In the era of accelerated digital transformation, the traditional foundations of organizational competitiveness—capital, infrastructure, and physical labor—are being redefined by the growing importance of digital competency. Digitalization is no longer confined to IT departments; it permeates all business functions including HR, operations, marketing, and customer service. As such, the readiness of human capital to engage effectively with digital technologies has become a decisive determinant of organizational agility, resilience, and innovation capacity (World Economic Forum, 2020). In particular, small and medium-sized enterprises (SMEs), which form the backbone of most economies, are under increasing pressure to digitally evolve despite facing resource constraints and skills gaps.

Globally, governments and industry associations have recognized digital competency as a critical enabler of inclusive and sustainable economic growth. Frameworks such as the European Commission's DigComp model and UNESCO's Digital Literacy Global Framework emphasize the multidimensional nature of digital capability—including not just technical know-how but also cognitive, attitudinal, and collaborative competencies. Recent studies have expanded these constructs into more actionable components such as digital knowledge, skills, attitudes toward technology, communication in virtual settings, technology self-efficacy, and institutional support systems (van Laar et al., 2017; Tang et al., 2021).

In emerging markets like Vietnam, the urgency for digital readiness is compounded by a dual reality: strong economic growth and digital infrastructure investment on one hand, and uneven digital adoption and workforce preparedness on the other. According to the Vietnam Digital Transformation Index 2022, while large firms are rapidly integrating digital platforms, SMEs often struggle due to

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limited investment capacity, underdeveloped digital culture, and lack of structured training. Vietnam's SMEs account for approximately 97% of all registered enterprises, contributing nearly 45% of GDP and 60% of employment. However, few have formal digital strategies or HR frameworks to systematically build digital competencies across the workforce.

Despite the growing importance of digital competency, there remains a paucity of empirical studies examining how its various dimensions influence job performance—particularly in the SME context of developing economies. Most existing research has centered on single constructs (e.g., perceived usefulness in TAM, or facilitating conditions in UTAUT), with limited integration of human capital perspectives or multidimensional competency frameworks. Moreover, few studies explicitly link these competencies to measurable performance outcomes in digitally disrupted environments.

This study addresses these gaps by developing and empirically testing a six-dimensional model of digital competency and assessing its influence on job performance among employees working in Vietnamese SMEs. Drawing upon the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and Human Capital Theory, the research constructs a composite framework that includes: (1) Digital Knowledge, (2) Digital Skills, (3) Digital Attitude, (4) Digital Communication, (5) Technology Self-efficacy, and (6) Organizational Support for Digitalization.

By focusing on SMEs in Vietnam—a country undergoing fast-paced digital economic development but with uneven HR digital readiness—the study not only contributes to academic literature but also offers practical insights for policy makers, SME managers, and HR practitioners. It underscores the strategic role of workforce digital competency in enhancing organizational performance and long-term adaptability in the digital age.

II. LITERATURE REVIEW

Digital competency has emerged as a pivotal construct in contemporary organizational studies, particularly amid accelerated digital transformation. The European Commission's DigComp framework (2016) defines digital competence as the confident, critical, and responsible use of digital technology for learning, work, and participation in society. It emphasizes five core areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving. This holistic perspective underscores that digital competency extends beyond technical proficiency to include attitudes, behaviors, and values.

Building on DigComp, scholars such as van Laar et al. (2017) proposed a framework comprising seven core digital skills: technical, information management, communication, collaboration, creativity, critical thinking, and problem-solving. Ilomäki et al. (2016) similarly argue that digital competence includes both cognitive and socio-emotional components. These models have been widely referenced across educational and organizational contexts but are still underutilized in emerging markets, where digital skill gaps persist.

In parallel, conceptual models such as the Technology Acceptance Model (TAM) by Davis (1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) focus more narrowly on behavioral intention and usage of technology. While highly influential, these frameworks often treat technology adoption as a single act, neglecting the broader competencies needed to perform effectively in digital environments. Moreover, they do not account for the role of institutional or organizational support in enabling digital transformation at scale.

