

Analysis Of The Influence Of Digital Transformation On MSMe Performance With Business Model Innovation As A Moderating Variable

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Abstract

This study aims to analyze the impact of digital transformation on the performance of MSMEs, with business model innovation serving as a moderating variable, in Sleman Regency, Special Region of Yogyakarta. A total of 118 MSME actors in the region participated as respondents, with data collected through questionnaires and analyzed using the SmartPLS 3 application and a convenience sampling method. The findings reveal that digital transformation has a positive impact on MSME performance, digital transformation also positively influences business model innovation, business model innovation significantly affects MSME performance, and business model innovation moderates the relationship between digital transformation and MSME performance. These results can serve as a reference for MSME practitioners in optimizing digital transformation and business model innovation to enhance their business performance.

Keywords: Digital transformation, business model innovation, MSME performance.

INTRODUCTION

The emergence of new digital technologies, such as artificial intelligence (AI), Internet of Things (IoT), big data analytics, and 3D printing, has had a significant impact on the transformation and competitiveness of companies in the global market (Candi & Beltagui, 2019). Digital transformation consists of three phases: digitization, digitalization, and digital transformation, where each stage shows the increasingly deep and broad use of digital technologies, and creates strategic requirements for companies to increase their

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transformation potential (Verhoef et al., 2021). Research by Norliani et al. (2024) shows that digital transformation in MSMEs in Indonesia provides benefits such as increased market reach, operational efficiency, and profitability, but is faced with challenges in the form of limited resources, lack of technical skills, and data security issues. Government support and collaboration with technology providers are key to overcoming these obstacles so that MSMEs can optimally utilize digital technology to achieve sustainable growth and increase their competitiveness.

MSME performance is greatly influenced by innovation capabilities, including the ability to create new products, update business processes, and adapt to dynamic market trends and demands (Sastradinata, 2024). Indonesia, according to the World Intellectual Property Organization (WIPO, 2023), is ranked 61st out of 132 countries in terms of innovation, which shows great potential for innovation development, including in the MSME sector, although this innovation requires systematic support from the government for maximum implementation. Sleman Regency in the Special Region of Yogyakarta (DIY) Province has a rapidly growing MSME sector, with around 109,757 MSMEs spread across various sectors such as crafts, culinary, fashion, and tourism (Cooperatives Office, 2023), acting as the backbone of the local economy by contributing to labor absorption and improving community welfare, while supporting tourism which is famous for its cultural and natural destinations such as Prambanan Temple, Mount Merapi, and various tourist villages.

MSMEs in Sleman Regency face various challenges in business sustainability, such as low access to digital technology, limited capital, lack of product innovation, and increasing competition in the era of globalization. A survey by the Sleman Cooperative and SME Service noted that 45% of MSMEs in Sleman have not utilized social media optimally and another 38% do not have a clear innovation strategy, which is a serious obstacle in dealing with changes in consumer preferences and market dynamics. Innovation capability is an important factor in ensuring the sustainability of MSMEs, where innovation is not only related to the development of new products, but also adaptation to changes in the market and business environment (Kumpf & Jhunjhunwala, 2023). In the digital era, innovation is essential so that MSMEs can compete with large companies that have greater access to technology and global markets. Fauzi's research (2023) revealed that innovation capability contributes significantly to the competitiveness and sustainability of MSMEs, where innovation allows MSMEs to adapt to changes in consumer tastes and market trends, such as culinary MSMEs in Sleman that have



succeeded in growing by developing environmentally friendly products according to health trends.

MSMEs in Sleman Regency mostly still do not have adequate innovation capabilities, with the majority running their businesses conventionally and not utilizing technology to drive innovation. Government support is often an important factor in strengthening innovation capabilities and the use of social media by MSMEs. The Sleman Regency Government has launched various programs to support the development of MSMEs, such as digital marketing training, access to financing, and halal certification and business permits for MSMEs. Although these support programs already exist, their impact on the sustainability of MSMEs has not been evenly distributed, because several studies have shown that not all MSMEs can access these programs optimally. Research by Santi et al. (2024) revealed that one of the main obstacles is the lack of socialization and information, as well as limited capacity and infrastructure at the regional level which often hinders the effective implementation of government programs.

