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MSMEs, DIGITAL TRANSFORMATION ECONOMY DURING PANDEMIC IN INDONESIAN

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Abstract. This study aims to determine how Micro, Small, and Medium Enterprises (MSMEs) as a form of people's economic product and digital transformation are able to strengthen the Indonesian economy during the Covid-19 pandemic which is recognized internationally as one of the countries with a strong economy during the pandemic. This study uses documentation in the form of published articles, with the criteria for selecting articles as samples based on publications in nationally accredited journals and international journals indexed by Scopus, then analyzed using a thematic analysis approach. Based on the study, it was found that through product diversification strategies, business process innovation, digitalization, and collaboration, MSMEs have been able to survive and even thrive. Increasing digital literacy and access to information technology are the keys to the success of MSMEs in facing future challenges. The government and financial institutions have an important role in supporting MSMEs by providing access to financing, training, and development programs. Recommendations to strengthen the role of MSMEs in the Indonesian economy include : Increasing access to easier and more affordable financing, especially for MSMEs who want to switch to digital business. Increasing training and mentoring programs to improve the competence and capacity of MSMEs. Building a strong and MSMEs-friendly digital ecosystem, by providing online platforms, digital infrastructure, and easily accessible digital services. Strengthening collaboration between MSMEs, government, and private institutions to encourage innovation and product development.

Keywords : Micro, Small, and Medium Enterprises (MSMEs), Digital Transformation, People's Economy, Covid 19 Pandemic ,

INTRODUCTION

The COVID-19 pandemic that hit the world in 2020 has had a significant impact on the global economy, including Indonesia. The query focuses on the role of Micro, Small, and Medium Enterprises (MSMEs) in maintaining economic stability during crises, particularly when larger corporations face significant financial challenges (Kusumasari & Retnandari, 2021). MSMEs are pivotal in generating employment, contributing to GDP, and earning foreign exchange. They also provide significant revenue and taxes for governments (Lishmah Dominic, Sowmiya, & Venkateswaran, 2024; Naidu & Chand, 2013) This is because MSMEs has a strategic role in creating jobs, increasing community income, and strengthening the local economy which is the foundation of the national economy.

Based on data from the Ministry of Cooperatives and SMEs, MSMEs contribute more than 60% to Indonesia's Gross Domestic Product (GDP) and absorb around 97% of the domestic workforce (T Abduh, Remmang, Abubakar, & Karim, 2024; Daud, Sudrajat, Maryani, & Effendi, 2021; Rahadi et al., 2023). The sustainability of Micro, Small, and Medium Enterprises (MSMEs) is crucial for Indonesia's economic recovery during the COVID-19 pandemic. However, MSMEs are highly vulnerable to the impacts of large-scale social restrictions (PSBB), decreased consumer purchasing power, and distribution disruptions due to lockdown policies (Pratama, Santoso, & Mustaniroh, 2021; Tjahjadi, Soewarno, Anwar, & Fairuzi, 2024; Yanto, Baroroh, Hajawiyah, & Rahim, 2022).

This literature review aims to explore the strength and role of MSMEs in supporting the Indonesian economy during the COVID-19 pandemic. Several reviewed literatures show that MSMEs have high flexibility in adapting to crisis situations through innovation, utilization of digital technology, and policy support from the government. However, MSMEs actors also face major challenges, such as limited access to capital, uneven digital transformation, and dependence on certain sectors that are severely impacted by the pandemic.

Digital transformation is a must for MSMEs to survive and adapt to changes in consumer behavior that are increasingly moving towards digitalization. The use of digital technology in business operations allows MSMEs to increase efficiency, expand markets, and optimize product marketing (Islam Bhuiyan et al., 2024; S. Kim & Ha, 2023; Kuczevska, Praničević, Borowicz, & Talaja, 2023; Tronvoll, Kowalkowski, & Sörhammar, 2021). By carrying out digital transformation, MSMEs can overcome the challenges faced during the pandemic, such as decreased demand and disruption to the supply chain.

This study aims to conduct a Systematic Literature Review (SLR) on the strengths of MSMEs in the context of digital transformation as a booster of the people's economy in Indonesia during the COVID-19 pandemic. Through the collection and analysis of relevant literature, this study will identify strategies implemented by MSMEs to utilize digital technology, and evaluate the impact of this transformation on local and national economic growth.

By understanding the power of MSMEs and the role of digital transformation in strengthening the people's economy, it is hoped that this research can provide useful insights for policy makers, business actors, and related parties in developing effective strategies to support MSMEs, especially in facing future crisis situations. In addition,

this research is also expected to fill the existing research gap and contribute to the development of literature on MSMES and digital transformation in Indonesia.

RESEARCH METHODS

This study adopts the Systematic literature review method, which is a method of collecting and managing research data systematically that provides a rigorous framework for summarizing research comprehensively and accurately, and reducing potential bias (Priyadarsini & Ravindran, 2024; Zed, 2014). This literature review summarizes comprehensively various studies that have been conducted on a particular topic. The aim is to provide readers with an overview of existing knowledge and unrevealed gaps, as well as being a basis for research that has been conducted or as an idea for future research (Affan, 2018; Aminuddin Jafry, Razak, & Ismail, 2020; Popoola, Ponnle, Olasoji, & Oyetunji, 2018).

This study used 100 articles highlighting MSMES in Indonesia During the Covid 19 Pandemic, published between 2020-2024. The population was selected 30 sample articles. This study uses documentation in the form of published articles, with the criteria for selecting articles as samples based on publications in nationally accredited journals and international journals indexed by Scopus, then analyzed using a thematic analysis approach.

RESULTS AND DISCUSSION

Characteristics of MSMES in Indonesia

MSMES (Micro, Small, and Medium Enterprises) are indeed the backbone of Indonesia's economy, contributing significantly to economic growth, employment, and societal welfare. around 98% of all businesses in Indonesia and contribute 61.07% to the GDP, amounting to IDR 8,573.89 trillion annually (Thamrin Abduh, 2024; Dharmadjaya & Purnama, 2022). This highlights their critical role in the national economy, especially in facing difficult times such as the COVID-19 pandemic. MSMES have strong resilience and the ability to adapt quickly to changing situations, even amid economic uncertainty. They are able to innovate, seek new opportunities, and maintain their business continuity with the right strategy (Annamalah et al., 2023; Monsson, 2017; Sharma & Rai, 2023).

MSMES in Indonesia is defined as a business that has a maximum asset of IDR 10 billion (except for trading businesses, IDR 5 billion) and has a maximum number of employees of 200 people (Munir, Kadir, Umar, & Lyas, 2023; Rahmi & Yuzaria, 2021; Sjofyan & Prijadi, 2018). Generally, MSMES in Indonesia have several main characteristics, namely having a relatively small business scale compared to large companies. They are usually managed by their own owners with a limited number of employees. This business scale allows MSMES to be more flexible in adapting to market changes and consumer needs. MSMES play a very important role in the Indonesian economy. They create jobs, increase people's income, and drive economic growth (Al Anshori & Ahamat, 2019; Djamaludin, Puspita, & Selamat, 2024; Suryanto, Nurcahyo, & Dachyar, 2021). Most MSMES in Indonesia are engaged in the informal sector, such as trade, agriculture, and services.

MSMES Challenges During the Pandemic

The COVID-19 pandemic has had a significant impact on the global economy, including Indonesia. MSMES, as the backbone of the Indonesian economy, faced various challenges during this period. Declining demand, supply chain disruptions, and social restrictions have made it difficult for many MSMES to survive.

Decrease in Demand: The COVID-19 pandemic has significantly impacted the demand for products and services offered by Micro, Small, and Medium Enterprises (MSMEs), particularly in the tourism, culinary, and retail sectors. This decline is primarily due to social distancing measures and reduced consumer purchasing power (Azizi, Almunawar, & Anshari, 2022; YR Kim & Liu, 2022; Tirtayasa & Rahmadana, 2023).

Impact of Social Restrictions: The query addresses the impact of social distancing measures on small and medium-sized enterprises (MSMES) in sectors such as food, tourism, and retail, particularly focusing on the significant decline in sales (Daga, Yola, & Kessi, 2022; Iwuoha & Aniche, 2021; Koren & Petó, 2020).

Changes in Consumer Behavior: During the COVID-19 pandemic, consumer behavior underwent significant changes, leading to more cautious spending habits and impacting the demand for products and services from small and medium-sized enterprises (SMEs) (Sanje & Basar, 2022; Savitri, Abdullah, Diyanto, & Syahza, 2023; A. Singh & Gupta, 2024; Theodoridis, 2024).

Supply Chain Disruption: The COVID-19 pandemic has significantly disrupted supply chains, particularly affecting small and medium-sized enterprises (SMEs) by limiting their ability to obtain raw materials and distribute products (Ali, Arslan, Khan, & Tarba, 2024; Islam, Roy, Supriti, & Chowdhury, 2021; Nesarnobari, Shahzad, Jelodar, & Sutrisna, 2024).

