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Empowering Creative Economy MSMEs through Public–Private Partnerships and Digital Transformation

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ABSTRACT

This study investigates the impact of Public–Private Partnerships (PPPs) and digital transformation on the performance of micro, small, and medium enterprises (MSMEs) in Indonesia's creative economy sector. Using a quantitative approach with Partial Least Squares–Structural Equation Modeling (PLS-SEM), data were collected from 120 MSMEs actors participating in collaborative programs between local governments and digital start-ups. The findings reveal that PPPs and digital transformation significantly strengthen the digital capabilities of MSMEs, which subsequently enhance their business performance. Moreover, digital capability functions as a mediating variable that links PPP initiatives and digital transformation efforts to improved MSME outcomes. The results emphasize the importance of multi-stakeholder collaboration among government institutions, private enterprises, and digital innovators in fostering a resilient and competitive creative economy ecosystem. Accordingly, local governments are advised to develop non-infrastructure PPP models that prioritize digital innovation, capacity building, and literacy enhancement for MSME actors

Keywords: Public–Private Partnership, digital transformation, digital capability, MSME performance, creative economy.

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INTRODUCTION

Micro, small, and medium enterprises (MSMEs) represent a key component of Indonesia's economic system. Data from the Ministry of Cooperatives and SMEs (2022) reveal that MSMEs account for 64.2 million business units nationwide, generating 60.5% of the national Gross Domestic Product (GDP) and employing more than 97% of the total labor force. These statistics underscore the pivotal role of MSMEs in safeguarding economic stability and fostering community resilience during crises. Despite their prominence, the majority of MSMEs remain constrained by inadequate financial literacy, limited managerial capacity, and low levels of digital technology adoption.

The COVID-19 pandemic has clearly exposed the vulnerability of the MSME-based economic structure. A report by the Asian Development Bank (2021) states that 88% of micro businesses in Indonesia lost cash or savings, and 60% of them reduced their workforce during the pandemic period. Meanwhile, a survey by Katadata Insight Center (2021) shows that 82.9% of MSME players in the Greater Jakarta area experienced a decline in turnover of more than 30%, and only 3.8% experienced an increase in sales. This situation indicates that the majority of MSMEs do not yet have a digital business system that is adaptive to changes in consumer behavior. While digitalization has become a primary necessity in economic activities, most MSMEs still operate conventionally without a planned transformation strategy.

Post-pandemic, the phenomenon of digital transformation has become a global inevitability that also drives the direction of Indonesia's economic development policies. According to Skare et al. (2023), digital transformation not only accelerates cost and operational efficiency but also strengthens innovation and business competitiveness. A study in Indonesia by Suliswanto and Rofik (2019) shows that 70% of MSMEs in East Java have used social media such as Instagram and Facebook as a means of digital marketing, while another 15% rely on marketplaces such as Tokopedia and Shopee. However, only 12% of MSMEs have implemented digitalization professionally and sustainably. This fact shows that the level of digital awareness has not been followed by an increase in digital capability, so that many MSME players are still unable to utilize the potential of technology for sustainable business growth.

Improving digital capabilities cannot be separated from multi-stakeholder collaboration between the government, private sector, educational institutions, and community organizations. In this context, the concept of Public-Private Partnership (PPP) is one relevant approach. PPP is understood as a long-term partnership between the public and private sectors in the provision of public services and the sharing of risks and resources to achieve development goals (Grimsey & Lewis, 2002). So far, PPP practices in Indonesia have been predominantly focused on hard infrastructure projects such as toll roads, ports, airports, and clean water (Bappenas, 2020). In fact, PPP can also function as an instrument

for intangible development, including strengthening human resources, increasing digital literacy, and empowering the community economically.