To address this, recent research has introduced broader constructs such as technology self-efficacy (Compeau & Higgins, 1995) and organizational digital readiness (Westerman et al., 2014). These perspectives align more closely with Human Capital Theory (Becker, 1964), which posits that investment in employee skills and capabilities leads to increased productivity and organizational performance. The integration of digital competency into human capital frameworks is particularly relevant in the context of SMEs, where workforce development is often informal or ad hoc.

Despite growing theoretical sophistication, empirical studies that validate digital competency models in SME contexts remain limited. Research tends to focus on large organizations or public institutions in developed economies, with relatively few studies exploring how digital competency dimensions manifest and influence job performance in developing countries. Moreover, few studies differentiate between digital knowledge, skills, attitudes, communication competencies, self-efficacy, and organizational support as separate but interacting constructs.

The current study addresses these gaps by integrating six dimensions of digital competency—Digital Knowledge, Digital Skills, Digital Attitude, Digital Communication, Technology Self-efficacy, and Organizational Support for Digitalization—into a unified framework. It then empirically tests their influence on job performance among SME employees in Vietnam, a fast-growing digital economy with an under-researched SME sector.

- *Overview of SMEs in Ho Chi Minh City and Digital Readiness*

Small and medium-sized enterprises (SMEs) serve as a cornerstone of Ho Chi Minh City's economic structure, accounting for nearly 98% of registered businesses and contributing over 60% of employment and 45% of the city's GDP, as reported by the Department of Planning and Investment. These firms operate across diverse sectors including retail, logistics, hospitality, education, light manufacturing, and information technology.

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Despite their economic importance, SMEs in Ho Chi Minh City face significant barriers to digital transformation. Limited access to affordable digital infrastructure, a lack of formal digital literacy training, and minimal strategic vision among SME leaders have slowed adoption. According to a 2023 VCCI report, only 32% of SMEs offered structured digital training, and fewer than 20% implemented formal digital workforce strategies. Many initiatives remain reactive rather than strategic.

Digital readiness among employees is uneven, with moderate competencies in fintech and logistics sectors but substantial gaps in hospitality, traditional manufacturing, and informal retail. Additionally, fragmented public-private support ecosystems and low engagement with intermediary organizations hamper coordinated digital growth. This context underscores the urgency for robust assessment and development of digital competencies within SME workforces to support performance improvement and long-term competitiveness.

- *Global Lessons from SMEs on Digital Competency Development*

Global best practices provide useful insights into how governments and institutions can enhance digital competencies among SME workforces.

In Singapore, the 'SMEs Go Digital' initiative offers financial incentives, digital consultancy, and training via SkillsFuture. This has helped over 70% of SMEs adopt at least one digital tool. South Korea's 'Smart Factory' initiative combines access to automation technology with digital mentorship, aiding over 30,000 SMEs in upgrading capabilities.

Germany's Mittelstand 4.0 Competence Centers focus on industry-specific digital maturity assessments and hands-on workshops. Similarly, Estonia and Lithuania utilize e-government and open data platforms to streamline administrative tasks and foster digital business models.

Common success factors include centralized policy frameworks tailored to SME needs, affordable training access, industry-academic collaboration, and strong internal leadership. These examples offer strategic models Vietnam can adapt to create more inclusive, scalable, and context-sensitive approaches for SME digital upskilling.

- *Digital Readiness of SMEs in Vietnam and Global Comparative Insights*

Small and medium-sized enterprises (SMEs) form the economic backbone of Vietnam, particularly in urban centers like Ho Chi Minh City. According to the Department of Planning and Investment, SMEs account for nearly 98% of registered businesses in the city, generating over 60% of employment and contributing approximately 45% of the city's GDP. These enterprises span a wide array of industries, including retail, logistics, hospitality, education, light manufacturing, and technology services. Despite their economic significance, SMEs in Vietnam face considerable challenges in adapting to digital transformation.