Limited Capital Access: Many small and medium-sized enterprises (SMEs) face significant challenges in accessing financial resources due to the selective nature of financial institutions (Sanga & Aziakpono, 2023; Woldie, Laurence, & Thomas, 2018).

Difficulty Obtaining Capital: Many small and medium-sized enterprises (SMEs) face significant challenges in accessing financing from banks and other financial institutions, particularly during periods of economic uncertainty (Huong & Anh, 2024; Zabolotnikova, Selezneva, Nizamdinova, Mukhamedyarova-Levina, & Praliyeva, 2020).

Lack of Knowledge about Financing: The query addresses the issue of limited knowledge about financing options among MSMES (Micro, Small, and Medium Enterprises) actors, which hinders their ability to utilize available financial assistance (Adonia, Ahmad, & Zabri, 2018; Prêtet & Klang, 2019).

MSMES Survival Strategy:

Product and Service Diversification

Diversification of products and services is one of the important strategies for MSMES to survive, especially during the COVID-19 pandemic. This strategy involves developing and introducing new products or services that are different from the previous ones, so that MSMES has more sources of income. Here are some ways diversification helps MSMES survive in difficult situations such as the pandemic:

1. **Reducing the Risk of Demand Decline:** During a pandemic, demand for certain products may drop drastically due to changes in consumer needs. With product diversification, MSMES can present new, more relevant products or services, such as health products (masks, hand sanitizers), basic necessities, or digital products that are more needed by consumers at that time (Caballero-Morales, 2021; Cagri Gurbuz, Yurt, Ozdemir, Sena, & Yu, 2023; Dheer & Salamzadeh, 2022; Kahveci, 2022; Kaya, 2022; Qi, 2022).

2. **Taking Advantage of New Opportunities:** The COVID-19 pandemic has indeed created new market opportunities, particularly in health products, delivery services, and digital and online education products. Small and medium-sized enterprises (SMEs) that quickly adapted to these changes have been able to generate additional revenue by launching new products and services tailored to pandemic needs (Dubuc, 2021; González-Aleu et al., 2022; Hu & Olivieri, 2021; Mosconi & Blais, 2024; Nguyen, Le, & Ha, 2021).

3. **Expanding Market and Consumer Reach:** To attract different consumer segments and expand their market share, MSMES (Micro, Small and Medium Enterprises) can benefit from diversifying their product or service offerings. This strategy is particularly effective in the culinary business, where adding frozen or ready-to-eat meals for delivery can help reach new customer bases (Agrawal, Kaur, & Singh, 2023; Dinavahi, Thatavarti, Rangala, Vallamsetti, & Nannuri, 2023 ; Potluri et al., 2024).

4. **Optimizing the Use of Existing Resources:** During the pandemic, many small and medium-sized enterprises (SMEs) faced challenges such as excess raw materials and labor. Diversification can be a strategic approach to optimize these resources effectively (Ivanova & Slavova, 2022; Kamarudin et al., 2024; Nguyen-Thi-Huong, Van Nguyen, & Xuan Tran, 2023).

5. **Innovation and Technology Adaptation:** Diversification also opens up opportunities for MSMES to adopt new technologies such as e-commerce, delivery services, and digital marketing, which help them reach more consumers online. This is crucial when physical mobility is limited during the pandemic (Fanelli, 2021; León, 2018; Nguyen-Thi-Huong et al., 2023).

Efficiency and Automation

Efficiency means using available resources more optimally to reduce expenses or avoid waste. Some ways MSMES can improve efficiency during the pandemic are:

• **Controlling Operating Costs:** Reviewing expenses, such as raw material costs, electricity, or distribution costs, and cutting out less important ones. For example, reducing physical operating hours and switching to online sales to save costs (Frimpong, Owusu-Bio, Nabare, & Muntaka, 2023; Issar & Navon, 2016; Kent, 2017; Windmark & Svensson, 2020).

• **Product Curtailment:** Focus on the best-selling products or services to avoid inventory buildup and excessive raw material expenditure. MSMEs can stop production of less-demanded products and focus resources on revenue-generating products (Dolle et al., 2021; Hussain et al., 2023; Mitić et al., 2023; Patricio, Axelsson, Blomé, & Rosado, 2018; B. Singh & Lohumi, 2023).

• **Collaboration with Local Suppliers or Partners:** Leveraging local partnerships to reduce logistics costs or obtain cheaper raw material prices. Utilizing PPPs to build logistics centers for agricultural products can enhance the efficiency of processing and marketing, benefiting both the state and private businesses. This approach can increase job opportunities and raw material reserves, ultimately reducing costs for local farmers (Subbotin, Krents, & Tarasenkova, 2020). Multinational firms can benefit from sourcing materials locally to reduce logistics costs and improve supply chain sustainability. However, they must manage risks such as supply disruptions due to environmental inspections or other local factors (Niu, Xie, Mu, & Ji, 2020).

Automation helps MSMES accelerate business processes and reduce reliance on potentially expensive or difficult-to-manage workforce during the pandemic. Ways of automation that MSMES can implement are:

• **Use of Digital Platforms for Sales:** To address the query about transitioning to e-commerce platforms like marketplaces or social media to reach customers without the high costs associated with physical stores (Cano et al., 2022; Chiu, Chen, & Chen, 2023; Taherdoost, 2023).

• **Automation of Inventory and Stock Management Processes:** Using simple software to automatically record and manage stock thereby reducing the risk of over or under stock (Karri et al., 2022; Kedarisetty & Kantheti, 2022).

• **Digital Marketing Automation:** MSMES can use automated email marketing services or chatbots on social media to respond to customers automatically, thereby maintaining interaction with customers without having to always involve direct workers (Dylan & Rangkuti, 2022; Huseynov, 2023; Prabha & Kumari, 2024).

• **Digital Payments and Automatic Financial Recording:** To address the query on leveraging integrated digital payment systems with financial record-keeping to expedite transactions and simplify cash flow monitoring (Baibhav, Ghatak, & Mayan, 2023; Dyudikova & Kunitsyna, 2020; Febrianto, Siga, Kristin, & Pratama, 2023).

Product and Service Quality Improvement

During the COVID-19 pandemic, MSMES faced major challenges, including decreased demand, physical restrictions, and supply disruptions. One strategy that MSMES can do to survive is to improve the quality of products and services, which helps retain existing customers and attract new ones. Here are some ways that MSMES can make these improvements:

1. Improve Product Quality Standards

- **Optimizing Raw Materials:** MSMES can choose higher quality raw materials even though they are more expensive, to create better and more durable products, which will build consumer trust (Cumming, Ge, & Lai, 2020; Susanty, Sirait, & Bakhtiar, 2018; Vasilevska & Rivza, 2018).
- **Efficient Production Process:** To address the query on how simple technologies or equipment can support clean and efficient production while enhancing product consistency (Ingaldi & Mazur, 2020; Kazakov & Tishchenko, 2021; Mosia, 2022).
- **Product Innovation:** To address consumer needs and preferences during the COVID-19 pandemic, businesses have adapted by expanding their product offerings, particularly in health-related categories (Brewster, 2020; Kumari &

Bhateja, 2024; Sevim & Yalçın, 2022; Yildirim, 2022; Yildirim, 2020; Yildirim, & Esen, 2024).

2. Improve Customer Service

- **Adaptation to Digital Technology:** Providing online services such as e-commerce or social media makes it easier for consumers to access products without having to come directly to the place (Cohen, Fresneda, & Anderson, 2020; Ponsard, Vanderdonckt, & Snoeck, 2020; Sohaib & Kang, 2017).
- **Fast and Communicative Response:** To enhance customer service for SMEs (MSMES) by responding more quickly through online communication platforms like WhatsApp, social media DMs, or e-commerce chat features, (Mustafa et al., 2023; Sethi, Batra, Biswas, & Lamba, 2022; Song & Christen, 2019).
- **Delivery Service Adjustments:** Offering faster and safer delivery options, such as contactless delivery services, can significantly enhance customer security and satisfaction (Bakharev, Karmanova, Nikiforova, Pokrovskaya, & Shevchuk, 2023; Kalpana et al., 2024; Sahoo & Chaurasiya, 2024).