Although the influence of digital transformation on MSME performance has been widely discussed in previous studies, there is still a gap in understanding the role of business model innovation as a moderating variable. Previous studies generally separate the analysis between digital transformation and MSME performance, without considering how business model innovation can moderate the relationship between the two variables. The purpose of this study is to determine the positive influence of digital transformation on MSME performance, the influence of digital transformation on business model innovation in MSMEs, the influence of business model innovation on MSME performance, and to reveal how business model innovation moderates the relationship between digital transformation and MSME performance.

LITERATURE REVIEW

Digital Transformation

Digital transformation is a process that utilizes various technologies such as virtualization, cloud computing, mobile computing, and system integration to support organizational operations (Azni Septiani et al., 2022). In addition, digital transformation also includes the application of digital innovations that change the structure, values, processes, or ecosystem of an organization, both internally and externally. This process is seen as an evolution that utilizes digital skills and technologies to improve business processes, operations, and customer experiences to create new value (Lestari & Priyono, 2022). In short, digital transformation utilizes digital technology to improve organizational

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performance and create new experiences, which requires alignment of strategy and mindset in its implementation (Hartati, 2020). The benefits of this transformation include new ideas in the digital field, more efficient and affordable services, and expansion of service coverage (Lee et al., 2021). In Indonesia, digital transformation is growing rapidly with the value of the digital industry increasing from 41 billion dollars in 2019 to 77 billion dollars in 2022, and projected to reach 130 billion dollars in 2025 (Ministry of Finance, 2023), although there are challenges for companies in facing it.

Findings from the study (Merín-Rodrigáñez et al., 2024b) showed that business model innovation partially mediates the positive relationship between digital transformation and performance, indicating that although digital transformation has a direct impact on SME performance, business model innovation plays an important role in aligning digital transformation investments to improve performance. Another study by (Teng et al., 2022a) found that digital transformation has a positive impact on the financial performance of Chinese SMEs by relying on three key factors: digital technology, digital skills, and digital transformation strategies. In addition, a study (Faraz Mubarak et al., 2019) identified that Industry 4.0 technologies such as big data and cyber-physical systems have a significant impact on the performance of Pakistani SMEs, but IoT does not show a significant effect. Based on these stable empirical evidences, this study suggests that digital transformation can have a positive impact on SME performance and proposes a hypothesis related to it.

H1: There is a positive relationship between digital transformation and MSME performance.

A study conducted by (Merín-Rodrigáñez et al., 2024b) investigated the mediating role of business model innovation in the relationship between digital transformation and firm performance in innovative MSMEs, with results showing that digital transformation has a positive effect on business model innovation. Another study by (van Tonder et al., 2023) also discussed this relationship in depth, finding that digital transformation drives business model innovation in MSMEs in South Africa and the Netherlands, with flexible organizational structures and strategic renewal as important moderators. In addition, a study by (Garzella et al., 2021) revealed that digitalization and firm boundary management influence business model innovation in MSMEs, with technological and relational boundary management playing a role in mediating the relationship. Based on these consistent empirical findings, this study hypothesizes that digital transformation can



have a positive impact on business model innovation and proposes a hypothesis in this regard.

H2: There is a positive relationship between digital transformation and Business Model Innovation.

MSME's Performance

Performance is the work results achieved by individuals or groups in an organization, in accordance with the responsibility to achieve organizational goals, which include all sectors such as finance, production, distribution, and marketing, which are very important for MSMEs to survive and grow. Good performance is expected to strengthen MSMEs as the main pillar of the national economy. According to Wahyudainti (2017), MSME performance is measured from the work results of individuals or organizations based on ability, experience, and time utilization, while Ariwibawa (2016) emphasizes that MSME performance is measured based on applicable standards in a certain period. To improve performance, MSMEs need to continue to develop innovative products and services that meet customer needs, which require intensive use of resources (Homburg et al., 2011; Kadic-Magljalic et al., 2017). Emphasis on creating value for customers can increase satisfaction, loyalty, and innovation, which have a positive impact on business performance (Kirca et al., 2005; Wang et al., 2016).

Business Model Innovation

The innovation process in business models has a significant impact on the competitiveness and sustainability of companies over time, with this innovation including the creation or modification of existing business models to create new value and meet unmet customer needs (Ammirato et al., 2022). The four types of business model innovation identified are startup, transformation, diversification, and acquisition, each related to the creation, change, or integration of new business models into the company. For MSMEs, innovation is important to deal with environmental uncertainty, technological limitations, as well as product development, efficiency, operations, and new market penetration (Appiah-Adu & Singh, 1998). The most crucial innovation is innovation in value creation, namely how companies generate value based on the resources and capabilities they have throughout the value chain (Chesbrough, 2010).