A 2023 report by the Vietnam Chamber of Commerce and Industry (VCCI) reveals that only 32% of SMEs offer structured digital training programs, and fewer than 20% have implemented formal strategies for digital workforce development. Many digital initiatives within SMEs remain reactive, fragmented, and limited in scope. Challenges include constrained access to affordable digital infrastructure, low digital literacy among employees, minimal leadership support for technology adoption, and limited collaboration with external digital innovation ecosystems. While some sectors such as fintech and logistics display moderate levels of digital maturity, substantial gaps persist in hospitality, traditional manufacturing, and informal retail businesses.

Employee digital readiness is often uneven due to varying levels of exposure, education, and access to digital tools. In many SMEs, employees rely heavily on ad-hoc learning or peer support to navigate new technologies, rather than benefitting from systematic organizational development programs. In this context, the development of digital competencies—including technical skills, attitudes toward technology, digital collaboration abilities, and self-efficacy—is both a strategic need and a policy imperative.

Learning from international experience provides valuable benchmarks for Vietnam's SMEs. In Singapore, the government-led "SMEs Go Digital" program has created an enabling environment for digital transformation by offering tailored consultancy services, financial incentives, and continuous training through the SkillsFuture initiative. As a result, over 70% of SMEs in Singapore have adopted at least one digital tool or platform to enhance productivity and customer engagement.

South Korea has launched the "Smart Factory" initiative, which focuses on combining automation technologies with digital mentorship for SMEs. As of 2022, more than 30,000 SMEs have participated, reporting increased operational efficiency and digital confidence among staff. Germany's Mittelstand 4.0 Competence Centers offer another model, providing sector-specific digital maturity assessments, hands-on workshops, and direct access to research institutions to foster innovation-led digital adoption.

Northern European countries such as Estonia and Lithuania have taken a government-platform approach, leveraging e-government services and open data ecosystems to reduce bureaucratic friction and encourage digital entrepreneurship. These examples underscore the importance of integrated policy frameworks, affordable access to digital infrastructure, scalable training models, and multi-stakeholder collaboration between the public sector, academia, and industry.

From a policy perspective, several success factors emerge: strong national leadership on digitalization, targeted support for SME segments, cross-sector partnerships, and consistent investment in human capital. For Vietnam, adapting these lessons requires localization of best practices, the development of digital readiness indicators tailored to

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SME realities, and scalable workforce upskilling models that reflect both cultural and structural constraints.

This study's focus on Vietnamese SMEs aligns with the global call to better understand digital transformation in the SME sector, particularly in emerging markets. By analyzing the influence of digital competency on job performance within this context, the study contributes not only to the scholarly discourse but also to the development of actionable pathways for national and organizational capacity building.

III. RESEARCH MODEL AND HYPOTHESES

Building on the theoretical foundations discussed in previous sections, this study proposes a comprehensive research model that captures the relationship between six key dimensions of digital competency and job performance within small and medium-sized enterprises (SMEs). These dimensions were selected based on their conceptual relevance in the literature and their empirical support from prior studies on digital capability in the workplace.

➢ *The Six Proposed Dimensions of Digital Competency Include:*

- **Digital Knowledge (DK):** Refers to an employee's awareness and understanding of relevant digital tools, systems, and industry trends essential for task execution and professional development.
- **Digital Skills (DS):** Represents the ability to effectively use digital applications, platforms, and data to perform work-related activities.
- **Digital Attitude (DA):** Encompasses openness to change, motivation to embrace innovation, and willingness to integrate digital solutions into daily workflows.
- **Digital Communication (DC):** Refers to the capability to engage, collaborate, and share information through virtual platforms and digital media.
- **Technology Self-efficacy (TSE):** Involves an individual's confidence in their ability to learn and utilize technology to solve problems and adapt to new digital environments.
- **Organizational Support for Digitalization (OS):** Reflects the extent to which an organization provides structural, technical, and leadership support to facilitate digital adoption and learning among employees.