3. Focus on Customer Satisfaction and Loyalty

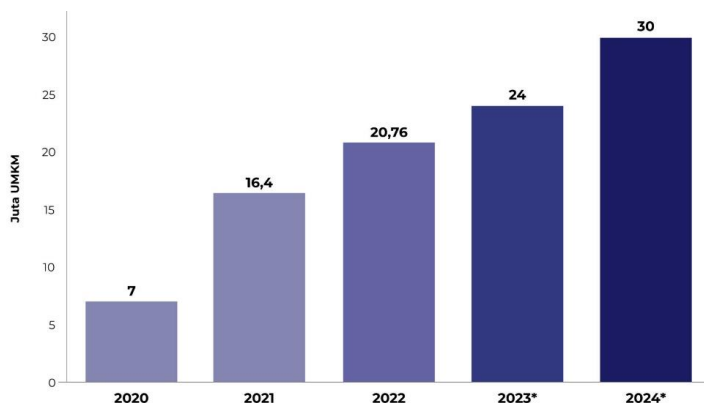
- **Providing Discounts and Special Promos:** Offering discounts or promotions to loyal customers or for bulk purchases can indeed increase customer loyalty. Loyal customers often receive deeper discounts during price negotiations, which in turn increases their loyalty. This cycle is driven by loyal customers demanding rewards for their loyalty and salespeople being more willing to grant discounts to retain them (Sahoo & Chaurasiya, 2024). Investing in loyalty programs can prompt customers to make early purchases, increasing the retailer's profits. The effectiveness of these programs is influenced by the product's cost and customers' valuation of the product (Gu, Luan, Song, & Shang, 2022).
- **Feedback and Testimonials:** To encourage customers to provide testimonials and reviews, which can be used to increase the trust of new customers. Extremely positive reviews are more effective in influencing customer decision-making compared to moderately positive ones. They help showcase the strengths of the business and provide a stronger push for potential customers (Shin, Shin, & Gim, 2023), trust formation can vary by culture. For example, in individualistic cultures, the content of the review is more valued, whereas in cultures with high uncertainty avoidance, the reviewer's information is more critical (Y. Kim & Srite, 2021).

4. Collaboration with Other MSMES

- To address the query on how MSMES (Micro, Small and Medium Enterprises) can collaborate with each other in terms of raw material supply, mutual promotion, or product bundling. Forming cooperatives for bulk purchasing can help MSMES obtain raw materials at discounted prices, which would be unattainable individually. This approach has been shown to be effective in Turkey, where a supply and distribution cooperative managed bulk purchases and deliveries, leading to cost savings and improved logistics efficiency (Soysal, Belbağ, & Erişkan, 2022).

Digitalization and Utilization of Technology

During the COVID-19 pandemic, MSMES (Micro, Small, and Medium Enterprises) faced significant challenges due to decreased demand, mobility restrictions, and changes in consumer behavior. Many MSMES are trying to survive and even thrive through digitalization strategies and the use of technology (Afuan, Hidayat, Wijayanto, & Kurniawan, 2023; Coltey, Vassigh, & Chen, 2021; Gupta & Singh, 2022; Palit, 2024).



*Target | sumber: Kementerian Koperasi dan UKM

Number of MSMEs entering the Digital Ecosystem in Indonesia (2020 - 2024)

The government together with Kadin continues to encourage micro, small, and medium enterprises (MSMEs) in Indonesia to enter the digital ecosystem. The Ministry of Cooperatives and SMEs targets that MSMEs that can enter the digital market will increase to 24 million units in 2023 and will increase to 30 million units in 2024. To achieve this target, Kadin supports the government's program to initiate digital transformation of MSMEs through various programs, including the wikiwirausaha platform in line with the Kemenkopukm which opens an integrated business service center (Indonesian Chamber of Commerce and Industry, 2023).

Strategies regarding digitalization and utilization of technology carried out by MSMEs include:

1. Operational Digitalization

Digitalization helps MSMEs speed up and simplify operations, from inventory management, accounting, to financial management. By using accounting software or inventory applications, MSMEs can save time and money while increasing the accuracy of business management. This is especially helpful during the pandemic when efficiency is needed (Kääriäinen & Saari, 2020; Kokuytseva & Ovchinnikova, 2020; Pilotti et al., 2021; Varga & Csiszárík-Kocsir, 2024).

2. Online Sales via E-commerce

Many small and medium enterprises (SMEs) are transitioning to e-commerce platforms like Tokopedia, Shopee, and Bukalapak to reach a broader customer base and maintain operations despite physical store limitations (Agwu & Murray, 2016; Alasbool, Hamdan, & Dhia, 2024 ; Parvin, Asimiran, & Ayub, 2022).

3. Use of Social Media for Marketing

During the COVID-19 pandemic, social media platforms like Instagram, Facebook, and TikTok have become essential tools for marketing, especially for Micro, Small, and Medium Enterprises (MSMEs). These platforms have enabled MSMEs to create engaging content, offer promotions, and conduct live selling, which has significantly improved their business performance (Ellyawati & Kusumatriawan, 2024; Khan & Binti Hj Matali, 2024; Patma, Wardana, Wibowo, & Narmaditya, 2020; Pramudita, Adhi Murti Citra Amalia, & Savitri, 2022; Syaifullah, Syaifudin, Sukendar, & Junaedi, 2021; Tandy & Sari, 2023).

4. Integration with Digital Payment Systems

Digital payments have become more popular amid the pandemic to reduce direct contact. MSMEs have adapted by accepting payments through digital wallets such as OVO, GoPay, or Dana. With the convenience of non-cash transactions, consumers feel more comfortable and safe shopping (Dewalska-Opitek, Bilińska, & Cierpiel-Wolan, 2022; Greene, Merry, & Stavins, 2023; Kurniawan et al., 2022; Matar, Abdeldayem, & Aldulaimi, 2024; Nirmala, Jayasree, & Thirumurugan, 2022; Sah & Indira, 2024).

5. Utilization of Goods Delivery Applications

MSMEs that focus on physical products, such as food or retail goods, are increasingly utilizing delivery services such as Grab, Gojek, and other courier services. This allows them to deliver products efficiently and reach customers further, even during periods of mobility restrictions (Petitdemange, Ban, Lauras, & Srang, 2023).

6. Data Analytics and Data-Based Decision Making

Several MSMEs have started using data analytics to understand market trends, customer preferences, and evaluate the effectiveness of their marketing strategies. Data generated from digital activities can be used for more informed decision-making, such as determining which products are most in demand or when is the best time to run a promotion (Chaudhary & Alam, 2022; Jayasundara, 2022; Miles, 2014; A. Singh, Sharma, & Verma, 2023; Yangzom & Ahuja, 2023).

7. Improving Service Quality through Technology

With technology, MSMEs can also improve the quality of customer service, for example by providing chatbot-based customer service or speeding up the response process to questions or complaints. This can increase customer satisfaction and build business reputation amidst tight competition (AL IDRUS, ABDUSSAKIR, DJAKFAR, & AL IDRUS, 2021; Huang, 2021; Nugraha, Sari, Yunan, & Kurniawan, 2022; Peng & Yang, 2024; Sanny, Angelina, & Christian, 2021; Shah, Wahab, & Tahir, 2017).

CONCLUSION

The development of MSMEs as a form of implementing a people's economy plays an important role in the Indonesian economy, creating jobs, increasing gross domestic product (GDP), and driving economic growth. During the COVID-19 pandemic, MSMEs faced significant challenges, but have shown extraordinary resilience and adaptability. Through product diversification strategies, business process innovation, digitalization, and collaboration, MSMEs have been able to survive and

even thrive. Increasing digital literacy and access to information technology are the keys to MSMES' success in facing future challenges. The government and financial institutions have an important role in supporting MSMES by providing access to financing, training, and development programs. Recommendations to strengthen the role of MSMES in the Indonesian economy include : Increasing access to easier and more affordable financing, especially for MSMES who want to switch to digital business. Increasing training and mentoring programs to improve MSMES' competence and capacity. Building a strong and MSMES-friendly digital ecosystem, by providing online platforms, digital infrastructure, and easily accessible digital services. Strengthening collaboration between MSMES, the government, and private institutions to encourage innovation and product development. With the right support, MSMES in Indonesia can continue to grow and contribute significantly to the national economy. MSMES can become the backbone of the Indonesian economy and create a better future for the community.

The use of technology by MSMES during the COVID-19 pandemic is very important to survive and adapt to market changes. By adopting e-commerce, utilizing social media for marketing, and using various digital management tools, MSMES can increase their competitiveness. Support and guidance in the use of technology will help MSMES to continue to grow and develop in the long term, and contribute to Indonesia's economic recovery after the pandemic.