A study by (Merín-Rodríguez et al., 2024b) discussed the positive relationship between business model innovation and MSME performance, with data from 134 innovative MSMEs in Spain showing such evidence. Another study by (Anwar, 2018) also

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highlighted the importance of business model innovation on MSME performance, with the mediating role of competitive advantage. In this study, data were collected through a structured questionnaire from 303 manufacturing MSMEs in Pakistan, and the results showed that business model innovation has a significant positive impact on competitive advantage and MSME performance, where competitive advantage partially mediates the relationship. Based on the findings of these studies, this study hypothesizes that business model innovation can effectively have a positive impact on MSME performance.

H3: There is a positive relationship between Business Model Innovation and MSME performance

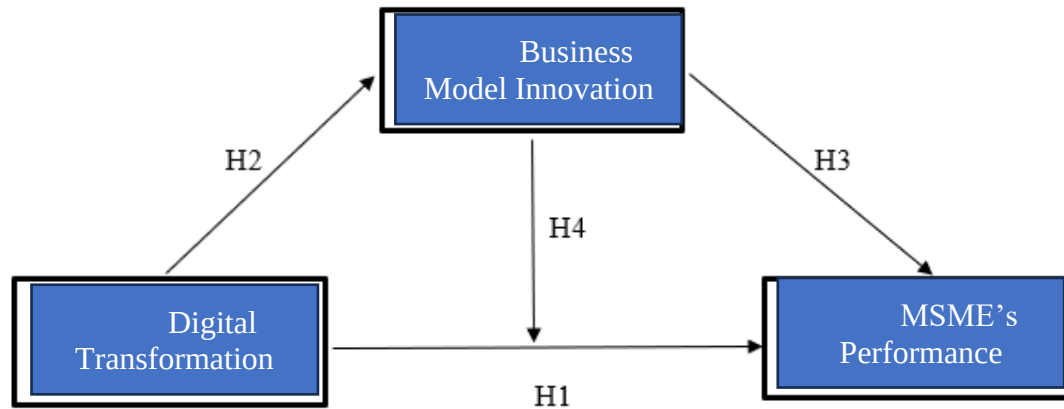
A study by (van Tonder et al., 2023) tested the effects of three moderators—business culture renewal, organizational structure, and strategy renewal—on the relationship between business model innovation (BMI) through digital transformation and business performance. The findings suggest that when MSMEs improve BMI through digital transformation, business performance improves if a flexible organizational structure is implemented and business strategy is renewed. In addition, (Merín-Rodrigáñez et al., 2024b) found that business model innovation partially mediates the positive relationship between digital transformation and MSME performance, expanding the understanding of business model innovation as an alignment tool for innovative MSMEs that direct digital transformation investments to improve performance. Based on strong and stable empirical evidence from these studies, this study hypothesizes that business model innovation moderates the relationship between digital transformation and MSME performance.

H4: Business model innovation is a moderating variable in the positive relationship between digital transformation and MSME performance.

RESEARCH FRAMEWORK

Based on the description and explanation of theoretical investigations and hypotheses, a research model can be created which is used in this research. This research model is shown in the following figure:



**Figure 1. Research Framework****RESEARCH METHODS**

This study uses a quantitative approach to test the hypothesis through numerical data collected with a questionnaire distributed to MSMEs in Sleman Regency, Yogyakarta. This study uses a non-probability sampling technique, specifically convenience sampling, to select a sample of MSMEs that have undergone digital transformation. Primary data were collected through questionnaires distributed both online through social media platforms such as Facebook and WhatsApp, and face-to-face. A 5-point Likert scale was used to measure the variables studied, namely digital transformation, MSME performance, and business model innovation. Data analysis was carried out using descriptive statistics to describe respondent data, as well as inferential statistics using the Partial Least Square-Structural Equation Modeling (PLS-SEM) method to test the relationship between variables and test the research hypothesis.