The urgency of developing non-infrastructure PPPs has become increasingly apparent with the emergence of collaborative initiatives such as the Jakpreneur program in DKI Jakarta and OK OCE at the national level. The Jakpreneur program is a concrete example of the application of public-private partnerships in the creative economy sector , where the DKI Jakarta Provincial Government collaborates with various digital start-ups such as Shopee, Tokopedia, Grab, and Facebook in providing entrepreneurship training, digital marketing, and financing facilitation for MSME players. Such partnerships represent a new form of PPP that is not oriented toward physical development, but rather toward enhancing the digital capabilities and competitiveness of businesses. Thus, digital PPP can be considered an innovative form of collaboration that focuses on developing an inclusive and sustainable creative economy ecosystem.

However, a literature review of previous studies shows that research on PPP in the context of strengthening the digital capabilities of MSMEs is still very limited. Most previous PPP studies have focused on physical infrastructure development and institutional aspects (Ayo-Vaughan, 2019; Rodrigues & Zucco, 2018; Mouraviev & Kakabadse, 2014). Other studies that highlight PPP in the context of sustainable development (Chang et al., 2022; Niang et al., 2022; Casady & Garvin, 2022) discuss environmental issues and collaborative governance rather than increasing the digital capacity of MSMEs. Research highlighting the involvement of the digital private sector (start-ups) as partners in MSME development in Indonesia is also still conceptual and has not been empirically tested. Therefore, there is a clear research gap in the literature on how PPP can function as a mechanism for strengthening digital capabilities and improving MSME performance in the creative economy sector.

This research gap highlights the urgent need for studies that empirically test the relationship between public-private partnerships, digital transformation, digital capabilities, and MSME performance. By placing digital capabilities as a mediating variable, this study seeks to explain how collaboration between the government and the private sector can strengthen the digital transformation of MSMEs and have an impact on improving business performance. The focus of the study on the creative economy sector was chosen because this sector is the backbone of innovation and job creation in the post-pandemic era.

LITERATURE REVIEW

Public–private partnerships (PPPs) are a form of long-term strategic collaboration between the government and the private sector to provide public services and create shared socio-economic value (Grimsey & Lewis, 2002). This concept initially developed in the physical infrastructure sector (hard infrastructure), such as the construction of toll roads, airports, and transportation systems (Bappenas, 2020). However, in the last two decades, the PPP paradigm has shifted from merely physical development contracts to collaborative governance mechanisms that also include intangible development such as innovation, education, and economic empowerment (Martin, 2016). In the context of the creative economy, PPPs can serve as a bridge between the government, the business world, and the digital community to strengthen the competitiveness of MSMEs through training, access

to technology, and digital market facilitation. Based on this, the more intensive the public-private partnership, the greater the opportunity to improve the digital capabilities of MSME players. Therefore, the first hypothesis is formulated:

H1: Public-private partnerships have a positive effect on the digital capabilities of MSMEs.

Digital transformation is defined as a fundamental change in an organization's business model and operations driven by the use of digital technology (Verhoef et al., 2021). In the context of MSMEs, digital transformation encompasses the integration of technological solutions to enhance business efficiency, productivity, and innovation (Skare, de las Mercedes de Obesso, & Ribeiro-Navarrete, 2023). The integration of digital tools, including social media, marketplaces, electronic payment systems, and business applications, has been demonstrated to enhance market expansion and reduce operational expenditures (Suliswanto & Rofik, 2019). Nevertheless, the efficacy of digital transformation is contingent upon the capacity of business actors to effectively manage these technologies. Therefore, it can be concluded that the higher the level of digital transformation undertaken by SMEs, the greater their ability to develop digital capabilities that support business growth. Thus, the second hypothesis is formulated as follows:

H2: Digital transformation has a positive effect on the digital capabilities of MSMEs.