REFERENCES

- Abduh, T, Remmang, H., Abubakar, H., & Karim, A. (2024). Entrepreneurship and MSME market orientation toward creative industries: Society Era 5.0 in Makassar city. *Asian Economic and Financial Review* , 14 (2), 76–87. <https://doi.org/10.55493/5002.v14i2.4964>
- Abduh, Thamrin. (2024). Asian Economic and Financial Review Entrepreneurship and MSME market orientation toward creative industries : Society Era 5 . 0 in Makassar city Keyword s. *Asian Economic and Financial Review* , 14 (2), 76–87. <https://doi.org/10.55493/5002.v14i2.4964>
- Adonia, SA, Ahmad, K., & Zabri, SM (2018). An exploration of financing preferences among entrepreneurs: The case of micro enterprises in Kelantan, Malaysia. *WSEAS Transactions on Business and Economics* , 15 , 375–384. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055857081&partnerID=40&md5=fb43a13901a729a44adb1470b28edcc0>
- Affan, M. (2018). The threat of is proxy warfare on Indonesian Millennial Muslims. *Indonesian Journal of Islam and Muslim Societies* , 8 (2), 199–224. <https://doi.org/10.18326/ijims.v8i2.199-223>
- Afuan, L., Hidayat, N., Wijayanto, B., & Kurniawan, YI (2023). Website design analysis for the management and promotion of micro, small, and medium-sized enterprises (MSMEs) in the Covid-19 pandemic period. *AIP Conference Proceedings* , 2482 . <https://doi.org/10.1063/5.0110503>
- Agrawal, A., Kaur, P., & Singh, M. (2023). Customer Segmentation Model using K-means Clustering on E-commerce. *2nd International Conference on Sustainable Computing and Data Communication Systems, ICSCDS 2023 - Proceedings* . <https://doi.org/10.1109/ICSCDS56580.2023.10105070>
- Agwu, E.M., & Murray, P.J. (2016). Empirical study of barriers to electronic commerce uptake by SMS in developing economies. In *International Business: Concepts, Methodologies, Tools, and Applications* (pp. 733–751). <https://doi.org/10.4018/978-1-4666-9814-7.ch035>
- Al Anshori, MR, & Ahamat, H. (2019). The use of customs law and regulation to support the development of small and medium enterprises: Evidence from Indonesia. *World Customs Journal* ,

13 (1), 129–140. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85070440888&partnerID=40&md5=bfa0848441e6aad45aec043f422925c6>

AL IDRUS, S., ABDUSSAKIR, A., DJAKFAR, M., & AL IDRUS, S. (2021). The Effect of Product Knowledge and Service Quality on Customer Satisfaction. *Journal of Asian Finance, Economics and Business*, 8 (1), 927–938. <https://doi.org/10.13106/jafeb.2021.vol8.no1.927>

Alasbool, H., Hamdan, A., & Dhia, A. (2024). The Adoption and Impact of E-Commerce on the Sustainability of SMEs. In *Studies in Systems, Decision and Control* (Vol. 538, pp. 525–531). https://doi.org/10.1007/978-3-031-62102-4_44

Ali, I., Arslan, A., Khan, Z., & Tarba, S.Y. (2024). The Role of Industry 4.0 Technologies in Mitigating Supply Chain Disruption: Empirical Evidence from the Australian Food Processing Industry. *IEEE Transactions on Engineering Management*, 71, 10600–10610. <https://doi.org/10.1109/TEM.2021.3088518>

Aminuddin Jafry, NH, Razak, RA, & Ismail, N. (2020). Dependence measure of five-minute returns compared to daily returns using static and dynamic copulas. *Science Malaysiana*, 49 (8), 2023–2034. <https://doi.org/10.17576/jsm-2020-4908-25>

Annamalah, S., Paraman, P., Ahmed, S., Pertheban, T.R., Marimuthu, A., Venkatachalam, K. R., & T., R. (2023). Exploitation, exploration and ambidextrous strategies of SMES in accelerating organizational effectiveness. *Journal of Global Operations and Strategic Sourcing*, ahead - of - print (ahead-of-print). <https://doi.org/10.1108/JGOSS-08-2022-0090>

Azizi, A., Almunawar, MN, & Anshari, M. (2022). THE IMPACT OF COVID-19 ON MSMES IN BRUNEI DARUSSALAM. In *COVID-19 and its Reflection on SMEs in Developing Countries* (pp. 209–227). Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85136374813&partnerID=40&md5=dbb8ff813d44e43e48d55a1d431cac2c>

Baibhav, J., Ghatak, J., & Mayan, J. A. (2023). Web based Payment Tracking and Accounting Application. *Proceedings of the 7th International Conference on Intelligent Computing and Control Systems, ICICCS 2023*, 1018–1022. <https://doi.org/10.1109/ICICCS56967.2023.10142894>

Bakharev, V., Karmanova, A., Nikiforova, Z., Pokrovskaya, L., & Shevchuk, E. (2023). Last Mile Delivery Transformation as a Method to Improve Customer Experience in Post-COVID-19 Russia and the World. *Lecture Notes in Networks and Systems*, 574 LNNS, 2005–2015. https://doi.org/10.1007/978-3-031-21432-5_219

Brewster, E. (2020). Flavors of change: Taste trends evolve in Pandemic's wake. *Food Technology*, 74 (10), 53–64. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85098199776&partnerID=40&md5=5d97b2ffd91de4242180f0fff3db6fcd>

Caballero-Morales, S.-O. (2021). Innovation as recovery strategy for SMEs in emerging economies during the COVID-19 pandemic. *Research in International Business and Finance*, 57, 101396. <https://doi.org/https://doi.org/10.1016/j.ribaf.2021.101396>

Cagri Gurbuz, M., Yurt, O., Ozdemir, S., Sena, V., & Yu, W. (2023). Global supply chains risks and COVID-19: Supply chain structure as a mitigating strategy for small and medium-sized enterprises. *Journal of Business Research*, 155. <https://doi.org/10.1016/j.jbusres.2022.113407>

Cano, J.A., Londoño-Pineda, A., Castro, M.F., Paz, H.B., Rodas, C., & Arias, T. (2022). A Bibliometric Analysis and Systematic Review on E-Marketplaces, Open Innovation, and Sustainability. *Sustainability (Switzerland)*, 14 (9). <https://doi.org/10.3390/su14095456>

Chaudhary, K., & Alam, M. (2022). Big Data Analytics: Digital Marketing and Decision-Making. In *Big Data Analytics: Digital Marketing and Decision-Making*. <https://doi.org/10.1201/9781003307761>

Chiu, Y.-J., Chen, H.-H., & Chen, C.-Y. (2023). Key Successful Factors of E-commerce Platform Operations. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 14038 LNCS, 150–169. https://doi.org/10.1007/978-3-031-35969-9_11

Cohen, A.H., Fresneda, J.E., & Anderson, R.E. (2020). What retailers need to understand about website inaccessibility and disabled consumers: Challenges and opportunities. *Journal of*

Consumer Affairs , 54 (3), 854–889. <https://doi.org/10.1111/joca.12307>

Coltey, E., Vassigh, S., & Chen, S. (2021). Community-Connect: COVID-19 Small Business Marketplace with Automated Regulation Matching and Company Lead Retrieval. *2021 IEEE 22nd International Conference on Information Reuse and Integration for Data Science (IRI)* , 57–60. <https://doi.org/10.1109/IRI51335.2021.00014>

Cumming, D., Ge, Y., & Lai, H. (2020). Trust and quality uncertainty in global value chains. *Journal of Multinational Financial Management* , 57 – 58 . <https://doi.org/10.1016/j.mulfin.2020.100662>

Daga, R., Yola, L., & Kessi, A.M. (2022). The Influence of Social Distancing Large Scale to Sustainability of Micro Small and Medium Enterprises. *Lecture Notes in Civil Engineering* , 161 , 43–50. https://doi.org/10.1007/978-981-16-2329-5_6

Daud, ZM, Sudrajat, J., Maryani, D., & Effendi, MS (2021). Android-Based Online Inventory Information System Design for Micro, Small and Medium Enterprises (MSMEs). *2021 IEEE International Conference on Electronic Technology, Communication and Information, ICETCI 2021* , 366–371. <https://doi.org/10.1109/ICETCI513161.2021.9563570>

Dewalska-Opitek, A., Bilińska, K., & Cierpiel-Wolan, M. (2022). The Application of the Soft Modeling Method to Evaluate Changes in Customer Behavior towards e-Commerce in the Time of the Global COVID-19 Pandemic. *Risks* , 10 (3). <https://doi.org/10.3390/risks10030062>

Dharmadjaya, JE, & Purnama, J. (2022). PasporsMSMEs Online Platform Development For Self-Guided Halal Assurance System Preparation On The Case Of Smes In The Food Sector. *Proceedings of the 2022 International Conference on Engineering and Information Technology for Sustainable Industry* , (23). Tangerang: Association for Computing Machinery New York NY United States. <https://doi.org/10.1145/3557738.3557860>

Dheer, R. J. S., & Salamzadeh, A. (2022). Pandemic threats: how SMEs can respond to the challenges of global crises. *International Journal of Globalization and Small Business* , 13 (1), 1–17. <https://doi.org/10.1504/IJGSB.2022.123346>

Dinavahi, G. A., Thatavarti, H., Rangala, J., Vallamsetti, S., & Nannuri, J. L. (2023). Customer Segmentation in Retailing using Machine Learning Techniques. *2023 IEEE 8th International Conference for Convergence in Technology, I2CT 2023* . <https://doi.org/10.1109/I2CT57861.2023.10126155>

Djamaludin, D., Puspita, N., & Selamat, S. (2024). Identifying the frozen food business omnichannel retail strategy in Bandung. *AIP Conference Proceedings* , 3065 (1). <https://doi.org/10.1063/5.0227591>

Dolle, N., Wilhelm, C., Wergunow, A., Rössle, M., Fernandes, M., & Glißmann, L. (2021). An Artificial Intelligence Based Sourcing Automation Concept for Smaller and Mid-Sized Enterprises in the Metal Industry. *Lecture Notes in Networks and Systems* , 195 , 94–103. https://doi.org/10.1007/978-3-030-68476-1_9

Dubuc, P. (2021). Enhancing social reach: Openclassrooms. In *Executive Education after the Pandemic: A Vision for the Future* (pp. 287–296). https://doi.org/10.1007/978-3-030-82343-6_29