RESULTS

From the results of the questionnaires distributed, 200 respondents were obtained. From a number of respondents, data analysis was then carried out using model evaluation. The evaluation of the measurement model was tested using several indicators, including:

Descriptive Analysis

Table 1. Respondent Characteristics Descriptive Results

Gender	Amount (N)	Percentage (%)
Male	73	61,9%
Female	45	38,1%
Total	118	100%
Ages	Amount (N)	Percentage (%)
<35 Years Old	60	50.8%
35 – 45 Years Old	41	34,7%
45 – 55 Years Old	17	14,4%
>55 Years Old	0	0%
Total	118	100%
Job Position	Amount (N)	Percentage (%)
MSME's Owner	69	58,5%
Manager	42	35,6%
Branch Manager	7	5,9%
Total	118	100%
Ages of MSME's	Amount (N)	Percentage (%)
<1 Year	9	7,6%
1 – 3 Years	47	39,8%
3 – 5 Years	37	31,4%
6 – 10 Years	20	16,9%
>10 Years	5	4,2%
Total	118	100%
MSME's Category	Amount (N)	Percentage (%)
Food and Beverage	19	19,1%
Handcraft	11	9,3%
Technology	14	11,9%
Cosmetics	13	11%
Automotive	15	12,7%
Agrobusiness	10	8,5%



Services	11	9,3%
Furniture	13	11%
Fashion	12	10,2%
Total	118	100%
Total of Employees	Amount (N)	Percentage (%)
<5 Employees	36	30,5%
5 – 19 Employees	66	55,9%
20 – 99 Employees	16	13,6%
>99 Employees	0	0%
Total	118	100%

Statistics Analysis**Outer Model Testing (Measurement Model)****Convergent Validity Testing****Table 2. Convergent Validity Testing Results**

Code	DT (Digital Transformasi)	BMI (Business Model Innovation)	UP (MSME's Performance)	Business Innovation -> Digital Transformation -> MSME's Performance
DT ₁	0,886			
DT ₂	0,882			
DT ₃	0,863			
DT ₄	0,867			
DT ₅	0,860			
BMI ₁		0,820		
BMI ₂		0,836		
BMI ₃		0,816		
BMI ₄		0,834		
BMI ₅		0,848		
BMI ₆		0,866		
BMI ₇		0,864		
UP ₁			0,867	
UP ₂			0,890	
UP ₃			0,885	



UP₄			0,869	
BMI->DT->UP				1.572

Based on table 2, it is known that the loading factor value produced by each indicator is more than 0.7 and the AVE value is more than 0.5. Thus, these indicators are declared valid as a measure of their latent variables.

Discriminant Validity Testing

Table 3. Cross Loading Results

	Business Model Innovation	Digital Transformastion	Moderation Effect	MSME's Performance
BMI₁	0.820	0.520	-0.457	0.582
BMI₂	0.836	0.563	-0.478	0.520
BMI₃	0.816	0.450	-0.481	0.510
BMI₄	0.834	0.552	-0.476	0.523
BMI₅	0.848	0.519	-0.517	0.553
BMI₆	0.866	0.568	-0.521	0.573
BMI₇	0.864	0.500	-0.521	0.540
DT₁	0.587	0.886	-0.448	0.564
DT₂	0.559	0.882	-0.502	0.560
DT₃	0.534	0.863	-0.500	0.560
DT₄	0.509	0.867	-0.422	0.468
DT₅	0.532	0.860	-0.471	0.460
DT*BMI	-0.587	-0.538	1.000	-0.705
UP₁	0.533	0.510	-0.616	0.867
UP₂	0.565	0.551	-0.628	0.890
UP₃	0.573	0.532	-0.615	0.885
UP₄	0.597	0.531	-0.615	0.869

Based on Table 3, it can be seen that all variable items are declared valid because the loading value on each construct is greater than its correlation with other constructs in the model. Thus, it can be concluded that the latent variables in this study have been well



explained by their indicators or manifestation variables. This indicates that the variables used in the study have adequate discriminant validity.

Reliability Testing

Table 4. Reliability Testing Results

Variable	Cronbach's Alpha
Business Model Innovation	0.931
Digital Transformation	0.921
MSME's Performance	0.902

Based on table 4 above, it can be seen that the composite reliability value of all research variables is > 0.7 and Cronbach Alpha > 0.7 . These results indicate that each variable has met the composite reliability and Cronbach alpha so that it can be concluded that all variables have a high level of reliability. So that further analysis can be carried out by examining the goodness of fit model by evaluating the inner model.