Public-private partnerships also have the potential to directly influence the improvement of MSME performance. Collaboration between the government and the private sector allows for wider access to resources, financing, training, and marketing networks (Ayo-Vaughan, Poon, & Ibem, 2019). In the Jakpreneur program, for example, participating MSMEs receive business management and digital marketing training facilities that have a direct impact on increasing turnover (Niang, Torre, & Bourdin, 2022). The results of research by Halimani, Mazava, and Dzapasi (2019) in Africa also show that PPPs encourage increased innovation and productivity in the MSME sector. Based on these findings, public–private partnerships are believed to strengthen MSME business performance through increased capacity, efficiency, and business networks. Therefore, the third hypothesis is:

H3: Public-private partnerships have a positive effect on MSME performance.

Digital transformation contributes directly to improving MSME performance because digital technology enables operational efficiency, broader market access, and the creation of new value through innovation (Skare et al., 2023). A study by Verhoef et al. (2021) confirms that organizations that successfully implement digital transformation experience productivity increases of up to 30%. In Indonesia, the adoption of digital marketing has been proven to expand customer reach and increase service speed (Suliswanto & Rofik, 2019). Digital transformation also encourages business flexibility and strengthens resilience to crises. Therefore, the higher the level of digital transformation in SME , the better their performance in terms of turnover, efficiency, and competitiveness. Based on this, the fourth hypothesis is formulated:

H4: Digital transformation has a positive effect on MSME performance.

Digital capability is the ability of business actors to integrate digital technology into operational activities to create efficiency and innovation (Melo et al., 2023). In the context of MSMEs, digital capability includes competence in using information systems, managing online marketing, and optimizing e-commerce platforms for sales strategies (Fauzi &

Sheng, 2020). Teoh et al. (2022) explain that digital capability acts as a determining factor in the success of technology adoption on business performance. In other words, strong digital capabilities enable MSMEs to adapt more quickly to market changes and improve the effectiveness of decision- making. Therefore, the higher the digital capability of MSME players, the better their business performance. The fifth hypothesis is formulated as follows:

H5: Digital capabilities have a positive effect on MSME performance.

In addition to its direct influence, digital capabilities are also believed to play a mediating role between public-private partnerships and MSME performance. Collaboration between the government and the private sector can improve MSME access to training, technology, and digital assistance (Broechler, 2015). With this support, business actors gain better digital capabilities to improve the efficiency and competitiveness of their businesses (Casady & Garvin, 2022). Therefore, the effect of PPP on MSME performance is expected to occur largely through an increase in the digital capabilities of business actors. Based on this argument, the sixth hypothesis is formulated as follows:

H6: Digital capabilities mediate the influence of public-private partnerships on MSME performance.

Digital capabilities are also hypothesized as mediators between digital transformation and MSME performance. Digital transformation encourages technology adoption, but the results are only optimal if business actors have the ability to manage and utilize the technology (Melo et al., 2023; Teoh et al., 2022). Thus, the positive impact of digital transformation on business performance will only emerge if MSMEs have achieved an adequate level of digital capabilities. Therefore, the higher the digital capabilities of MSME actors in managing the adopted technology, the greater the impact of digital transformation on their business performance. Thus, the seventh hypothesis is:

H7: Digital capabilities mediate the effect of digital transformation on MSME performance.

To strengthen the theoretical basis and identify the position of this study in the academic landscape, Table 1 summarizes relevant previous studies. This table presents the results of international and national studies that form the basis for the development of the research model and the formulation of hypotheses. Each previous study contributes to the understanding of the relationship between key variables such as PPP, digital transformation, digital capabilities, and MSME performance, while also confirming the existence of empirical gaps that have not been widely studied in Indonesia, particularly in the context of the creative economy sector.

