The Role of Digitalization in Enhancing the Business Performance of Micro, Small, and Medium Enterprises in Makassar City

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ABSTRACT

This study examines the role of digitalization in improving the business performance of micro, small, and medium enterprises (MSMEs) in Makassar City, Indonesia. Specifically, it analyzes the effects of digital marketing, e-commerce usage, and digital payment adoption on sales growth, operational efficiency, and market expansion. The research employed a quantitative cross-sectional survey design using purposive sampling, involving 110 MSME owners and managers who had adopted at least one digital tool. Data were analyzed using multiple linear regression. The results indicate that all three digitalization variables significantly and positively influence MSME performance. The regression model demonstrates strong explanatory power, with an R² value of 0.568, meaning that 56.8 percent of the variance in business performance is explained by the digitalization variables. Among the predictors, digital marketing shows the strongest effect, followed by e-commerce usage and digital payment systems. These findings highlight the central role of digital marketing in enhancing visibility, customer engagement, and competitive positioning in urban markets. Despite these positive effects, several barriers constrain the full realization of digital benefits, including low digital literacy, limited internet infrastructure, and high promotional costs. These challenges suggest that digital transformation requires not only technology adoption but also ecosystem support. Practically, the study recommends targeted digital literacy training, improved infrastructure investment, and financial incentives to reduce promotional costs and support sustainable MSME digital transformation in urban Indonesia.

Keywords: Digital marketing; E-commerce; Digital payments; MSME performance; Urban digitalization

INTRODUCTION

In the current landscape of global economic transformation, digital technologies have become essential for strengthening the competitiveness of micro, small, and medium enterprises (MSMEs), particularly in urban economies in developing countries. Digitalization helps MSMEs expand market access, improve operational efficiency, and respond quickly to changing consumer behavior. In urban Indonesia, where MSMEs play a central role in employment and local economic activity, digital transformation is increasingly viewed as a strategic pathway to sustain business growth.

Digital transformation in MSMEs commonly involves three operational domains: digital marketing, e-commerce, and digital payment systems. E-commerce platforms provide MSMEs with access to customers beyond geographical boundaries, enabling broader market penetration and new revenue streams. Recent studies report that e-commerce adoption is associated with stronger competitiveness and sales performance (Mustofa et al., 2025; Nurjannah & Ratnah, 2024). Digital marketing, especially through social media, allows MSMEs to build brand visibility and interact with customers in real time. Empirical evidence suggests that consistent social media-based marketing improves customer engagement and profitability (Nurhayana et al., 2025; Jasri et al., 2022). In addition, digital payment systems such as QRIS, e-wallets, and mobile banking can streamline transactions, improve record keeping, and support better financial management (Harun et al., 2025; Aulia & Nurabiah, 2025). These tools also support broader financial inclusion through access to fintech-enabled services (Estiana et al., 2025; Nandiroh et al., 2024).

From a theoretical perspective, this study positions digitalization as a strategic capability that can improve MSME performance. The Resource-Based View (RBV) argues that firms achieve superior performance when they develop and deploy valuable, rare, inimitable, and well-organized resources and capabilities. In the MSME context, digital marketing competence, e-commerce capability, and the ability to integrate digital payments can be interpreted as capability-based resources that strengthen market reach,

customer relationships, and operational efficiency. Complementing RBV, the Technology Acceptance Model (TAM) explains why MSME owners adopt (or resist) digital tools, emphasizing perceived usefulness and perceived ease of use as key determinants. In practice, MSMEs are more likely to adopt digital platforms when they perceive direct business benefits (e.g., increased sales or faster transactions) and when the tools are simple and affordable to operate. Together, RBV and TAM provide a logical foundation for linking the adoption of digital marketing, e-commerce, and digital payments to business performance outcomes.