Inner Model (Structural Model)

Colinearity Test

Table 5. R-Square Testing Results

	Business Model Innovation (BMI)	Digital Transformation (DT)	Moderation Effect	MSME's Performance
Business Model Innovation (BMI)				1,922
Digital Transformation (DT)	1.000			1.774
Moderation Effect				1.645
MSME's Performance				



Based on the results of the collinearity test above, the VIF value for each variable is below 5. This indicates that there is no collinearity problem in the research model used.

Coefficient Determination (R-Square)

Table 6. R-Square

	R Square	Adjusted R Square
Business Model Innovation	0.392	0.387
MSME's Performance	0.602	0.592

The R-Square values presented in Table 6 indicate the proportion of variance explained by the independent variables in the model. For Business Model Innovation, the R-Square value is 0.392, meaning that approximately 39.2% of the variance in business model innovation is explained by the model. The adjusted R-Square value is 0.387, slightly lower, accounting for the number of predictors. For MSME's Performance, the R-Square value is 0.602, indicating that 60.2% of the variance in MSME performance is explained by the model, with an adjusted R-Square value of 0.592, which accounts for model complexity.

Hypotesis Testing

Table 7. Hypotesis Testing Results

	Original Sample (O)	T-Statistics (O /STDEV)	P-Values	Results
Digital Transformation -> MSME's Performance	0.201	2.088	0.037	H1 Supported
Digital Transformation -> Business Model Innovation	0.626	6.121	0.000	H2 Supported



Business Model Innovation -> MSME's Performance	0.261	2.125	0.034	H3 Supported
Business Model Innovation -> Digital Transformation -> MSME's Performance	-0.282	4.166	0.000	H4 Supported

DISCUSSION

The first hypothesis in this study suggests that digital transformation has a positive impact on MSME performance. The analysis supports this hypothesis with a p-value of 0.037, which is below the threshold of 0.05, and a t-statistic of 2.088, which exceeds the minimum value of 1.96. These results indicate a significant positive effect, confirming that digital transformation contributes to the improvement of MSME performance. This finding is consistent with prior research by Teng et al. (2022b), which identified a positive impact of digital transformation on MSME financial performance. Similarly, Mubarak et al. (2019) highlighted that the application of big data, cyber-physical systems, and interoperability as part of digital transformation efforts positively impacts MSME business performance. Therefore, the study supports the assumption that digital transformation can enhance MSME performance.

The second hypothesis postulates that digital transformation positively influences business model innovation. The findings confirm this hypothesis with a p-value of 0.000, which is well below 0.05, and a t-statistic of 6.121, exceeding the required threshold of 1.96. This indicates a significant positive effect of digital transformation on business model innovation. These results align with the study by Chen and Kim (2023), who found that digital transformation significantly contributes to innovation in companies. The study also identified key factors that mediate this relationship, including knowledge flow, technical workforce presence, R&D investment, and innovation awareness. Furthermore, van Tonder et al. (2024) found that digital transformation plays a crucial role in driving business model innovation, which in turn contributes to MSME performance, highlighting

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the importance of organizational flexibility and strategy renewal in maximizing the effect of digital transformation on business model innovation.

The third hypothesis proposes that business model innovation positively affects MSME performance. The analysis supports this hypothesis with a p-value of 0.034, which is below 0.05, and a t-statistic of 2.125, which exceeds the minimum threshold of 1.96. These findings indicate a significant positive effect of business model innovation on MSME performance. This is consistent with the research by Merín-Rodrigáñez et al. (2024c), which demonstrated that business model innovation positively influences MSME performance by improving operational efficiency and competitiveness. The study further emphasizes that the success of business model innovation depends on MSMEs' ability to integrate innovative strategies with available resources, including modern technology adoption and market adaptation. As such, business model innovation is a key factor that can drive the growth and sustainability of MSME performance.

The fourth hypothesis involves the moderating role of business model innovation in the relationship between digital transformation and MSME performance. The analysis using Moderated Regression Analysis reveals that business model innovation significantly moderates this relationship, with a p-value of 0.000 and a t-statistic of 4.166, indicating a positive effect. These results suggest that business model innovation strengthens the impact of digital transformation on MSME performance. This finding is consistent with the research by van Tonder et al. (2024), which highlighted the role of business model innovation as a moderating variable between digital transformation and business performance. The study emphasizes that the application of business model innovation enhances the benefits of digital transformation, thereby improving both operational and financial performance. The findings provide valuable insights for decision-makers, suggesting that integrating innovative business models is essential to maximize the positive effects of digital transformation on MSMEs.