Dylan, C., & Rangkuti, A.H. (2022). WhatsApp Chatbot Customer Service Using Natural Language Processing and Support Vector Machine. *International Journal of Emerging Technology and Advanced Engineering* , 12 (3), 130–136. https://doi.org/10.46338/ijetae0322_15

Dyudikova, E., & Kunitsyna, N. (2020). Corporate Cash Flow Transformation and Payment Space Digitalization in the Eurasian Economic Union. *Journal of Corporate Finance Research* , 14 (3), 90–102. <https://doi.org/10.17323/j.jcfr.2073-0438.14.3.2020.90-102>

Ellyawati, J., & Kusumatriawan, AJA (2024). The Effect of Social Media Marketing on MSMEs' Business Performance During the COVID-19 Pandemic. *Review of Integrative Business and Economics Research* , 13 (2), 38–54. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85188419242&partnerID=40&md5=5d2a50394fa94950d975eb600ceef16d>

Fanelli, R. M. (2021). Barriers to adopting new technologies within rural small and medium

enterprises (SMEs). *Social Sciences*, 10 (11). <https://doi.org/10.3390/socsci10110430>

Febrianto, A., Siga, ECAR, Kristin, DM, & Pratama, MRK (2023). Digital Payment Adoption Research of SMEs in Emerging Countries: A Systematic Literature Review. *2023 International Conference on Informatics, Multimedia, Cyber and Information Systems, ICIMCIS 2023*, 432–439. <https://doi.org/10.1109/ICIMCIS60089.2023.10349051>

Frimpong, J.M., Owusu-Bio, M., Nabare, L.B., & Muntaka, A.S. (2023). Early Supplier Involvement, Cost Reduction and Performance of Manufacturing Firms: The Role of Firm Size. *African Journal of Business and Economic Research*, 18 (2), 181–203. <https://doi.org/10.31920/1750-4562/2023/v18n2a9>

González-Aleu, F., Hernandez, J. V, Ramirez, R., Linares, C.M., Peinado, J.A., & Daniel, J. (2022). Strategic planning for repurposing kitchen equipment production operations during COVID-19 pandemic. *Operations Management Research*, 15 (3–4), 1241–1256. <https://doi.org/10.1007/s12063-022-00292-6>

Greene, C., Merry, E. A., & Stavins, J. (2023). Changes in US payment behavior during COVID-19: Differences by income and demographics. *Journal of Payments Strategy and Systems*, 17 (3), 230–237. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85185257251&partnerID=40&md5=7d391253171224a2290ed4c626a6750e>

Gu, W., Luan, X., Song, Y., & Shang, J. (2022). Impact of loyalty program investment on firm performance: Seasonal products with strategic customers. *European Journal of Operational Research*, 299 (2), 621–630. <https://doi.org/10.1016/j.ejor.2021.09.046>

Gupta, A., & Singh, R. K. (2022). Managing resilience of micro, small and medium enterprises (MSMEs) during COVID-19 : analysis of barriers. *Emerald Insight International Journal for Lesson & Learning Studies*, 30 (6), 2062–2084. <https://doi.org/10.1108/BIJ-11-2021-0700>

Hu, L., & Olivieri, M. (2021). How to Leverage Digital Marketing in B2B: A Study on Italian SMEs During the Covid-19 Outbreak. *Springer Proceedings in Business and Economics*, 112–120. https://doi.org/10.1007/978-3-030-76520-0_12

Huang, S.-M. (2021). The effect of self-service technology of the service quality on customer loyalty for Resort hotels in Taiwan-customer satisfaction as mediator. *2021 9th International Conference on Orange Technology, ICOT 2021*. <https://doi.org/10.1109/ICOT54518.2021.9680616>

Huong, D.T., & Anh, N.T. (2024). Factors affecting access to finance for small and medium-sized agricultural enterprises in Vietnam. *Asian Economic and Financial Review*, 14 (6), 437–455. <https://doi.org/10.55493/5002.v14i6.5079>

Huseynov, F. (2023). Chatbots in digital marketing: Enhanced customer experience and reduced customer service costs Farid Huseynov. In *Contemporary Approaches of Digital Marketing and the Role of Machine Intelligence* (pp. 46–72). <https://doi.org/10.4018/978-1-6684-7735-9.ch003>

Hussain, A.K., Hassan, A.R., Fouad, L., Haroon, N.H., Ali, A., & Al-Shaikhli, T.R. (2023). Implementing Business Intelligence Systems is Crucial for SMEs to make Efficient Decisions. *2023 Annual International Conference on Emerging Research Areas: International Conference on Intelligent Systems, AICERA/ICIS 2023*. <https://doi.org/10.1109/AICERA/ICIS59538.2023.10420120>

Indonesian Chamber of Commerce and Industry. (2023). MSMEs Indonesia. Retrieved October 2, 2024, from kadin.id/ website: <https://kadin.id/data-dan-statistik/MSMEs-indonesia/>

Ingaldi, M., & Mazur, M. (2020). Assessment of production equipment of chosen rolling mill in Poland. *METAL 2020 - 29th International Conference on Metallurgy and Materials, Conference Proceedings*, 1274–1279. <https://doi.org/10.37904/metal.2020.3647>

Islam Bhuiyan, M.R., Faraji, M.R., Rashid, M., Bhuyan, M.K., Hossain, R., & Ghose, P. (2024). Digital Transformation in SMEs Emerging Technological Tools and Technologies for Enhancing the SME's Strategies and Outcomes. *Journal of Ecohumanism*, 3 (4), 211–224. <https://doi.org/10.62754/joe.v3i4.3594>

Islam, M.A., Roy, S., Supriti, N.F., & Chowdhury, N.R. (2021). Assessing disruptive crises of supply chain in firms amidst COVID-19: An application of multi category-SVM using k-means

clustering. *Proceedings of the International Conference on Industrial Engineering and Operations Management* , 1315–1325. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85121122675&partnerID=40&md5=a8d784c468e67553efab120eb2b9d55e>

Issar, G., & Navon, L. R. (2016). Cost of Goods (COGs). In *Management for Professionals : Vol. Part F327* (pp. 11–15). https://doi.org/10.1007/978-3-319-20699-8_3

Ivanova, M., & Slavova, G. (2022). Resilience Through Diversification: The Case Of Agriculture And Forest-Based Sectors In Bulgaria. *15th International Scientific Conference WoodEMA 2022 - Crisis Management and Safety Foresight in Forest-Based Sector and SMES Operating in the Global Environment* , 131–139. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85147451443&partnerID=40&md5=77e61b4e3e3f02261c91c5b0848989e1>

Iwuoha, V. C., & Aniche, E. T. (2021). COVID-19 Lockdown and Social Distancing Policies and the Sustainability of Small Businesses in South-Eastern Nigeria. *Politicon* , 48 (4), 517–529. <https://doi.org/10.1080/02589346.2021.1991659>

Jayasundara, C.C. (2022). Prediction of Marketing by the Consumer Analytics. In *Big Data Analytics: Digital Marketing and Decision-Making* (pp. 77–118). <https://doi.org/10.1201/9781003307761-4>

Kääriäinen, J., & Saari, L. (2020). Applying the positioning phase of the digital transformation model in practice for SMEs : toward systematic development of digitalization. *International Journal of Information Systems and Project Management* , 8 (4), 24–43. <https://doi.org/10.12821/ijispm080402>

Kahveci, E. (2022). Surviving Covid-19 And Beyond: Cash Flow Management Strategies For Smes In Crisis. In *COVID-19 and its Reflection on SMEs in Developing Countries* (pp. 229–258). Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85129206178&partnerID=40&md5=6412c3c388e57cf5ea3c83edad8fed1>

Kalpana, M., Geethika, L.S., Afzal, S., Singh, R., Nookaraju, A., Kiran, TTS, & Praneeth, P.S. (2024). Design and Implementation of Versatile Delivery Robot †. *Engineering Proceedings* , 66 (1). <https://doi.org/10.3390/engproc2024066042>

Kamarudin, MAI, Yusof, MS, Ramli, A., Othman, S., Hasan, H., Jaaffar, AR, ... Kamsani, MJ (2024). The Issues and Challenges of Diversification Strategy in Multiple Industries: The Case of Kental Bina Sdn. Bhd. *Paper Asia* , 40 (3), 48–58. <https://doi.org/10.59953/paperasia.v40i3b.94>

Karri, A., Rao, S.S., Ashoka, D. V, Nethravathi, B., Sahana, V., & Vishnu, B.V. (2022). Hardware Inventory Management System Using IoT. *2022 4th International Conference on Cognitive Computing and Information Processing, CCIP 2022* . <https://doi.org/10.1109/CCIP57447.2022.10058647>

Rich, O. (2022). Determinants and consequences of SME insolvency risk during the pandemic. *Economic Modelling* , 115 . <https://doi.org/10.1016/j.econmod.2022.105958>