Table 1. Summary of Previous Research

Researcher (Year)	Research Focus	Method	Key Findings	Relevance
Skare, de las Mercedes de Obesso, & Ribeiro-Navarrete (2023)	Digital transformation and SMEs in Europe	Quantitative	Digital transformation improves the efficiency and productivity of small businesses	The basis of the relationship between digital transformation and SME performance
Niang, Torre, & Bourdin (2022)	Local actor coordination in PPP biogas projects	Qualitative	Local collaboration strengthens social innovation and governance	Supporting the concept of collaborative PPP in a digital context
Ayo-Vaughan, Poon, & Ibem (2019)	PPP in airport infrastructure	Case study	PPP improves project efficiency and risk sharing	The basis of the PPP relationship and MSME performance
Suliswanto & Rofik (2019)	Digital marketing implementation in MSMEs	Descriptive	70% of MSMEs adopt social media, but not professionally	The basis of the relationship between digital transformation and digital capabilities
Martin (2016)	Making sense of Public–Private Partnerships	Literature	PPPs can be expanded to non-physical areas	Conceptual basis for non infrastructure PPPs
Casady & Garvin (2022)	Progressive Public–Private Partnerships	Empirical	Progressive PPPs encourage social innovation	Relevant for innovation-based digital PPPs
Halimani, Mazava, & Dzapasi (2019)	PPP and SME innovation	Survey	PPP accelerates innovation adoption in the SME sector	Supporting the Relationship between PPP, innovation, and performance

Source: Author's Tabulation (2025)

According to the provided description, the objective of this study is to examine the impact of public-private partnerships and digital transformation on the performance of MSMEs (small and medium-sized enterprises) in the creative economy sector in Indonesia. Digital capabilities are proposed as a mediating variable in this analysis. This study is expected to contribute to the theoretical framework by expanding the

understanding of public-private partnerships beyond the context of physical infrastructure towards partnerships based on digital empowerment. Empirically, the results of this study will provide quantitative evidence of the causal relationship between variables and the effectiveness of digital PPP as an instrument for strengthening the competitiveness of MSMEs. Concurrently, from a pragmatic standpoint, the outcomes of this study are anticipated to function as policy recommendations for both central and regional governments. These recommendations are intended to assist in the formulation of non-infrastructure PPP (Public-Private Partnership) models that are oriented towards digital innovation. Furthermore, these recommendations aim to enhance the digital literacy of business actors and to establish a sustainable and competitive creative economy ecosystem in Indonesia.

RESEARCH METHOD

This study uses a quantitative approach with a causal research design that aims to examine the relationship between variables and identify the role of digital capabilities as a mediating variable in the conceptual model. This approach was chosen because it is able to empirically explain the cause-and-effect relationship between complex latent variables. The research model is designed to examine how public-private partnerships, digital transformation, and digital capabilities contribute to the performance of MSMEs in the creative economy sector in Indonesia. The quantitative approach is considered appropriate because it can objectively measure the intensity of the relationship between variables and produce empirical evidence that can be generalized to a wider population.

The population in this study is all MSME actors in the creative economy sector in Indonesia, particularly those who have been involved in collaborative programs or activities involving cooperation between the government and the private sector (Public–Private Partnership). This population includes MSME actors who are part of programs such as Jakpreneur DKI Jakarta, OK OCE Indonesia, and other regional PPP initiatives in Yogyakarta, East Java, and West Java. The creative economy sector was chosen because it has great potential for digital economic growth and is a national development priority in the 2025 Indonesian Creative Economy Master Plan (Kemenparekraf, 2023).

The sampling technique used was purposive sampling, with three main criteria. First, MSME actors have been actively running their businesses for at least two years. Second, they have participated in coaching, training, or mentoring programs that are explicitly part of Public- Private Partnership (PPP) projects or initiatives, whether organized by the government, the private sector, educational institutions, or community associations that are official partners of PPP programs. Third, the MSME actors had implemented digital business activities such as online marketing through social media, the use of marketplaces, or digital payment systems. These criteria were designed so that respondents had direct empirical experience with the implementation of PPP programs and the application of digital technology in their business activities, enabling them to provide relevant and credible answers to the research constructs.