In Indonesia's urban centers, including Makassar City, MSMEs are widely recognized as vital contributors to local economic resilience and poverty reduction. They also show increasing agility in adopting technology to remain competitive (Mazya et al., 2022; Harahap, 2025). However, the benefits of digitalization are not experienced equally. Prior studies across Indonesia consistently show a positive association between digitalization and MSME performance, but they also report persistent barriers such as inadequate internet infrastructure, low digital literacy, and limited managerial capability (Widayani et al., 2022; Anggarini, 2022). Cost-related constraints also discourage MSMEs from scaling digital practices such as paid advertising, professional content production, and subscription-based digital services. In addition, uneven ecosystem readiness, covering infrastructure quality, policy support, and availability of mentoring, often leads to fragmented and unstained digital engagement (Octaviani et al., 2022; Anwar et al., 2024).

Although the existing literature supports the performance benefits of digital tools, several gaps remain. First, many studies emphasize one dominant channel (e.g., e-commerce or social media) and do not examine the simultaneous contribution of digital marketing, e-commerce, and digital payments within a single empirical model. Second, evidence is often drawn from broader regional samples or different urban settings, which may not reflect Makassar's specific market characteristics, sectoral composition, and local digital ecosystem. Third, barriers are frequently discussed descriptively, while the empirical contribution of each digital tool to performance is not consistently quantified at the city level.

This study addresses these gaps by empirically testing the effects of three key dimensions of digitalization, digital marketing, e-commerce usage, and digital payment adoption, on MSME business performance in Makassar City within one integrated model. The novelty of this study lies in its city-specific focus on Makassar as a metropolitan hub in Eastern Indonesia, where MSME development is shaped by rapid urban consumption growth, expanding digital services, and heterogeneous digital readiness across sectors. By quantifying the relative influence of each digital tool on performance and linking the findings to local barriers and ecosystem conditions, the study contributes theoretically by extending RBV and TAM-based explanations of digital capability and adoption in MSMEs, and contributes practically by providing evidence to inform targeted interventions for training, infrastructure support, and cost-reduction programs.

Therefore, this study aims to analyze the role of digitalization and its impact on MSME business performance in Makassar City. Specifically, it seeks to quantify how digital marketing, e-commerce, and digital payment systems influence sales performance, operational efficiency, and market expansion. The findings are expected to provide evidence-based insights for policymakers, local government agencies, and MSME support institutions to design more inclusive and sustainable digital transformation programs.

METHOD

This study employed a quantitative cross-sectional survey design to examine the influence of digitalization on the business performance of micro, small, and medium enterprises (MSMEs) in Makassar City, Indonesia. Cross-sectional surveys are suitable for identifying statistical relationships between technology-related variables and performance outcomes within a defined time window (Hardilawati et al., 2023; Gunawan et al., 2025). The target population comprised MSME owners/managers operating in Makassar City who had implemented at least one form of digital tool in their business operations. A purposive sampling technique was applied to ensure information-rich respondents aligned with the research objective and to capture sectoral diversity across the urban MSME landscape (Rizki et al., 2023). The sampling criteria were: (1) the business is categorized as an MSME and operates in Makassar City; and (2) the business uses at least one digital tool, namely digital marketing via social media, e-commerce/marketplace, and/or digital payments such as QRIS/e-wallet. A total of 110 MSMEs participated in the survey, and respondents were selected from owners/managers because they are the primary decision makers regarding technology adoption and operational practices in MSMEs.

The minimum sample size was determined by considering the analytical model and the number of predictors in multiple linear regression. With three independent variables, the study targeted a sample size

that exceeds common regression rules of thumb to improve the stability of coefficient estimates and reduce sampling error; therefore, 110 responses were considered adequate for estimating the regression model and supporting diagnostic checks for ordinary least squares (OLS) assumptions.