CONCLUSION

This study aimed to analyze the impact of digital transformation on MSME performance with business model innovation as a moderating variable in Sleman, Yogyakarta. The research involved distributing questionnaires to 118 respondents, with data analyzed using SmartPLS 3. The findings reveal that digital transformation positively and significantly influences MSME performance, indicating its potential to enhance performance in Sleman. Additionally, digital transformation was found to positively affect business model innovation, which in turn also positively impacts MSME performance.

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Furthermore, business model innovation was shown to moderate the relationship between digital transformation and MSME performance, strengthening the effect of digital transformation on performance improvement.

RECOMMENDATION

Considering the limitations of this study, several recommendations are offered for future research. First, it is suggested to expand the scope of the research by involving a larger number of respondents to provide a more representative overview of MSMEs in Sleman. Second, data collection should incorporate face-to-face interactions and interviews to reduce the risk of respondents providing inaccurate answers and to gather additional insights beyond the questionnaire. Third, MSME practitioners can use the findings of this study as a basis for developing future business strategies, particularly in effectively implementing digital transformation and business model innovation to optimize performance. Lastly, future studies should consider focusing on a specific business sector, as each sector has unique characteristics that could provide more targeted insights into MSME conditions in Sleman.

MANAGERIAL IMPLICATIONS

For MSMEs in Sleman Regency, Special Region of Yogyakarta, the results of this study are expected to be used as a consideration in the decision-making process to improve business performance. One effort that can be made is to strengthen the business model innovation strategy through the implementation of digital transformation in business operations. This step is expected to be able to significantly increase MSME performance.

RESEARCH LIMITATIONS

This study acknowledges several limitations that may affect the generalizability and validity of its findings. First, the research involves only 118 MSME practitioners from Sleman, so the results may not be applicable to other regions of Indonesia, given the potential differences in MSME characteristics and conditions. Second, the study includes respondents from various business sectors, which means the findings do not specifically focus on or address any particular sector. Lastly, the data collection was conducted online through Google Forms, which may result in respondents providing answers that do not fully reflect their actual conditions.



REFERENCE

- Alqershi, & Mohammed, N. (n.d.). Strategic innovation, customer relationship management and the performance of SMEs' in Yemen: The moderating role of intellectual capital. 2019.
- Ammirato, S., Linzalone, R., & Felicetti, A. M. (2022). Business model innovation drivers as antecedents of performance. *Measuring Business Excellence*, 26(1), 6–22. <https://doi.org/10.1108/MBE-01-2021-0012>
- ANWAR, M. (2018). BUSINESS MODEL INNOVATION AND SMEs PERFORMANCE — DOES COMPETITIVE ADVANTAGE MEDIATE? *International Journal of Innovation Management*, 22(07), 1850057. <https://doi.org/10.1142/S1363919618500573>
- Appiah-Adu, K., & Singh, S. (1998). Customer orientation and performance: a study of SMEs. *Management Decision*, 36(6), 385–394. <https://doi.org/10.1108/00251749810223592>
- Ariwibawa, A. (2016). Kinerja UMKM: Perspektif dan Pengukuran dalam Organisasi Usaha Mikro, Kecil, dan Menengah.
- Azni Septiani, N., Hardiyani, H., Wulansari Fridayanthie, E., & Kusumaningrum, A. (2022). Penyuluhan Pemanfaatan Transformasi Digital Bagi Organisasi Pemuda Batak Bersatu (PBB). *Literasi Jurnal Pengabdian Masyarakat Dan Inovasi*, 2(1), 128–135. <https://doi.org/10.58466/literasi.v2i1.1417>
- Candi, M., & Beltagui, A. (2019). Effective use of 3D printing in the innovation process. *Technovation*, 80–81, 63–73. <https://doi.org/10.1016/j.technovation.2018.05.002>
- Chen, P., & Kim, S. (2023). The impact of digital transformation on innovation performance - The mediating role of innovation factors. *Heliyon*, 9(3), e13916. <https://doi.org/10.1016/j.heliyon.2023.e13916>
- Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 43(2–3), 354–363. <https://doi.org/10.1016/j.lrp.2009.07.010>
- Dinas Koperasi, U. K. dan M. (UKM) K. S. (2023). Rekapitulasi Data UMKM Kabupaten Sleman Berdasarkan Skala Usaha Tiap Sektor Usaha Tahun 2023.
- Emzir. (2010). Metodologi penelitian pendidikan: Kuantitatif dan kualitatif. Raja Grafindo Persada.
- Faraz Mubarak, M., Zulfiqar Ali Bhutto, S., Ali Shaikh, F., Mubarik, M., Ahmed Samo, K., & Mastoi, S. (2019). The Impact of Digital Transformation on Business Performance A Study of Pakistani SMEs. In *Technology & Applied Science Research* (Vol. 9, Issue 6). www.etasr.com