Kazakov, Y., & Tishchenko, A. (2021). Formalization of the Choice for Optimal Technological Solutions. *Communications in Computer and Information Science* , 1448 CCIS , 193–206. https://doi.org/10.1007/978-3-030-87034-8_15

Kedarisetty, S., & Kantheti, B. (2022). Designing Inventory system Utilizing Neural Network in the prediction of Machine Learning-based Design. *7th International Conference on Communication and Electronics Systems, ICCES 2022 - Proceedings* , 1058–1061. <https://doi.org/10.1109/ICCES54183.2022.9835853>

Kent, R. (2017). Cost Management in Plastics Processing: Strategies, Targets, Techniques, and Tools: Fourth Edition. In *Cost Management in Plastics Processing: Strategies, Targets, Techniques, and Tools: Fourth Edition* . Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85041267288&partnerID=40&md5=88bacdb725e735dc3af2e2405cc18806>

Khan, SU, & Binti Hj Matali, H.N. (2024). Social Media Marketing and Business Performance in Brunei Darussalam Amid COVID-19 Crisis. *ASEAN Journal on Science and*

Technology for Development , 41 (1), 29–35. <https://doi.org/10.61931/2224-9028.1556>

Kim, S., & Ha, T. (2023). Influential Variables and Causal Relations Impact on Innovative Performance and Sustainable Growth of SMEs in Aspect of Industry 4.0 and Digital Transformation. *Sustainability (Switzerland)* , 15 (9). <https://doi.org/10.3390/su15097310>

Kim, Y.R., & Liu, A. (2022). Social distancing, trust and post-COVID-19 recovery. *Tourism Management* , 88 . <https://doi.org/10.1016/j.tourman.2021.104416>

Kim, Y., & Srite, M. (2021). Trust effect on online reviews across national culture. *27th Annual Americas Conference on Information Systems, AMCIS 2021* . Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85118618704&partnerID=40&md5=971fdd58613a030e95baf1cf3b7cc496>

Kokuytseva, T., & Ovchinnikova, O. (2020). Digital Transformation as a Source of Innovative Growth for Small and Medium Enterprises in Russia. In *Palgrave Studies of Cross-Disciplinary Business Research, in Association with EuroMed Academy of Business* (pp. 131–154). https://doi.org/10.1007/978-3-030-45831-7_7

Koren, M., & Pető, R. (2020). Business disruptions from social distancing. *PLoS ONE* , 15 (September 9). <https://doi.org/10.1371/journal.pone.0239113>

Kuczevska, J., Praničević, D.G., Borowicz, A., & Talaja, A. (2023). THE DIGITAL TRANSFORMATION PROCESS IN THE SMALL AND MEDIUM ENTERPRISE (SME) SECTOR IN THE ERA OF THE COVID-19 PANDEMIC: A STUDY IN POLAND AND CROATIA. *Management (Croatia)* , 28 (2), 27–41. <https://doi.org/10.30924/mjcmi.28.2.3>

Kumari, P., & Bhateja, B. (2024). How does COVID-19 impact consumer purchase intention towards health and hygiene products in India? *South Asian Journal of Business Studies* , 13 (1), 118–136. <https://doi.org/10.1108/SAJBS-05-2021-0185>

Kurniawan, Y., Hartanto, FE, Dwiparna, IM, Adam, RE, Anwar, N., & Luhukay, D. (2022). The Customer Behavior Data Analysis Towards Use of Digital Wallet during Covid-19 Pandemic. *Proceedings of 2022 International Conference on Information Management and Technology, ICIMTech 2022* , 565–570. <https://doi.org/10.1109/ICIMTech55957.2022.9915087>

Kusumasari, B., & Retnandari, ND (2021). When pandemic knocks, adapt fast: Strategy and resilience of MSMEs facing crisis in Indonesia. *International Journal of Globalization and Small Business* , 12 (4), 392–412. <https://doi.org/10.1504/IJGSB.2021.120488>

Leon, O. (2018). Direct and mediating relationship of ICT on the performance diversification. *Revista de Metodos Cuantitativos Para La Economia y La Empresa* , 25 , 93–110. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85070494789&partnerID=40&md5=34d29c2cc5b20e4f45e5e56265143e3d>

Lishmah Dominic, M., Sowmiya, S., & Venkateswaran, P.S. (2024). NAVIGATING RESILIENCE: ANALYZING GOVERNMENT POLICIES FOR FOSTERING SUSTAINABLE MSME GROWTH IN INDIA. *Proceedings on Engineering Sciences* , 6 (2), 467–476. <https://doi.org/10.24874/PES06.02.004>

Matar, A., Abdeldayem, MM, & Aldulaimi, SH (2024). The Growing Digitalization of E-Commerce in the MENA Region: Consumer Behavior and Shift Towards Digital Payment Methods. *2024 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems, ICETISIS 2024* , 57–61. <https://doi.org/10.1109/ICETISIS61505.2024.10459416>

Miles, D. A. (2014). Measuring customer behavior and profitability: Using marketing analytics to examine customer and marketing behavioral patterns in business ventures. *Academy of Marketing Studies Journal* , 18 (1), 141–166. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84930437623&partnerID=40&md5=20590bd0144459db9e887747e54eae76>

Mitić, P., Petrović Savić, S., Djordjevic, A., Erić, M., Sukić, E., Vidojević, D., & Stefanovic, M. (2023). The Problem of Machine Part Operations Optimal Scheduling in the Production Industry Based on a Customer's Order. *Applied Sciences (Switzerland)* , 13 (19). <https://doi.org/10.3390/app131911049>

Monsson, C. K. (2017). Vulnerability and adaptability: post-crisis resilience of SMEs in Denmark. In N. W. and T. Vorley (Ed.), *Creating Resilient Economies* (pp. 41–54). Qatar: elgaronline.com. <https://doi.org/https://doi.org/10.4337/9781785367649>

Mosconi, E., & Blais, C. (2024). SMEs Innovation Leveraged by Digital Transformation During Covid-19. *Springer Proceedings in Business and Economics* , 185–200. https://doi.org/10.1007/978-3-031-47888-8_10

Mosiah, N. (2022). Application of Auxiliary Equipment in Productivity Improvement. *2022 IEEE 13th International Conference on Mechanical and Intelligent Manufacturing Technologies, ICMIMT 2022* , 85–96. <https://doi.org/10.1109/ICMIMT55556.2022.9845277>

Munir, AR, Kadir, N., Umar, F., & Lyas, GB (2023). The impact of digital marketing and brand articulating capability for enhancing marketing capability. *International Journal of Data and Network Science* , 7 (1), 65–72. <https://doi.org/10.5267/j.ijdns.2022.12.005>

Mustafa, H., Al-Tkhayneh, KM, Imtiaz, R., Hadi, SA, Qaruty, RA, Abokhoza, R., & Ellala, ZK (2023). The Impact of Using WhatsApp Business (API) in Marketing for Small Business. *Proceedings - 2023 10th International Conference on Social Networks Analysis, Management and Security, SNAMS 2023* . <https://doi.org/10.1109/SNAMS60348.2023.10375419>

Naidu, S., & Chand, A. (2013). Financial problems faced by micro, small and medium enterprises in the small Island states: A case study of the manufacturing sector of the Fiji Islands. *International Journal of Business Excellence* , 6 (1), 1–21. <https://doi.org/10.1504/IJBEX.2013.050573>

Nesarnobari, S., Shahzad, W., Jelodar, MB, & Sutrisna, M. (2024). Investigation of the Effects of Supply Chain Disruptions on Offsite Construction Projects. *Lecture Notes in Civil Engineering* , 480 , 161–172. https://doi.org/10.1007/978-3-031-56544-1_11

Nguyen-Thi-Huong, L., Van Nguyen, D., & Xuan Tran, L. (2023). Diversification, government support, and firm performance. *Cogent Business and Management* , 10 (2). <https://doi.org/10.1080/23311975.2023.2215072>

Nguyen, J., Le, Q. V, & Ha, J. T. (2021). Impacts of Health and Safety Concerns on E-Commerce and Service Reconfiguration During the COVID-19 Pandemic: Insights from an Emerging Economy. *Service Science* , 13 (4), 227–242. <https://doi.org/10.1287/serv.2021.0279>

Nirmala, G., Jayasree, M., & Thirumurugan, G. (2022). An Analysis of COVID-19's Effects on Online Payments Using ANOVA. *3rd International Conference on Power, Energy, Control and Transmission Systems, ICPECTS 2022 - Proceedings* . <https://doi.org/10.1109/ICPECTS56089.2022.10047731>

Niu, B., Xie, F., Mu, Z., & Ji, P. (2020). Multinational firms' local sourcing strategies considering unreliable supply and environmental sustainability. *Resources, Conservation and Recycling* , 155 . <https://doi.org/10.1016/j.resconrec.2019.104648>

Nugraha, E., Sari, RM, Yunan, A., & Kurniawan, A. (2022). The Effect of Information Technology, Competence, and Commitment to Service Quality and Implications on Customer Satisfaction. *International Journal of Technology* , 13 (4), 827–836. <https://doi.org/10.14716/ijtech.v13i4.3809>