The sample size in this study was set at 120 respondents. This size was chosen based on methodological considerations in line with the characteristics of Partial Least Squares–Structural Equation Modeling (PLS-SEM) analysis. Based on the guidelines of Hair, Hult, Ringle, and Sarstedt (2021), the minimum sample size in PLS-SEM can be determined

using the 10 times rule, which is ten times the number of indicators in a single construct or ten times the number of causal paths leading to the endogenous construct. Since the construct with the most indicators in this study has four indicators, the recommended minimum sample size is 40 (4 × 10). With 120 respondents, this study has met the sample adequacy criteria by more than three times the minimum limit and is considered statistically representative of the creative economy MSME population involved in PPP projects. This size is also adequate for the bootstrapping process of 5,000 subsamples used in testing the significance of the PLS-SEM model, so that parameter estimates can be obtained in a stable and reliable manner (Hair et al., 2021).

The research instrument was a structured questionnaire with a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Each statement item was compiled based on conceptual indicators from relevant previous theories and research presented in Table 2, then adjusted to the empirical context of Indonesian creative economy MSMEs. Before being distributed widely, content validity testing was conducted by three experts in the fields of digital management and public policy to assess the suitability between the indicators and constructs. Next, a limited field test (pilot test) was conducted on 15 MSME actors in Jakarta and Yogyakarta who had participated in the PPP program to ensure clarity of language, contextual comprehensibility, and consistency of answers.

Data collection was carried out using a combination of online and offline methods. Most respondents were contacted through a Google Form questionnaire distributed online through the Jakpreneur and OK OCE Indonesia networks, while others were interviewed directly by enumerators during MSME assistance activities under the PPP program. This combination was chosen to reach respondents from various creative economy sub-sectors such as culinary, fashion, crafts, and visual communication design. The collected data was then selected through a data cleaning process to ensure completeness, validity, and no duplication of responses.

Table 2. Operationalization of Research Variables

Variable	Conceptual Definition	Indicators	Reference Source
Public–Private Partnership (X_1)	Strategic collaboration between the government and the private sector in supporting MSME development through policies, training, and financing in PPP programs.	1. Government policy support 2. Cross-sector collaboration 3. Access to financing and training from PPP projects 4. Knowledge and technology transfer through private partners	Grimsey & Lewis (2002); Martin (2016); Ayo-Vaughan et al. (2019)
Digital Transformation (X_2)	Changing the business model of MSMEs through the adoption of digital technology to improve efficiency,	1. Adoption of digital technology 2. Business process digitizationUse of social media and marketplaces	Verhoef et al. (2021); Skare et al. (2023)

Variable	Conceptual Definition	Indicators	Reference Source
	innovation, and competitiveness.	3. Integration of customer systems and sales data	
Digital Capabilities (Z)	The ability of MSMEs to integrate and utilize digital technology for operational efficiency and product innovation.	1. Competence in the use of business applications 2. Digital innovation capabilities 3. Online marketing management 4. Adaptation to new technologies	Melo et al. (2023); Fauzi & Sheng (2020); Teoh et al. (2022)
MSME Performance (Y)	The level of success of SMEs in achieving growth and competitiveness through innovation and digitalization.	1. Revenue growth 2. Cost efficiency 3. Market expansion 4. Improved business productivity	Kusio (2021); Halimani, Mazava, & Dzapasi (2019)

Source: Author's Tabulation (2025)

The statistical analysis utilized SmartPLS version 4.0.9, implementing the Partial Least Squares–Structural Equation Modeling (PLS-SEM) framework. The analytical procedure consisted of two sequential phases. The first phase involved the validation of the measurement model (outer model) to confirm construct reliability and validity through a set of metrics, including factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), and discriminant validity tests based on the Fornell–Larcker and Heterotrait–Monotrait Ratio (HTMT) methods. Subsequently, the second phase focused on evaluating the structural model (inner model) by analyzing the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Hypothesis testing was executed via the bootstrapping resampling method using 5,000 iterations at a 5% significance level (two-tailed test). A hypothesis was considered statistically supported when the p-value was below 0.05 and the t-statistic met or exceeded the threshold of 1.96.