- Fauzi, E. (2023). Pengaruh Penggunaan Media Sosial dan Kapabilitas Inovasi terhadap Keberlanjutan Kinerja UKM di Kawasan Objek Wisata Rowo Jombor .
- Firmansyah, D., & Dede. (2022). Teknik Pengambilan Sampel Umum dalam Metodologi Penelitian: Literature Review. *Jurnal Ilmiah Pendidikan Holistik (JIPH)*, 1(2), 85–114. <https://doi.org/10.55927/jiph.v1i2.937>
- Hair, J., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*.
- Hao Jing, Y. Z. *, J. M. (n.d.). Influence of digital ambidextrous capabilities on SMEs' transformation performance: The mediating effect of business model innovation.
- Hartati, I. (2020). STRATEGI PEMBANGUNAN SDM KEMENTERIAN KEUANGAN REPUBLIK INDONESIA DALAM MENGHADAPI TANTANGAN ERA DISRUPSI 4.0. *Jurnal BPPK : Badan Pendidikan Dan Pelatihan Keuangan*, 13(1), 109–129. <https://doi.org/10.48108/jurnalbppk.v13i1.493>
- Homburg, C., Müller, M., & Klarmann, M. (2011). When Should the Customer Really be King? On the Optimum Level of Salesperson Customer Orientation in Sales Encounters. *Journal of Marketing*, 75(2), 55–74. <https://doi.org/10.1509/jm.75.2.55>
- Kadic-Magljalic, S., Micevski, M., Arslanagic-Kalajdzic, M., & Lee, N. (2017). Customer and selling orientations of retail salespeople and the sales manager's ability-to-perceive-emotions: A multi-level approach. *Journal of Business Research*, 80, 53–62. <https://doi.org/10.1016/j.jbusres.2017.06.023>
- Kirca, A. H., Jayachandran, S., & Bearden, W. O. (2005). Market Orientation: A Meta-Analytic Review and Assessment of its Antecedents and Impact on Performance. *Journal of Marketing*, 69(2), 24–41. <https://doi.org/10.1509/jmkg.69.2.24.60761>
- Kumpf, B., & Jhunhunwala, P. (2023). The adoption of innovation in international development organisations.
- Latifi, M. A., Nikou, S., & Bouwman, H. (2021). Business model innovation and firm performance: Exploring causal mechanisms in SMEs. *Technovation*, 107. <https://doi.org/10.1016/j.technovation.2021.102274>
- Latifi, M.-A., Nikou, S., & Bouwman, H. (2021). Business model innovation and firm performance: Exploring causal mechanisms in SMEs. *Technovation*, 107, 102274. <https://doi.org/10.1016/j.technovation.2021.102274>
- Lee, C.-H., Liu, C.-L., Trappey, A. J. C., Mo, J. P. T., & Desouza, K. C. (2021). Understanding digital transformation in advanced manufacturing and engineering: A bibliometric analysis, topic modeling and research trend discovery. *Advanced Engineering Informatics*, 50, 101428. <https://doi.org/10.1016/j.aei.2021.101428>