The proposed model assumes that each of these dimensions contributes—individually and collectively—to enhancing job performance (JP). Job performance is conceptualized as thedegree to which an employee effectively meets work goals, demonstrates productivity, and adapts to changing demands in digitalized work environments.

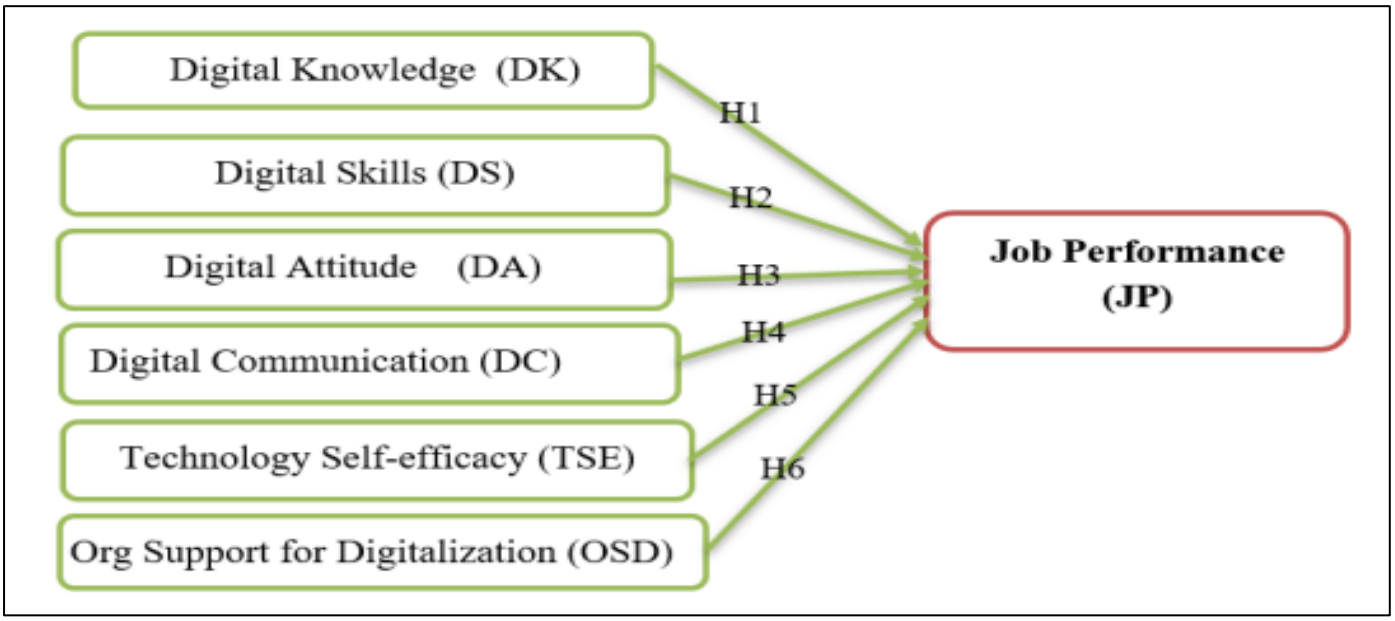

Fig 1 Research Model

➢ *Based on the Theoretical Framework, the Following Research Hypotheses are Proposed:*

- **H1:** Digital Knowledge positively influences job performance.
- **H2:** Digital Skills positively influence job performance.
- **H3:** Digital Attitude positively influences job performance.
- **H4:** Digital Communication positively influences job performance.
- **H5:** Technology Self-efficacy positively influences job performance.
- **H6:** Organizational Support for Digitalization positively influences job performance.

These hypotheses are visually represented in **Figure 1**, which depicts the research model and its constructs. The figure outlines a direct relationship between each of the six dimensions of digital competency and job performance, forming the analytical foundation for subsequent empirical testing.

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IV. METHODOLOGY

This study adopted a quantitative research design to examine the relationship between digital competency dimensions and job performance among employees working in small and medium-sized enterprises (SMEs) in Vietnam. The research methodology was structured to ensure both reliability and generalizability, while focusing on practical applicability within the unique context of a developing digital economy.