Data were collected using a structured questionnaire consisting of two sections: (1) respondent and business profile (e.g., age, education, business sector), and (2) construct items measuring the study variables. The study examined three independent variables, digital marketing, e-commerce usage, and digital payment adoption, and one dependent variable, MSME business performance. Digital marketing was measured through respondents' intensity of social media use for business promotion, content posting consistency, and customer engagement practices, following prior MSME digitalization metrics that operationalize digital marketing as platform usage and engagement intensity (Nurhayana et al., 2025; Jasri et al., 2022). E-commerce usage was measured through the extent of marketplace/online store use, transaction activity through e-commerce platforms, and perceived expansion of customer reach through these platforms (Gunawan et al., 2025; Kilay et al., 2022). Digital payment adoption was measured through the frequency of using QRIS/e-wallet/mobile banking for customer transactions, the diversity of digital payment options provided, and perceived benefits for transaction efficiency and record keeping (Kilay et al., 2022; Harun et al., 2025). MSME business performance was measured as perceived performance reported by owners/managers using indicators such as perceived sales growth, operational efficiency, and market expansion. All construct items were measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Before hypothesis testing, instrument quality was assessed through validity and reliability testing. Item validity was evaluated using corrected item–total correlation for each construct, and items meeting the accepted threshold were retained. Construct reliability was assessed using Cronbach's alpha, and constructs meeting commonly accepted minimum criteria were considered reliable. The results of these tests should be reported in the Results section in a table that summarizes retained items and reliability coefficients.

Data were analyzed using multiple linear regression to estimate the effects of digital marketing (X1), e-commerce usage (X2), and digital payment adoption (X3) on MSME business performance (Y). Multiple regression was selected because it enables simultaneous testing of several predictors and estimation of their unique contribution to the dependent variable (Firdaussiah et al., 2024).

To ensure the appropriateness of OLS estimation, classical assumption tests were conducted prior to interpreting regression coefficients. Normality of residuals was assessed using a normality test. Multicollinearity was assessed using tolerance and variance inflation factor (VIF), where VIF values within an acceptable range indicate no serious multicollinearity. Heteroscedasticity was assessed using a heteroscedasticity test and/or residual scatterplot, where non-significant results or random scatter indicate homoscedasticity. The outcomes of these diagnostic tests should be presented in the Results section to support the validity of regression inference.

RESULT AND DISCUSSION
Result
The results of this study provide empirical evidence on the influence of digitalization, through digital marketing, e-commerce, and digital payment systems, on the business performance of micro, small, and medium enterprises (MSMEs) in Makassar City. The findings are structured into several components: descriptive statistics, instrument validity and reliability, classical assumption tests, and multiple linear regression analysis.

Profile of Respondents
The study surveyed 110 MSMEs from four dominant business sectors: culinary, fashion, handicrafts, and services. Table 1 presents the profile of the respondents. Most participants were aged 35–44 years (37.3%) and held either a senior high school diploma (44.5%) or a bachelor's degree (49.1%). The culinary sector had the highest representation (41.8%), followed by fashion (27.3%).

Descriptive Statistics
Digital tool adoption among MSMEs in Makassar was relatively high. As shown in Table 2, 87% of respondents used social media for marketing, 82% adopted digital payment methods, and 64% engaged in e-commerce through online marketplaces. Usage of financial management applications was lower, at 41%. Descriptive statistics for the main constructs are presented in Table 3. The highest mean score was found for digital marketing (M = 4.18, SD = 0.56), followed by digital payments (M = 4.05, SD = 0.60), e-commerce usage (M = 3.87, SD = 0.72), and perceived business performance (M = 3.92, SD = 0.66).

Table 1. Profile of Respondents (n = 110)

Variable	Category	Frequency (n)	Percentage (%)
Age	18–24 years	15	13.6
	25–34 years	36	32.7
	35–44 years	41	37.3
	45 years and above	18	16.4
Education Level	Senior High School	49	44.5
	Diploma/Bachelor	54	49.1
	Postgraduate	7	6.4
Business Sector	Culinary	46	41.8
	Fashion	30	27.3
	Handicrafts	20	18.2
	Services	14	12.7

Table 2. Digital Tool Adoption Among MSMEs

Digital Tool	Adoption Rate (%)
Social Media for Marketing	87.0
E-commerce / Marketplace Usage	64.0
Digital Payments (QRIS/e-Wallet)	82.0
Financial Management Applications	41.0

Table 3. Descriptive Statistics of Main Constructs

Variable	Mean	SD	Min	Max
Digital Marketing	4.18	0.56	2.8	5.0
E-commerce Usage	3.87	0.72	2.3	5.0
Digital Payment	4.05	0.60	2.5	5.0
Business Performance	3.92	0.66	2.7	5.0