Palit, S.P. (2024). *The impact of COVID-19 on women micro entrepreneurs in Odisha: A case study of Cuttack* . (April). <https://doi.org/10.52305/NHGZO466>

Parvin, M., Asimiran, S.B., & Ayub, AFBM (2022). Impact of introducing e-commerce on small and medium enterprises – a case on logistics providers. *Society and Business Review* , 17 (3), 469–484. <https://doi.org/10.1108/SBR-10-2020-0131>

Patma, TS, Wardana, LW, Wibowo, A., & Narmaditya, BS (2020). The Shifting of Business Activities during the COVID-19 Pandemic: Does Social Media Marketing Matter? *Journal of Asian Finance, Economics and Business* , 7 (12), 283–292. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO12.283>

Patricio, J., Axelsson, L., Blomé, S., & Rosado, L. (2018). Enabling industrial symbiosis collaborations between SMEs from a regional perspective. *Journal of Cleaner Production* , 202 ,

1120–1130. <https://doi.org/10.1016/j.jclepro.2018.07.230>

Peng, B., & Yang, J. (2024). The Trust of Electronic Service Quality in Customer Patronage Willingness: The Regulatory Effect of Adopting Advanced Technology. *IEEE Transactions on Engineering Management*, 71, 3580–3598. <https://doi.org/10.1109/TEM.2023.3346926>

Petitdemange, E., Ban, S., Lauras, M., & Srang, S. (2023). Evaluate the Potential of the Physical Internet for Last Mile Delivery in Developing Countries. *Lecture Notes in Business Information Processing*, 474 LNBIP, 203–215. https://doi.org/10.1007/978-3-031-32534-2_15

Pilotti, F., Paolone, G., Valerio, D. Di, Marinelli, M., Cocca, R., & Di, P. (2021). An IT Infrastructure for Small- and Medium-sized Enterprises Willing to Compete in the Global Market. *International Conference on Enterprise Information Systems, ICEIS - Proceedings*, 2 (Iceis), 768–775. Science and Technology Publications. <https://doi.org/10.5220/0010476907680775>

Ponsard, C., Vanderdonckt, J., & Snoeck, V. (2020). Towards cross assessment of physical and digital accessibility. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 12376 LNCS, 266–274. https://doi.org/10.1007/978-3-030-58796-3_32

Popoola, JJ, Ponnle, AA, Olasoji, YO, & Oyetunji, SA (2018). Investigation of the need for specific propagation models for specific environments based on different terrain characteristics. *IJUM Engineering Journal*, 19 (2), 92–104. <https://doi.org/10.31436/iiumej.v19i2.886>

Potluri, C.S., Rao, G.S., Kumar, LVRM, Allo, K.G., Awoke, Y., & Seman, A.A. (2024). Machine Learning-Based Customer Segmentation and Personalized Marketing in Financial Services. *Proceedings of International Conference on Communication, Computer Sciences and Engineering, IC3SE 2024*, 1570–1574. <https://doi.org/10.1109/IC3SE62002.2024.10593143>

Prabha, C., & Kumari, S. (2024). AI in marketing: AI-powered chatbots. In *Ethical AI and Data Management Strategies in Marketing* (pp. 11–25). <https://doi.org/10.4018/979-8-3693-6660-8.ch002>

Pramudita, O., Adhi Murti Citra Amalia, H., & Savitri, GA (2022). SMEs' Adoption of Social Media Consulting during COVID-19 Pandemic. *2022 1st International Conference on Information Systems and Information Technology, ICISIT 2022*, 261–266. <https://doi.org/10.1109/ICISIT54091.2022.9872762>

Pratama, V., Santoso, I., & Mustanirroh, SA (2021). Development strategy of SMEs in the new normal era of coronavirus disease 2019 (COVID-19): A literature review. *IOP Conference Series: Earth and Environmental Science*, 733 (1). <https://doi.org/10.1088/1755-1315/733/1/012058>

Prêtet, A., & Klang, T. (2019). Enhancing access to finance for SMEs: The case of Central Asia. In *Unlocking SME Finance in Asia: Roles of Credit Rating and Credit Guarantee Schemes* (pp. 23–51). <https://doi.org/10.4324/9780429401060-2>

Priyadarsini, I.S., & Ravindran, V. (2024). *Systematic Literature Review*. (28), 114–118. <https://doi.org/10.4103/ijcn.ijcn>

Qi, C. J. (2022). Covid 19: Impact of E-commerce on Small and Medium Sized Enterprises in Sabah. *Lecture Notes in Networks and Systems*, 486, 477–492. https://doi.org/10.1007/978-3-031-08087-6_34

Rahadi, R.A., Herijanto, N.K.K., Rahmawati, D., Wiryono, S.K., Pangestu, A.B., Darmansyah, A., & Afgani, K.F. (2023). The implications of financial literacy rate on the company profitability of MSMEs in Bandung. *International Journal of Economic Policy in Emerging Economies*, 18 (3–4), 344–355. <https://doi.org/10.1504/IJEPEE.2023.136311>

Rahmi, E., & Yuzaria, D. (2021). The government support model on the development of smes in West Sumatra Province. Indonesia. *IOP Conference Series: Earth and Environmental Science*, 757 (1). <https://doi.org/10.1088/1755-1315/757/1/012005>

Sah, V., & Indira, D. (2024). Perception Of Small Retail Stores Towards Digital Payment. *AIP Conference Proceedings*, 3007 (1). <https://doi.org/10.1063/5.0192966>

Sahoo, S.S., & Chaurasiya, V.K. (2024). Proof of location based delivery system using multi-party virtual state channel: a blockchain model. *Journal of Supercomputing*, 80 (1), 703–733.

<https://doi.org/10.1007/s11227-023-05510-x>

Sanga, B., & Aziakpono, M. (2023). FinTech and SMEs financing: A systematic literature review and bibliometric analysis. *Digital Business*, 3 (2). <https://doi.org/10.1016/j.digbus.2023.100067>

Sanje, G., & Basar, E.E. (2022). Pandemics and Consumer Behavior. In *Pandemics and Consumer Behavior*. <https://doi.org/10.52305/UNJX4854>

Sanny, L., Angelina, V., & Christian, B.B. (2021). Innovation of SME service industry in Indonesia in improving customer satisfaction. *Journal of Science and Technology Policy Management*, 12 (2), 351–370. <https://doi.org/10.1108/JSTPM-03-2020-0056>

Sarkar, A. (2009). E-Commerce adoption and implementation in automobile industry: A case study. *World Academy of Science, Engineering and Technology*, 58, 587–594. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-79954497725&partnerID=40&md5=a7e2822cd10c040b71774aecf01e08a7>

Savitri, E., Abdullah, NHN, Diyanto, V., & Syahza, A. (2023). The Effect of Financial Technology, Innovation, Business Strategy, and Market Orientation on Business Performance among Indonesian SMEs: A Study in Riau Province. *Journal of Management*, 68. <https://doi.org/10.17576/pengurusan-2023-68-11>

Şehirli, M. (2021). Changes in consumer behaviors during the pandemic and virtual strategies for acquiring and keeping customers. In *Impact of Infodemic on Organizational Performance* (pp. 176–194). <https://doi.org/10.4018/978-1-7998-7164-4.ch011>

Sethi, M., Batra, K., Biswas, M., & Lamba, M. (2022). An Automated System for Identification of Tweets Requiring Customer Service Concern. *2022 3rd International Conference for Emerging Technology, INCET 2022*. <https://doi.org/10.1109/INCET54531.2022.9824066>

Sevim, Y., & Yalçın, T. (2022). Changes in the food preferences and purchase behaviors in the new normal: a cross-sectional study. *Revista Espanola de Nutricion Humana y Dietetica*, 26 (3), 167–177. <https://doi.org/10.14306/renhyd.26.3.1654>

Shah, MFBM, Wahab, SB, & Tahir, MSB (2017). The geo-strategies and global peace of technology on customer relationship management performance: A pilot study among SME's logistics operators. *Global Journal Al-Thaqafah*, 7 (2), 95–100. <https://doi.org/10.7187/gjat122017-4>

Sharma, A.K., & Rai, S.K. (2023). Understanding the Impact of Covid-19 on MSMEs in India: Lessons for Resilient and Sustained Growth of Small Firms. *Journal of Small Business Strategy*, 33 (1), 70–83. <https://doi.org/https://doi.org/10.53703/001c.72698>

Shin, S., Shin, H. H., & Gim, J. (2023). How positive do testimonials on a restaurant website need to be? Impact of positivity of testimonial reviews on customers' decision-making. *International Journal of Hospitality Management*, 108. <https://doi.org/10.1016/j.ijhm.2022.103382>

Singh, A., & Gupta, R. (2024). COVID-19 impact on consumer preferences toward convenience stores versus hypermarkets. In *Navigating the Digital Landscape: Understanding Customer Behavior in the Online World* (pp. 217–230). <https://doi.org/10.1108/978-1-83549-272-720241012>