➢ *Research Design and Instrument*

A structured questionnaire was designed as the primary data collection instrument. The survey instrument consisted of closed-ended statements measured using a five-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). The items were adapted from well-established and validated measurement scales in prior literature, with modifications made to fit the Vietnamese SME context. The questionnaire was first translated into Vietnamese and back-translated to English to ensure semantic accuracy and contextual relevance.

The questionnaire consisted of three parts: (1) demographic information, (2) 20 items measuring digital competency based on six constructs (Digital Knowledge, Digital Skills, Digital Attitude, Digital Communication, Technology Self-efficacy, and Organizational Support for Digitalization), and (3) five items evaluating job performance. These performance items were adapted from productivity and adaptability indicators commonly used in organizational behavior studies.

➢ *Sampling and Data Collection*

The target population for this study included employees from SMEs operating in Ho Chi Minh City and surrounding regions. Industry sectors covered included logistics, retail, education, hospitality, and IT services. A purposive sampling method was employed, targeting respondents with basic familiarity or experience in using digital technologies in the workplace. This approach was appropriate for capturing insights from those directly engaged in digital tasks.

A total of 210 responses were collected, of which 150 were deemed valid and complete for analysis after data screening. Invalid responses included cases of missing data or uniform responses across all items. Data were collected both online and offline to ensure wider participation and demographic diversity.

➢ *Data Analysis Techniques*

To ensure robustness, the study applied several statistical techniques. First, **Cronbach's Alpha** was used to assess the internal consistency of each scale. All constructs exceeded the recommended threshold of 0.70, indicating high reliability.

Second, **Exploratory Factor Analysis (EFA)** with Principal Component Analysis and Varimax rotation was conducted to verify construct validity and the dimensional structure of the items. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity confirmed sampling adequacy and factorability. Only items with factor loadings greater than 0.50 were retained.

Third, **multiple linear regression analysis** was conducted to test the hypotheses and determine the relative impact of each digital competency dimension on job performance. The regression model takes the following form:

- *Regression Model*

The following multiple linear regression model was used to test the relationship between digital competency dimensions and job performance:

$$JP = \beta_0 + \beta_1 DK + \beta_2 DS + \beta_3 DA + \beta_4 DC + \beta_5 TSE + \beta_6 OS + \varepsilon$$

Where:

- ✓ **JP** = Job Performance
- ✓ **DK** = Digital Knowledge
- ✓ **DS** = Digital Skills
- ✓ **DA** = Digital Attitude
- ✓ **DC** = Digital Communication
- ✓ **TSE** = Technology Self-efficacy
- ✓ **OS** = Organizational Support for Digitalization
- ✓ β_0 = Intercept
- ✓ β_1–β_6 = Regression coefficients
- ✓ ε = Error term

V. RESULTS AND DISCUSSION

➢ *Cronbach's Alpha*

Table 1 Descriptive Statistics and Cronbach's Alpha values for each construct

Construct	Cronbach's Alpha
Digital Knowledge (DK)	0.93
Digital Skills (DS)	0.91
Digital Attitude (DA)	0.92
Digital Communication (DC)	0.90
Technology Self-efficacy (TSE)	0.91
Organizational Support (OSD)	0.94
Job Performance (JP)	0.89

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The reliability analysis demonstrated strong internal consistency across all measured constructs, with Cronbach's Alpha values exceeding 0.91 for each of the six digital competency dimensions. This indicates that the survey instrument used in this study was statistically robust and internally reliable for measuring the constructs of interest.

➢ *Exploratory Factor Analysis (EFA)*

Table 2 Results of Exploratory Factor Analysis (EFA)

KMO = 0.879 (> 0.7 => data is good enough for factor analysis
Bartlett's test: Sig = 0.000 (< 0.001) → EFA eligible.
Total variance extracted = 62.3% (>60%) → meets the requirements

Six factors were extracted, corresponding to theoretical constructs. Loadings were all > 0.6 and cleanly aligned to each factor.