Table 4. Validity and Reliability Summary

Variable	No. of Items	Cronbach's Alpha	Validity Range (r)
Digital Marketing	4	0.81	0.52 – 0.74
E-commerce Usage	4	0.79	0.47 – 0.71
Digital Payment	4	0.83	0.50 – 0.78
Business Performance	4	0.80	0.49 – 0.70

Table 5. Summary of Classical Assumption Test Results

Assumption	Test Method	Indicator / Value	Fulfillment Criteria	Conclusion
Normality of Residuals	Kolmogorov–Smirnov Test	Sig. = 0.200	Sig. > 0.05	Fulfilled
	Normal P–P Plot	Points follow the diagonal line	Approximate normal pattern	Fulfilled
Multicollinearity	VIF	< 10: (1.534; 1.464; 1.427)	VIF < 10 and Tolerance > 0.1	Fulfilled
	Tolerance	> 0.1: (0.652; 0.683; 0.701)		
Heteroscedasticity	Glejser Test	Sig. > 0.05: (0.417; 0.538; 0.601)	No significant residual relationship	Fulfilled
	Scatterplot	Random pattern, no funnel shape	No systematic pattern	Fulfilled

Instrument quality tests confirmed good construct validity and reliability. All corrected item-total correlation values exceeded the minimum threshold (r > 0.3), and Cronbach's alpha values were above 0.7 for each construct. Prior to conducting regression analysis, classical assumption tests were carried out. All assumptions were satisfied, as summarized in Table 5.

Regression Analysis

To test the relationship between digitalization variables and MSME business performance, a multiple linear regression model was applied. The results show a strong model fit, with an R value of 0.754 and an R Square of 0.568, indicating that 56.8% of the variance in business performance can be explained by the digitalization variables (digital marketing, e-commerce usage, and digital payment adoption).

Table 6. Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
Digitalization → MSME Performance	0.754	0.568	0.552	3.912

Table 7. ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	1490.432	3	496.811	32.45	0.000*
Residual	1134.218	106	10.695		
Total	2624.650	109			

*Note: *Significant at p < 0.01*

Table 8. Coefficient Estimates (Multiple Linear Regression)

Variable	Unstandardized B	Std. Error	t-value	Sig.
Constant	4.321	1.033	4.183	0.000*
Digital Marketing	0.387	0.091	4.253	0.000*
E-commerce Usage	0.315	0.086	3.663	0.001*
Digital Payment Adoption	0.278	0.094	2.957	0.004*

*Note: *Significant at p < 0.01*

Table 9. Reported Barriers to Digital Adoption

Barrier	Percentage of Respondents (%)
Low Digital Literacy	59.1
Limited Internet Infrastructure	43.6
High Cost of Digital Ads / Promotions	38.2
Lack of Human Resources / One-man Operation	35.5
Difficulty in Managing Online Stores / Platforms	33.6

ANOVA testing further confirms the model's statistical significance (F = 32.45, p < 0.01), as seen in Table 7. This result validates the overall explanatory power of the regression model and supports the hypothesis that digitalization positively influences MSME performance.

Further analysis of individual predictors confirms that all three digitalization variables significantly contribute to improved MSME performance. Digital marketing has the highest beta coefficient (B = 0.387, p < 0.001), followed by e-commerce usage (B = 0.315, p < 0.001), and digital payment adoption (B = 0.278, p = 0.004). These findings suggest that while all digital tools are valuable, digital marketing plays a particularly crucial role in enhancing sales, customer acquisition, and brand visibility.

Barriers to Digitalization

Despite the high adoption rates and positive performance outcomes, MSMEs continue to face a variety of challenges in fully leveraging digital tools. As shown in Table 6, the most frequently reported barrier was low digital literacy (59.1%), indicating a significant gap in skills needed to optimize digital platforms. Infrastructure limitations, especially unstable internet connections, were also cited by 43.6% of respondents. Cost-related barriers, such as high expenses for digital advertising and promotions, were reported by 38.2%, while others highlighted operational limitations like a lack of dedicated human resources or difficulties managing online platforms. These structural barriers underscore the need for targeted interventions, including digital training programs, subsidies for digital tools, and infrastructure investment to ensure inclusive digital transformation.