Figure 1 presents a research model consisting of two independent variables (public-private partnerships/PPPs and digital transformation), one mediating variable (digital capabilities), and one dependent variable (MSME performance). This causal model is used to explain the direct and indirect relationships between variables based on seven hypotheses developed in Chapter II. These relationships are based on public-private collaboration theory, dynamic capability theory, and digital innovation theory, which emphasize the importance of technology integration in achieving organizational competitive advantage.

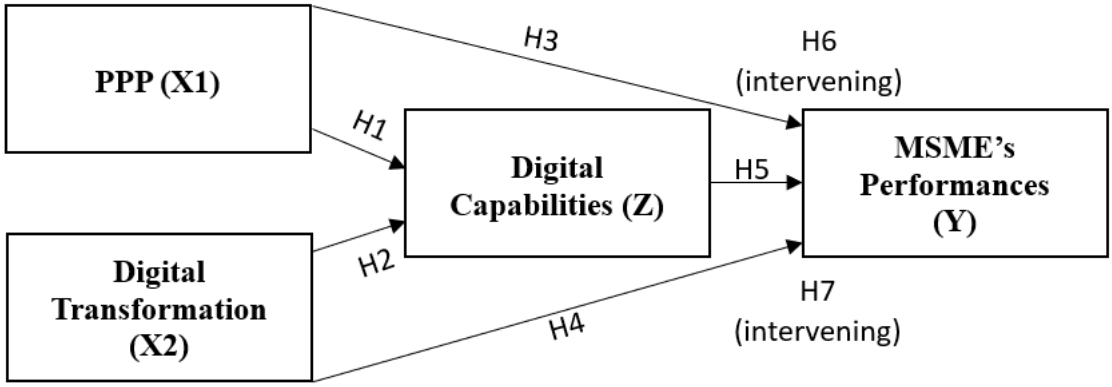

Figure 1. Research Model

Source: Processed by researcher (2025)

RESULTS AND DISCUSSION

Results (Outer Model)

Table 3. Reliability and Convergent Validity Test Results

Construct	Indicat	Loadi	C	A	Decision
Public–Private Partnership	X1.1–	0.77–	0	0	Valid &
Digital Transformation	X2.1–	0.75–	0	0	Valid &
Digital Capabilities (Z)	Z1–Z4	0.78–	0	0	Valid &
MSME's Performance (Y)	Y1–Y4	0.80–	0	0	Valid &

Source: Smart PLS (2025)

Prior to examining the hypothesized causal pathways, the outer model was evaluated to ensure the adequacy of construct reliability and validity. As summarized in Table 3, all measurement items exhibited factor loadings above the benchmark value of 0.70, implying that each indicator effectively captured the essence of its respective latent construct (Hair, Hult, Ringle, & Sarstedt, 2021). The obtained Composite Reliability (CR) scores surpassed 0.80, and the Average Variance Extracted (AVE) values were above 0.50, confirming both internal consistency and convergent validity of the measurement model. Moreover, the Fornell–Larcker test indicated that the square root of each construct's AVE exceeded the inter-construct correlation coefficients, while the Heterotrait–Monotrait (HTMT) ratios remained below 0.85. These results collectively verify the presence of discriminant validity, thereby validating that all constructs meet the reliability and validity standards required for further structural equation modeling.

Results (Inner Model)

After the measurement model was declared valid, the next step was to test the relationship between latent variables through inner model analysis. The test results showed that

the model had fairly good explanatory power, with a coefficient of determination (R^2) value of **0.62** for Digital Capability and **0.71** for MSME Performance. This means that 62% of the variation in digital capability is explained by public-private partnerships and digital transformation, while 71% of the variation in MSME performance is explained by the other three constructs. The Q^2 predictive relevance value of 0.53 indicates that the model has strong predictive power for the dependent variable (Hair et al., 2021).