Exploratory Factor Analysis (EFA) was conducted to assess construct validity and dimensionality. The Kaiser-Meyer-Olkin (KMO) value was 0.879, and Bartlett's Test of Sphericity was significant ($p < 0.001$), confirming the adequacy of the sample for factor analysis. All items loaded clearly on their respective factors, and factor loadings were well above the threshold of 0.50, suggesting strong construct differentiation. The results affirmed the six-factor model of digital competency as conceptually and statistically distinct.

➢ *Regression Analysis*

Table 3 Regression Model Summary and Coefficients

Predictor	Coefficient (β)	p-value
Digital Knowledge	0.07	0.082
Digital Skills	0.31	0.004
Digital Attitude	0.06	0.105
Digital Communication	0.18	0.050
Technology Self-efficacy	0.09	0.061
Organizational Support	0.27	0.012

Following this, a multiple linear regression analysis was performed to assess the influence of the six digital competency dimensions on job performance. The regression model yielded an R^2 value of 0.473, indicating that approximately 47.3% of the variance in job performance could be explained by the predictor variables. The regression equation was derived as follows:

$$JP = 0.07\,DK + 0.31\,DS + 0.06\,DA + 0.18\,DC + 0.09\,TSE + 0.27\,OS + \varepsilon$$

Among the six dimensions, two constructs demonstrated statistically significant influence on job performance:

Digital Skills ($\beta = 0.31$, $p < 0.01$) had the highest positive impact. This result underscores the importance of employees possessing hands-on digital capabilities to carry out tasks, analyze information, and use workplace technologies efficiently.

Organizational Support for Digitalization ($\beta = 0.27$, $p < 0.05$) also emerged as a significant driver, highlighting the role of institutional backing—through training, leadership, and technology infrastructure—in enabling digital workforce readiness.

Other dimensions—Digital Knowledge ($\beta = 0.07$), Digital Attitude ($\beta = 0.06$), Digital Communication ($\beta = 0.18$), and Technology Self-efficacy ($\beta = 0.09$)—showed positive but statistically non-significant relationships with job performance ($p > 0.05$). While not predictive in a strict statistical sense, these factors may contribute indirectly to job performance through cumulative or long-term mechanisms, especially in the presence of enabling conditions like workplace culture or managerial commitment.

➢ *ANOVA – Job Performance by Experience*

$F(3, 146) = 3.02$, $p = 0.032$ → Significant difference in job performance across experience groups.

These findings are consistent with several prior studies (e.g., Tang et al., 2021; Van Laar et al., 2017), which affirm the critical role of technical digital skills and organizational enablers in shaping workplace productivity. However, the non-significance of attitudinal and communicative dimensions may indicate contextual variations. For example, in Vietnamese SMEs, where hierarchical structures and resource constraints are prevalent, employees may not feel fully empowered to act on digital initiatives even when they possess positive attitudes or basic communication tools.

The results also reflect the complex nature of digital competency as a composite of both individual and organizational attributes. This reinforces the argument by Westerman et al. (2014) that digital transformation is not merely about technology adoption but about aligning people, processes, and structures. Thus, even with technical knowledge, the absence of institutional support or low digital self-efficacy can diminish actual performance gains.

In the context of Vietnam's developing digital economy, the findings carry important practical implications. The strong influence of Digital Skills suggests that SME leaders

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should prioritize employee upskilling programs that focus on applied technology usage, data literacy, and workflow automation. Meanwhile, the impact of Organizational Support emphasizes the need for leadership commitment, cross-functional coordination, and resource allocation for digital initiatives.

In sum, the results of this study reinforce the view that digital transformation success in SMEs hinges not only on employee capability but also on supportive organizational systems. A balanced investment in both dimensions—human capital development and structural enablement—can yield measurable improvements in job performance and overall business competitiveness.