In summary, the results indicate a high level of digitalization among MSMEs in Makassar, with clear evidence of its positive impact on business performance. Social media marketing emerged as the most widely used tool, followed by digital payments and e-commerce platforms. Regression analysis revealed that digital marketing had the most substantial influence on business outcomes, although all three variables were statistically significant. Simultaneously, the presence of adoption barriers highlights the uneven readiness of the digital ecosystem and the urgent need for policy interventions to support MSMEs in sustaining their digital transformation journeys.

Discussion

The findings of this study reaffirm the pivotal role of digitalization in enhancing the business performance of MSMEs in Makassar City. Consistent with the regression analysis results, the three digital tools (digital marketing, e-commerce, and digital payment systems) each demonstrated a significant

positive relationship with MSME performance. Among these, digital marketing exerted the strongest influence, highlighting the unique dynamics of the urban digital ecosystem in Makassar.

Digital marketing emerged as the most impactful digitalization component (B = 0.387). This aligns with prior research indicating that digital marketing enhances brand visibility, customer acquisition, and consumer engagement (Ananda, 2022; Cahyani et al., 2023). The effectiveness of platforms such as Instagram, TikTok, and Facebook lies in their ability to facilitate interactive storytelling, which allows MSMEs to reach broader markets with minimal promotional cost. In Makassar, where culinary and fashion MSMEs dominate and consumer behavior is increasingly shaped by mobile-first and visual content consumption, digital marketing provides an adaptive advantage. Local MSMEs that invest in consistent and visually compelling content creation benefit from increased customer loyalty and repeat purchases. This outcome is not only a function of platform mechanics but also of Makassar's urban demographics, which favor younger, digitally native consumers.

Furthermore, digital marketing in Makassar plays a critical role in brand differentiation within saturated markets. In sectors like culinary and fashion, where product substitution is high, the ability to create a distinctive digital identity can determine business survival. This reinforces the need for tailored capacity-building programs that emphasize content development, platform analytics, and algorithmic visibility. While many studies generalize the benefits of digital marketing, this study underscores how contextual factors such as urban consumer trends and competitive density influence its actual impact.

E-commerce platforms also showed a significant and positive effect on MSME performance (B = 0.315). These platforms provide a scalable channel for transactions, allowing businesses to transcend geographic boundaries. Previous studies (e.g., Wahyudi et al., 2023) support this view, noting that online marketplaces facilitate not only broader product exposure but also increased operational flexibility. In the case of Makassar, the growing presence of MSMEs on Shopee and Tokopedia reflects a response to changing consumer expectations for convenience and product variety. The ability to reach regional and national markets offers a pathway for MSMEs to scale beyond local foot traffic and traditional supply chains. However, this effect may vary by business type; for instance, handicraft businesses may benefit more from e-commerce than service-based MSMEs due to the tangible and shippable nature of their products.

The contribution of digital payment systems was also evident (B = 0.278), reinforcing their role in streamlining financial transactions. This aligns with findings by Sonker and Agarwal (2024), who emphasized that digital payments enhance cash flow management, transaction speed, and financial transparency. In Makassar, where informal cash-based transactions are still prevalent, the increasing adoption of QRIS and e-wallet systems indicates a shift toward more accountable business practices. Importantly, digital payment tools also facilitate better financial record-keeping, which can be a prerequisite for accessing formal credit and government assistance. This is especially beneficial for MSMEs looking to transition from informal to semi-formal or formal operational models.

While digital tools have demonstrated clear benefits, several structural constraints continue to moderate their effectiveness. The most frequently reported barrier was low digital literacy (59.1 percent), followed by limited internet infrastructure and high digital advertising costs. These challenges mirror those identified by Salsabila et al. (2024) and Aldhi et al. (2024), who emphasized that successful digital adoption requires both user capability and technological readiness. In Makassar, digital inequality across urban sub-districts remains an issue. Some MSMEs, especially in peri-urban areas, struggle with unstable internet connections, limiting their ability to maintain real-time online operations. This uneven infrastructure partially explains why some businesses are reluctant to fully transition into digital platforms despite recognizing their potential.