- Lestari, K., & Priyono, A. (2022). Analisis Hubungan Interorganisasi Ekosistem Bisnis Untuk Mendukung Proses Transformasi Digital Di Ukm. International Students Conference On Accounting and Business.
- Merín-Rodrigáñez, J., Dasí, À., & Alegre, J. (2024a). Digital transformation and firm performance in innovative SMEs: The mediating role of business model innovation. *Technovation*, 134. <https://doi.org/10.1016/j.technovation.2024.103027>
- Merín-Rodrigáñez, J., Dasí, À., & Alegre, J. (2024b). Digital transformation and firm performance in innovative SMEs: The mediating role of business model innovation. *Technovation*, 134, 103027. <https://doi.org/10.1016/j.technovation.2024.103027>
- Merín-Rodrigáñez, J., Dasí, À., & Alegre, J. (2024c). Digital transformation and firm performance in innovative SMEs: The mediating role of business model innovation. *Technovation*, 134, 103027. <https://doi.org/10.1016/j.technovation.2024.103027>
- Mubarak, M. F., Shaikh, F. A., Mubarik, M., Samo, K. A., & Mastoi, S. (2019). The Impact of Digital Transformation on Business Performance: A Study of Pakistani SMEs. *Engineering, Technology & Applied Science Research*, 9(6), 5056–5061. <https://doi.org/10.48084/etasr.3201>
- Norliani, N., Sari, M. N., Safarudin, M. S., Jaya, R., Baharuddin, B., & Nugraha, A. (2024). Transformasi digital UMKM di Indonesia: Tinjauan pustaka sistematis. *Jurnal Review Pendidikan Dan Pengajaran (JRPP)*.
- Otache, I. (2024). Innovation capability, strategic flexibility and SME performance: the roles of competitive advantage and competitive intensity. *African Journal of Economic and Management Studies*, 15(2), 248–262. <https://doi.org/10.1108/AJEMS-06-2023-0221>
- Santi, I. N., Parawangsa, I., Parani, S. B., & Lamusa, F. (2024). Eksplorasi Faktor Penghambat Adopsi Digital Marketing pada UMKM di Kota Palu. *Jurnal Media Wahana Ekonomika*, 21(2), 207–222. <https://doi.org/10.31851/jmwe.v21i2.15036>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research* (pp. 1–47). Springer International Publishing. https://doi.org/10.1007/978-3-319-05542-8_15-2
- Sastradinata, L. (2024). Strategi UMKM dan Bisnis Kreatif.
- Sekaran, U., & Bougie, R. (2016). *Research Methods For Business: A Skill Building Approach*. Wiley & Sons.



- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152–173. <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- Stefano Garzella Raffaele Fiorentino, A. C., & Lardo, A. (2021). Business model innovation in SMEs: the role of boundaries in the digital era. *Technology Analysis & Strategic Management*, 33(1), 31–43. <https://doi.org/10.1080/09537325.2020.1787374>
- Teng, X., Wu, Z., & Yang, F. (2022a). Research on the Relationship between Digital Transformation and Performance of SMEs. *Sustainability*, 14(10), 6012. <https://doi.org/10.3390/su14106012>
- Teng, X., Wu, Z., & Yang, F. (2022b). Research on the Relationship between Digital Transformation and Performance of SMEs. *Sustainability*, 14(10), 6012. <https://doi.org/10.3390/su14106012>
- van Tonder, C., Bossink, B., Schachtebeck, C., & Nieuwenhuizen, C. (2023). The effect of digitally-driven business model innovation on business performance. *Journal of Small Business and Entrepreneurship*. <https://doi.org/10.1080/08276331.2023.2239039>
- van Tonder, C., Bossink, B., Schachtebeck, C., & Nieuwenhuizen, C. (2024). The effect of digitally-driven business model innovation on business performance. *Journal of Small Business & Entrepreneurship*, 36(6), 944–977. <https://doi.org/10.1080/08276331.2023.2239039>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901. <https://doi.org/10.1016/j.jbusres.2019.09.022>
- Wahyudainti, D. (2017). PENGARUH ASPEK KEUANGAN DAN KOMPETENSI SUMBER DAYA MANUSIA (SDM) TERHADAP KINERJA USAHA MIKRO KECIL DAN MENENGAH (UMKM) DI DESA KASONGAN.
- Wang, Q., Zhao, X., & Voss, C. (2016). Customer orientation and innovation: A comparative study of manufacturing and service firms. *International Journal of Production Economics*, 171, 221–230. <https://doi.org/10.1016/j.ijpe.2015.08.029>
- World Intellectual Property Organization (WIPO). (2023). *Global Innovation Index 2023: The geography of innovation*. Geneva: WIPO.