Table 4. Results of Inner Model Measurement (bootstrapping)

Inter- variable Relationships (Hypothesis)	Path Coefficient (β)	t-statistic	p- value	Decision
H1	0.34	4.12	0.000	Significant
H2	0.46	5.28	0.000	Significant
H3	0.21	2.98	0.003	Significant
H4	0.27	3.87	0.000	Significant
H5	0.39	6.45	0.000	Significant
H6	0.13	3.11	0.002	Significant (partial mediation)
H7	0.18	3.96	0.000	Significant (partial mediation)

Source: Smart PLS (2025)

The analysis results indicate that all hypotheses (H1–H7) are accepted at a significance level of 5% ($p < 0.05$). This finding suggests that public-private partnerships and digital transformation exert a direct impact on MSME performance, as well as an indirect impact through the enhancement of digital capabilities, functioning as a mediating variable. The most significant influence path was identified in the relationship between Digital Transformation, Digital Capabilities, and MSME Performance, with a total effect of 0.45. This finding suggests that digital capabilities play a pivotal role in transforming the effects of digitalization into business performance advantages.

Discussion

Empirical evidence from this study supports the arguments of Skare, de las Mercedes de Obesso, and Ribeiro-Navarrete (2023), emphasizing that digital transformation plays a pivotal role in enhancing SMEs' operational effectiveness and productivity. Translating this into the Indonesian context, it becomes evident that MSMEs' competence in digital management is a key determinant for the successful implementation of digital transformation that drives superior business performance. Accordingly, digital capability functions as an enabling link that converts technological potential into strategic competitive advantage.

The positive influence of public-private partnerships on digital capabilities (H1) and MSME performance (H3) is consistent with the findings of Ayo-Vaughan, Poon, and Ibem (2019) as well as Casady and Garvin (2022). These studies indicate that cross-sector collaboration can expedite business capacity building through resource allocation and

technology transfer. In the context of Indonesia's creative economy, partnerships between the government, the private sector, and educational institutions (e.g., the PPP Digital Training program) have been demonstrated to expand access to training and funding, thereby increasing the digital literacy of small business owners.

Moreover, the mediation test results (H6 and H7) demonstrate that digital capabilities partially mediate the relationship between PPP and digital transformation on MSME performance. This finding suggests that the impact of successful collaboration and the adoption of new technology by MSME actors will be amplified if these actors possess the capacity to integrate technology into their daily business operations. This finding aligns with the dynamic capability theory, which posits that organizations with higher adaptability and innovation capabilities will demonstrate superior performance in the face of environmental changes (Teece, 2018).

In practical terms, the results of this study imply that the government and the private sector need to expand the implementation of Public-Private Partnership (PPP) projects that focus on strengthening the digitization of small businesses, not just physical projects. Collaborations may encompass technology-based training, digital business incubation, and the provision of platform-based financial access. Conversely, MSME players must enhance their internal competencies in leveraging information systems and digital tools to maximize the advantages of public-private partnerships.

The empirical results of this study support the integration between the Public–Private Collaboration theory (Martin, 2016) and the Dynamic Capability theory (Teece, 2018). In this integration, cross-sector institutional interactions play a role in strengthening organizational innovative capabilities. In the context of Indonesia's creative economy, digital PPPs have proven to be an effective mechanism for transferring resources, technology, and expertise from the public and private sectors to the MSME sector. This finding contributes to the extant literature on PPPs, which demonstrates that these partnerships serve not only as a model for infrastructure financing but also as an institutional strategy for cultivating a knowledge and technology-based economic ecosystem.

Consequently, the empirical model that was tested through PLS-SEM provides novel insights. Namely, that digital capabilities are a key variable mediating the relationship between public-private partnerships and digital transformation on MSME performance. This finding underscores the imperative for Indonesia to incorporate the enhancement of MSMEs' digital capabilities into its public-private partnership policies, recognizing it as a strategic imperative.