The cost of digital promotion was another notable barrier, reported by 38.2 percent of respondents. This finding is in line with Gao et al. (2023), who highlighted that financial constraints often prevent small enterprises from investing in advanced promotional strategies. For many MSMEs in Makassar, operating on thin margins, paid promotions and influencer marketing are often viewed as risky or unattainable without external support.

These findings have practical implications for policymakers and ecosystem stakeholders. First, digital marketing training should be context-specific, focusing on content strategy, visual storytelling, and platform optimization techniques. Partnerships between local governments, universities, and digital platforms can support the development of hands-on workshops and mentorship programs.

Second, infrastructure investments are essential to close the digital gap. Expanding broadband access and establishing digital hubs in under-connected neighborhoods will enable equitable access to digital tools.

Without reliable internet infrastructure, even the most innovative MSMEs cannot sustain their digital transformation.

Third, financial incentives should be designed to lower entry barriers for digital promotion. These could include tax breaks, government-sponsored ad credits, or competitive grant schemes for digital innovation. Drawing from Priyono et al. (2020) and Hadi et al. (2023), such support mechanisms have proven effective in boosting digital adoption in resource-constrained environments.

Finally, this study highlights the importance of localized, evidence-based policymaking. The data illustrate that digitalization is not a one-size-fits-all solution; its outcomes are shaped by specific urban, economic, and infrastructural contexts. As such, programs and interventions should be tailored to local realities to ensure effectiveness and sustainability.

In summary, digital marketing is the strongest performance driver for MSMEs in Makassar due to its low cost, high visibility, and resonance with urban consumer behavior. E-commerce and digital payments contribute significantly to operational scalability and financial transparency. However, literacy gaps, infrastructure limitations, and promotional costs present real constraints. A coordinated approach combining capacity building, infrastructure enhancement, and financial incentives is critical to maximizing the transformative potential of digitalization for MSMEs in Indonesian urban centers.

CONCLUSIONS

This study demonstrates that digitalization is a key driver of MSME business performance in urban settings, with Makassar City serving as a representative case. Among the three digital tools examined, digital marketing was found to have the strongest influence on performance outcomes, particularly in enhancing visibility, customer engagement, and brand strength. E-commerce also played a significant role by enabling MSMEs to expand their market reach beyond geographic constraints. Meanwhile, digital payment systems contributed by improving transaction efficiency and financial management.

Theoretically, the study reinforces the relevance of digitalization frameworks in explaining variations in MSME outcomes. By integrating digital marketing, e-commerce, and payment adoption into a unified model, this research provides empirical support for how digitalization influences performance dimensions such as sales, operational efficiency, and market access. Practically, the findings offer valuable insights for policymakers, particularly in terms of designing targeted interventions that support digital capacity building, infrastructure development, and financial support for MSMEs.

Despite the clear benefits, the study also identifies limiting factors that reduce the potential impact of digital tools. Chief among these are low digital literacy levels, uneven internet access across urban subregions, and prohibitive costs associated with digital promotion. These challenges suggest that digital transformation policies must address not only technological adoption but also the ecosystem that enables such adoption.

Future research should explore the long-term effects of digitalization through longitudinal designs. Additionally, studies could incorporate moderation analysis to better understand how contextual variables such as education level or business sector influence digital outcomes. Expanding the research across different regions or including other business segments, such as informal enterprises or rural MSMEs, could further enrich the understanding of digital transformation in Indonesia's diverse economic landscape.