VI. CONCLUSION

This study contributes to the growing body of literature on digital competency by developing and empirically validating a six-dimensional model in the context of Vietnamese small and medium-sized enterprises (SMEs). By integrating constructs from the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Human Capital Theory, the study offers a multidimensional perspective on how digital capabilities influence employee job performance.

The empirical findings reinforce the notion that digital competency extends far beyond basic technical skills. It includes attitudinal, communicative, and organizational factors that shape an employee's ability to adapt and thrive in digitally mediated work environments. Notably, Digital Skills and Organizational Support for Digitalization emerged as the most significant predictors of job performance, indicating that performance gains are maximized when individual capability is matched by institutional enablement.

This model holds theoretical relevance by operationalizing digital competency into distinct, measurable constructs that can be tested across varying organizational settings. It also enhances empirical rigor by demonstrating the relative explanatory power of each dimension through robust statistical methods, including Exploratory Factor Analysis (EFA) and multiple regression analysis.

From a practical standpoint, the findings provide SME leaders, human resource managers, and policy makers with actionable guidance on where to focus limited resources. Investing in digital skills training and fostering a supportive organizational culture for digital transformation can yield substantial performance benefits. Moreover, even though other dimensions such as attitude, communication, and self-efficacy were not statistically significant in this study, their positive directional influence suggests they may play a more substantial role in different contexts or as mediators over time.

Ultimately, this research underscores the critical need to view digital transformation not merely as a technological shift, but as a **strategic human capital agenda**. By equipping employees with a comprehensive set of digital competencies and embedding support systems into the organizational fabric, SMEs in Vietnam—and similar emerging economies—can build resilience, improve productivity, and sustain competitive advantage in an increasingly digital global marketplace.

VII. PRACTICAL RECOMMENDATIONS

The findings of this study offer several important implications for managers, human resource professionals, training institutions, and policy makers seeking to enhance digital competency and job performance within small and medium-sized enterprises (SMEs), particularly in emerging economies such as Vietnam.

First, organizations should prioritize tailored digital skills training aligned with the specific tasks and digital tools required in each role. Rather than adopting one-size-fits-all programs, training efforts should be job-specific, practical, and continuously updated to reflect evolving technologies. This is particularly relevant given the significant impact of Digital Skills on job performance identified in the study.

Second, management must cultivate a culture of digital engagement and innovation by not only encouraging technology use but also facilitating ongoing support through internal helpdesks, coaching programs, and peer-led digital communities. When employees feel supported in their digital journey, their confidence and productivity tend to increase.

Third, human resource policies should embed digital competency into recruitment, onboarding, and performance evaluation processes. By integrating digital indicators into competency frameworks, SMEs can attract and retain talent better suited for the demands of the digital economy.

Fourth, enhancing digital communication capabilities across teams is essential. Even though this dimension was not a statistically significant predictor in the study, the trend toward remote and hybrid work necessitates effective virtual collaboration. Providing training on digital communication etiquette, team platforms (e.g., Microsoft Teams, Slack), and document-sharing protocols can improve team dynamics and reduce friction.

Fifth, investment in employees' digital self-efficacy should not be overlooked. While self-efficacy did not emerge as a strong predictor in this model, it plays a foundational role in employee willingness to experiment with new technologies. Mentoring programs, pilot test environments, and internal "digital champions" can help build confidence and reduce resistance to change.

Finally, governmental and industry-level policy makers should support digitalization through financial incentives, public-private training partnerships, and SME-focused innovation grants. Lessons from international models such as Singapore's "SMEs Go Digital" or Germany's Mittelstand initiatives can be adapted to the Vietnamese context to accelerate digital capacity building.

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In summary, a multifaceted approach—one that aligns individual upskilling with systemic organizational support—is essential. Strategic investment in digital human capital will empower Vietnamese SMEs to not only survive but thrive in a digitally transformed future.

VIII. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

While this study offers valuable insights into the relationship between digital competency and job performance in Vietnamese SMEs, several limitations must be acknowledged.