CONCLUSION

The objective of this study is to analyze the effect of public–private partnerships, digital transformation, and digital capabilities on the performance of MSMEs in the creative economy sector in Indonesia. To this end, the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach will be utilized. A total of 120 respondents participated in public–private partnership programs, which included training, coaching, or digital assistance. Through empirical evidence obtained from this group, it was determined that all hypotheses proposed (H1–H7) were accepted at a significance level of 5 percent. The findings suggest a direct and indirect impact of public–private partnerships and digital transformation on MSME performance, with increased digital capabilities serving as a

mediating variable. Therefore, the role of digital capabilities is crucial as a bridge connecting the success of cross-sector collaboration and technology adoption to the improvement of small and medium enterprise performance in Indonesia.

Empirical evidence from this study demonstrates a positive correlation between the extent of MSME players' involvement in public-private partnership programs emphasizing digital capacity building and their capacity to adopt technology and innovate. The efficacy of PPP programs in enhancing technological literacy, digital marketing skills, and business operational efficiency has been well-documented. Conversely, the study's findings underscore the notion that digital transformation plays a pivotal role in enhancing the digital capabilities of MSMEs. The increased application of information technology in business operations affords MSMEs with greater opportunities to enhance productivity and expand their market share. In this context, digital capabilities serve as a pivotal mechanism that enables MSME players to translate technological potential into tangible business performance advantages.

From a theoretical standpoint, the findings of this study contribute to the extant literature on public-private partnerships and dynamic capability theory by demonstrating the efficacy of public-private collaboration not only in the development of physical infrastructure but also in the realm of intangible, non-physical development. Specifically, the study highlights the potential of such collaboration to enhance the digital capacity and innovation of business actors. This finding aligns with Martin's (2016) proposition that contemporary PPPs should be conceptualized as cross-sector learning mechanisms, facilitating knowledge transfer, technology transfer, and the generation of shared value. These findings also serve to reinforce the dynamic capability theory proposed by Teece (2018), which states that an organization's ability to adapt to environmental changes and effectively reconfigure its resources is a key factor for success in the era of technological disruption.

In practical terms, the results of this study carry several important implications for the government, the private sector, educational institutions, and MSME actors. The government is advised to expand the application of digital-based Public-Private Partnership (PPP) models that focus not only on infrastructure provision but also on improving human and organizational capacity. The future of PPP programs is poised to be reimagined as digital learning ecosystems, with the private sector assuming the role of technology providers, educational institutions functioning as innovation and training hubs, and the MSME community serving as the primary agents of business digitalization. The private sector is also expected to play a more active role not only in financing but also in knowledge transfer, digital platform provision, and human resource competency development through long-term partnerships. The findings of this study indicate that active engagement in digital-based PPP programs can enhance adaptability, innovation, and competitiveness in the face of technological advancements in market-related changes.

This study also has limitations that could be opportunities for further research. The sample size of 120 respondents, although adequate for PLS-SEM analysis, does not fully represent all characteristics of MSMEs in Indonesia. In addition, the data collected is cross-sectional in nature, so it cannot describe changes and dynamics in digital capabilities in the long term. Therefore, future research should use a longitudinal or mixed-method approach to capture changes in the digital behavior of MSMEs over time and provide a deeper understanding of the sustainable impact of digital PPP programs. The addition of moderator

variables such as digital leadership, innovation culture, or environmental uncertainty can also enrich the research model to provide a more comprehensive explanation of the factors that influence the performance of MSMEs in the digital era.

Overall, this study confirms that Public–Private Partnerships combined with digital transformation are effective collaborative strategies for strengthening the competitiveness of Indonesian MSMEs. Digital capabilities are key to linking public policies and private initiatives with improved business performance in the creative economy sector. By expanding the application of PPPs oriented towards digital development, Indonesia can build a more inclusive, adaptive, and sustainable economic ecosystem. This study confirms that strengthening digital capabilities is not merely a technical aspect, but a form of strategic investment in building an innovative, independent, and resilient future for MSMEs amid the ongoing global economic transformation.

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