REFERENCES

Aldhi, I. F., Suhariadi, F., Supriharyanti, E., Rahmawati, E., & Hardaningtyas, D. (2024). Financial Technology in Recovery: Behavioral Usage of Payment Systems by Indonesian MSMEs in the Post-Pandemic Era. *International Journal of Computing and Digital Systems*, *15*(1), 1329–1341. https://doi.org/10.12785/ijcds/160198

Ananda, Y. P. (2022). BUILDING AND COMMUNICATING BRAND BY MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs). *Journal of Economic Empowerment Strategy (Jees)*, *5*(2), 68–81. https://doi.org/10.23969/jees.v5i2.5403

Anggarini, D. T. (2022). APPLICATION OF QRIS (QUICK RESPONSE CODE INDONESIAN) as a PAYMENT TOOL IN DIGITIZING MSMEs. *Jurnal Ilmiah Manajemen E M O R*, *6*(2), 150. https://doi.org/10.32529/jim.v6i2.1288

Anwar, R. N., Handayani, E. N., & Quintania, M. (2024). Mobile Wallet Adoption Model for Improving MSME Performance in Indonesia's Tourism Sector. *Ekonomi Bisnis*, *29*(3), 156.

https://doi.org/10.17977/um042v29i3p156-169

Aulia, I., & Nurabiah, N. (2025). The Effect of E-Commerce, Social Media and Digital Payment on Increasing Revenue of Micro, Small and Medium Enterprises (MSMEs) in Mataram City. *International Journal of Business and Applied Economics*, *4*(1), 249–266. https://doi.org/10.55927/ijbae.v4i1.13252

Cahyani, L., Hidayat, R., & Marcelino, D. (2023). Strengthening Digital Capabilities and Entrepreneurship for SMEs in the Creative Economy Sector During a Pandemic. *Jurnal Penyuluhan*, *19*(01), 93–103. https://doi.org/10.25015/19202342367

Estiana, D., Rayhan, K. K., & Althaf, N. (2025). The Impact of Fintech Adoption on Digital Economic Growth in Indonesia. *SeEk*, *2*(3), 116–122. https://doi.org/10.35335/4yrqkz85

Firdaussiah, S. N., Sutjipto, Moh. R., & Febrianta, M. Y. (2024). How to Utilize Company Resources Optimally to Improve Business Performance. *Journal of Law and Sustainable Development*, *12*(4), e3491. https://doi.org/10.55908/sdgs.v12i4.3491

Gao, J., Siddik, A. B., Abbas, S. K., Hamayun, M., Masukujjaman, M., & Alam, S. S. (2023). Impact of E-Commerce and Digital Marketing Adoption on the Financial and Sustainability Performance of MSMEs During the COVID-19 Pandemic: An Empirical Study. *Sustainability*, *15*(2), 1594. https://doi.org/10.3390/su15021594

Gunawan, G., Ramadhani, F., Ningdiah, M. I., Meylianingrum, K., & Aisyah, E. N. (2025). The Influence of Digital Loans, E-Commerce Marketing, and Business Location on MSME Performance in Malang City Toward Indonesia Emas 2045. *South Asian Journal of Social Studies and Economics*, *22*(10), 67–78. https://doi.org/10.9734/sajsse/2025/v22i101175

Hadi, E. D., Fiona, F., Salim, M., Hayu, R. S., & Santi, F. (2023). The Role of Government Policy on the Influence of Digital Marketing Through Social Media on the Performance of Micro, Small and Medium Enterprises (MSMEs) in Indonesia. *Journal of Economics Finance and Management Studies*, *06*(10). https://doi.org/10.47191/jefms/v6-i10-46

Harahap, S. (2025). Kontribusi Ekonomi Digital Terhadap Pengembangan UMKM. *Optimal Jurnal Ekonomi Dan Manajemen*, *6*(1), 265–271. https://doi.org/10.55606/optimal.v6i1.9330

Hardilawati, W. L., Farhanidhya, N., & Hinggo, H. T. (2023). The Effect of Market Orientation, E-Commerce, and Product Innovation on Marketing Performance in MSMEs Culinary Sector. *Jurnal Manajemen Teknologi*, *22*(2), 168–181. https://doi.org/10.12695/jmt.2023.22.2.4

Harun, H., Nurain, N., & Nurwani, N. (2025). Integration of Digital Payment Literacy and Accounting in Promoting the Growth of MSMEs. *Journal of Accounting Science*, *9*(2), 324–351. https://doi.org/10.21070/jas.v9i2.2009

Jasri, J., Arfan, N., Hasanuddin, H., & Hasan, H. A. (2022). Penerapan Digital Marketing Dalam Upaya Peningkatan Pendapatan Usaha Mikro Kecil Dan Menengah. *Iltizam Journal of Sharia Economic Research*, *6*(2), 212–224. https://doi.org/10.30631/iltizam.v6i2.1452