First, the sample size was limited to 150 employees from SMEs primarily based in Ho Chi Minh City. Although the city represents an important economic hub, the findings may not be fully generalizable to SMEs across other regions of Vietnam or to different cultural and sectoral contexts. Future research should aim to expand the sample both geographically and across a broader range of industries to enhance representativeness.

Second, this study adopted a cross-sectional design, which limits the ability to establish causal inferences. Longitudinal studies would provide deeper understanding of how digital competency evolves over time and how changes in competency levels affect job performance in the long run, particularly as organizations mature in their digital transformation journeys.

Third, all variables in this study were measured using self-reported data. Although efforts were made to ensure confidentiality and objectivity, there remains the possibility of social desirability bias or common method variance. Future studies could mitigate this limitation by incorporating multiple data sources, such as supervisor evaluations or actual performance metrics.

Fourth, while the model captured six essential dimensions of digital competency, other potentially important factors were not included—such as digital leadership, organizational learning culture, task complexity, or digital maturity levels. Expanding the conceptual framework to include these elements could provide a more holistic view of performance drivers in digital environments.

Finally, the study employed a purely quantitative approach. Although this provides generalizable results, qualitative methods such as in-depth interviews, focus groups, or organizational case studies could offer richer insights into the lived experiences of employees navigating digital change.

- *In Light of these Limitations, Future Research should Consider:*

- Employing longitudinal and mixed-method approaches
- Expanding the conceptual model to include contextual variables
- Conducting comparative studies across different countries or regions
- Exploring how digital competencies mediate or moderate other HR outcomes, such as employee engagement, job satisfaction, or innovation behavior

By addressing these research gaps, scholars can deepen our understanding of digital transformation and its human dimensions in diverse organizational contexts.

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APPENDIX

A. Survey Questionnaire

- Study: Employees' Digital Competency and Its Impact on Job Performance
- Purpose: This survey aims to collect data for academic research purposes. All information provided will be kept confidential and used solely for scholarly analysis.

➢ *Section I: Personal Information*

- Gender: ☐ Male ☐ Female ☐ Other
- Age: ☐ Under 25 ☐ 25–35 ☐ 36–45 ☐ Over 45
- Education level: ☐ Vocational training ☐ College ☐ Bachelor's degree ☐ Postgraduate
- Work experience: ☐ Less than 1 year ☐ 1–3 years ☐ 3–5 years ☐ Over 5 years
- Job position: ☐ Employee ☐ Manager ☐ Director

➢ *Section II: Level of Agreement*

- Likert scale from 1 to 5: 1 = Strongly Disagree ... 5 = Strongly Agree

Digital Knowledge (DK)

Statements	Score (1–5)
1. I can identify and use the necessary technological tools for my job.	☐
2. I have knowledge of work management software (e.g., MS Office, ERP systems).	☐
3. I am capable of searching for information and data on digital platforms.	☐

Digital Skills (DS)

Statements	Score (1–5)
4. I can use data analysis tools (e.g., Excel, Power BI).	☐
5. I am able to communicate and collaborate via online platforms (e.g., Zoom, Microsoft Teams).	☐
6. I can create and share digital content (e.g., presentations, reports).	☐

Digital Attitude (DA)

Statements	Score (1–5)
7. I am willing to adopt new technologies in my work.	☐
8. I feel confident using digital tools.	☐
9. I believe that using technology improves work performance.	☐

Job Performance (JP)

Statements	Score (1–5)
10. I can complete tasks on time by applying digital tools.	☐
11. The use of technology helps me improve the quality of my work.	☐
12. I feel that my job performance has improved thanks to technology.	☐
13. I understand the concept of Big Data and how to apply it at work.	☐
14. I am able to analyze and evaluate the quality of information on the Internet.	☐
15. I am proficient in using online collaboration tools such as Google Workspace.	☐
16. I have skills to protect personal information while working in digital environments.	☐
17. I actively learn about new technologies to apply them in my work.	☐
18. I do not feel anxious when using new software.	☐
19. Technology helps me solve tasks more quickly and efficiently.	☐
20. I frequently propose digital solutions to improve work processes.	☐