Kilay, A. L., Simamora, B. H., & Putra, D. P. (2022). The Influence of E-Payment and E-Commerce Services on Supply Chain Performance: Implications of Open Innovation and Solutions for the Digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. *Journal of Open Innovation Technology Market and Complexity*, *8*(3), 119. https://doi.org/10.3390/joitmc8030119

Mazya, T. M., Kolopaking, L. M., Dharmawan, A. H., Nurrochmat, D. R., & Satria, A. (2022). Neue-Gemeinschaft: Digital Transformation of Micro, Small and Medium Enterprises Among Rural Community in Banyuwangi, East Java. *Sodality Jurnal Sosiologi Pedesaan*, *10*(1), 38533. https://doi.org/10.22500/10202238533

Mustofa, Moh. S., Putri, N. A., & Wijayanti, T. (2025). The Utilization of E-Commerce as a Strategy to Increase the Competitiveness of Micro, Small, and Medium Enterprises (MSMEs) in Semarang City. *Kne Social Sciences*, *10*(10), 311–323. https://doi.org/10.18502/kss.v10i10.18680

Nandiroh, U., Hidayati, I., Handayati, P., & Hermawan, A. (2024). Revolutionizing Batik: How Fintech

Empowers Malang's MSMEs for Economic Growth. *International Journal of Humanities Education and Social Sciences (Ijhess)*, *3*(4). https://doi.org/10.55227/ijhess.v3i4.776

Nurhayana, N., Kadang, J., Darman, D., & Samudra, S. (2025). Strategi Peningkatan Profitabilitas UMKM Makanan Dan Minuman Di Kota Palu. *Jurnal Samudra Ekonomi Dan Bisnis*, *16*(3), 572–582. https://doi.org/10.33059/jseb.v16i3.11116

Nurjannah, N., & Ratnah, S. (2024). Analisis Penggunaan E-Commerce Dalam Meningkatkan Usaha Mikro Kecil Menengah Di Kota Makassar (Studi Kasus Omorfoo Shop). *Jrme*, *1*(4), 100–112. https://doi.org/10.61722/jrme.v1i4.2893

Octaviani, G., Putri, A., & Fajarwati, D. (2022). Pemberdayaan Masyarakat Tentang Digital Marketing Dan Digital Payment Kepada Usaha Mikro Kecil Dan Menengah (Umkm). *An-Nizam*, *1*(2), 167–173. https://doi.org/10.33558/an-nizam.v1i2.3435

Priyono, A., Moin, A., & Vera Nur Aini Oktaviani Putri. (2020). Identifying Digital Transformation Paths in the Business Model of SMEs During the COVID-19 Pandemic. *Journal of Open Innovation Technology Market and Complexity*, *6*(4), 104. https://doi.org/10.3390/joitmc6040104

Rizki, M., Satriadi, S., & Saputra, E. K. (2023). The Rise of Food &Amp; Beverages MSMEs During COVID-19 Pandemic in Tanjungpinang, Kepulauan Riau: A Motivational Perspective. *Journal of Entrepreneur & Business*, *4*(2), 58–66. https://doi.org/10.24123/jeb.v4i2.5478

Salsabila, A., Adiza, T. N., Irdianti, A. J., & Saraswati, D. (2024). Strategy to Increase the Competitiveness of MSME Businesses in the Era of Digitalization for Rural Communities in the Medan Region of North Sumatra. *Jpem*, *1*(3), 11. https://doi.org/10.47134/jpem.v1i3.409

Sonker, N. K., & Agarwal, K. (2024). *Unlocking Digital Potential: Navigating the Path to Digital Transformation for Indian MSMES*. https://doi.org/10.52783/eel.v14i1.1314

Widayani, A., Fiernaningsih, N., & Herijanto, P. (2022). Barriers to Digital Payment Adoption: Micro, Small and Medium Enterprises. *Management & Marketing*, *17*(4), 528–542. https://doi.org/10.2478/mmcks-2022-0029