Singh, A., Sharma, S., & Verma, J. (2023). Big data: A road map for successful digital marketing. In *Big Data: A Road-Map for Successful Digital Marketing*. <https://doi.org/10.52305/QEDK4330>

Singh, B., & Lohumi, M. K. (2023). Order Winning Criteria: A Case of Small Manufacturing Sectors. *Smart Innovation, Systems and Technologies*, 290, 227–237. https://doi.org/10.1007/978-981-19-0108-9_24

Sjofyan, VR, & Prijadi, R. (2018). Roles of owner-managers in achieving SMEs' dual goals. *Pertanika Journal of Social Sciences and Humanities*, 26 (August), 227–240. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049736972&partnerID=40&md5=9244da7fcfb144793003a1a00b48246>

Sohaib, O., & Kang, K. (2017). E-commerce web accessibility for people with disabilities. In *Lecture Notes in Information Systems and Organizations* (Vol. 22, pp. 87–100).

https://doi.org/10.1007/978-3-319-52593-8_6

Song, X., & Christen, C.T. (2019). Applying Schema Resonance Model in live chat e-service. *Journal of Service Theory and Practice* , 29 (3), 258–281. <https://doi.org/10.1108/JSTP-10-2018-0215>

Soysal, M., Belbağ, S., & Erişkan, S. (2022). Horizontal Collaboration among SMEs through a Supply and Distribution Cooperative. *Open Transportation Journal* , 16 . <https://doi.org/10.2174/18744478-v16-e2208101>

Subbotin, A. S., Krents, Y. V, & Tarasenkova, A. A. (2020). The possibility of using the PPP mechanism (public-private partnership) in the construction of logistics centers for processing and marketing of agricultural products. *IOP Conference Series: Earth and Environmental Science* , 421 (2). <https://doi.org/10.1088/1755-1315/421/2/022001>

Suryanto, NH, Nurcahyo, R., & Dachyar, M. (2021). Supplier selection problem of small-medium enterprises in apparel sector in Indonesia using multi-criteria decision making techniques. *Proceedings of the International Conference on Industrial Engineering and Operations Management* , 790–798. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85114216264&partnerID=40&md5=88b422ef26093f8ba9c94c45f8ecaae6>

Susanty, A., Sirait, N.M., & Bakhtiar, A. (2018). The relationship between information sharing, informal contracts and trust on performance of supply chain management in the SMEs of batik. *Measuring Business Excellence* , 22 (3), 292–314. <https://doi.org/10.1108/MBE-05-2017-0019>

Syaifulah, J., Syaifudin, M., Sukendar, MU, & Junaedi, J. (2021). Social Media Marketing and Business Performance of MSMEs During the COVID-19 Pandemic. *Journal of Asian Finance, Economics and Business* , 8 (2) , 523–531. <https://doi.org/10.13106/jafeb.2021.vol8.no2.0523>

Taherdoost, H. (2023). E-Environment. In *EAI/Springer Innovations in Communication and Computing : Vol. Part FI354* (pp. 51–76). https://doi.org/10.1007/978-3-031-39626-7_3

Tandy, J., & Sari, R. (2023). Instagram vs TikTok: Which Engage Best for Consumer Brand Engagement for Social Commerce and Purchase Intention? *ICCoSITE 2023 - International Conference on Computer Science, Information Technology and Engineering: Digital Transformation Strategy in Facing the VUCA and TUNA Era* , 557–561. <https://doi.org/10.1109/ICCoSITE57641.2023.10127760>

Theodoridis, P. K. (2024). The Changing Consumer Landscape in the Wake of COVID-19 in Greece: Trends, Insights and Implications. *Springer Proceedings in Business and Economics* , 323–331. https://doi.org/10.1007/978-3-031-51038-0_36

Tirtayasa, S., & Rahmadana, MF (2023). Mediating Effect of Product Innovation on Market Orientation and Marketing Performance of SME'S During the COVID-19 Pandemic in Indonesia. *International Journal of Sustainable Development and Planning* , 18 (2), 393–399. <https://doi.org/10.18280/ijdp.180207>

Tjahjadi, B., Soewarno, N., Anwar, DN, & Fairuzi, A. (2024). Effect of Human Capital and Information Capital Readiness on Business Sustainability: Do Market Orientation and Business Performance Matter? *SAGE Open* , 14 (1). <https://doi.org/10.1177/21582440231221320>

Tronvoll, B., Kowalkowski, C., & Sörhammar, D. (2021). Transforming small and medium-sized enterprises (SMEs) to digitally enabled landscapes. In *Big Data in Small Business: Data - Driven Growth in Small and Medium-Sized Enterprises* (pp. 209–225). Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85130671332&partnerID=40&md5=34f5e577dde4bd05462d35125c892db8>

Varga, J., & Csiszárík-Kocsir, Á. (2024). Small business digital solutions for competitive advantage in operations. *SACI 2024 - 18th IEEE International Symposium on Applied Computational Intelligence and Informatics, Proceedings* , 223–229. <https://doi.org/10.1109/SACI60582.2024.10619761>

Vasilevska, D., & Rivza, B. (2018). Implementation of quality management in small and medium enterprises: Problems and solutions. *Engineering for Rural Development* , 17 , 1072–1077. <https://doi.org/10.22616/ERDev2018.17.N116>

Windmark, C., & Svensson, M. (2020). Cost-Driven Informed Decisions Using Loss Analyzes from Production Monitoring. *Advances in Transdisciplinary Engineering* , 13 , 119–129. <https://doi.org/10.3233/ATDE200149>

Woldie, A., Laurence, B. M., & Thomas, B. (2018). Challenges of finance accessibility by smes in the democratic republic of congo: Is gender a constraint? *Investment Management and Financial Innovations* , 15 (2), 40–50. [https://doi.org/10.21511/imfi.15\(2\).2018.04](https://doi.org/10.21511/imfi.15(2).2018.04)

Yangzom, T., & Ahuja, L. (2023). Uses of Big Data to Understand Consumers' Buying Behavior. *2023 4th International Conference on Electronics and Sustainable Communication Systems, ICESC 2023 - Proceedings* , 819–823. <https://doi.org/10.1109/ICESC57686.2023.10193596>

Yanto, H., Baroroh, N., Hajawiyah, A., & Rahim, N.M. (2022). THE ROLES OF ENTREPRENEURIAL SKILLS, FINANCIAL LITERACY, AND DIGITAL LITERACY IN MAINTAINING MSMEs DURING THE COVID-19 PANDEMIC. *Asian Economic and Financial Review* , 12 (7), 504–517. <https://doi.org/10.55493/5002.v12i7.4535>

Yildirim, S., Yildirim, D.C., & Esen, Ö. (2024). The rise of the functional beverages market: Indicators post COVID-19 pandemic. In *Economics and Environmental Responsibility in the Global Beverage Industry* (pp. 350–368). <https://doi.org/10.4018/979-8-3693-2149-2.ch019>

Zabolotnikova, V., Selezneva, I., Nizamdinova, A., Mukhamedyarova-Levina, T., & Praliyeva, S. (2020). Entrepreneurial projects' development: Alternative sources of investments. *Entrepreneurship and Sustainability Issues* , 8 (2), 253–268. [https://doi.org/10.9770/jesi.2020.8.2\(15\)](https://doi.org/10.9770/jesi.2020.8.2(15))

Zahoor, N., Golgeci, I., Haapanen, L., Ali, I., & Arslan, A. (2022). The role of dynamic capabilities and strategic agility of B2B high-tech small and medium-sized enterprises during COVID-19 pandemic: Exploratory case studies from Finland. *Industrial Marketing Management* , 105 , 502–514. <https://doi.org/10.1016/j.indmarman.2022.07.006>

Zed, M. (2014). *Literature Research Methods* . Jakarta: Yayasan Pustaka Obor Indonesia. Retrieved from <https://books.google.co.id/books?id=zG9sDAAAQBAJ>

ММСП, ЦИФРОВА ТРАНСФОРМАЦІЯ ЕКОНОМІКИ ПІД ЧАС ПАНДЕМІЇ В ІНДОНЕЗІЇ

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Анотація. Це дослідження має на меті визначити як мікро-, малі та середні підприємства (ММСП) як форми господарювання/національної економіки та цифрової трансформації здатні зміцнити економіку Індонезії під час пандемії Covid-19. Індонезія визнана на міжнародному рівні як одна з країн із сильною економікою під час пандемії. У цьому дослідженні здійснено аналіз опублікованих статей, які відібрано за попередньо визначеними критеріями із тих, що оприлюднені у національних акредитованих журналах та міжнародних журналах, індексованих у Scopus. Усі відібрані статті проаналізовані за допомогою методу тематичного аналізу. На основі дослідження було виявлено, що завдяки стратегіям диверсифікації продуктів, інноваціям бізнес-процесів, цифровізації та співпраці ММСП змогли вижити і навіть процвітати. Підвищення цифрової грамотності та доступу до інформаційних технологій є ключем до успіху ММСП у вирішенні майбутніх проблем. Уряд і фінансові установи відіграють важливу роль у підтримці ММСП шляхом надання доступу до фінансування, навчання та програм розвитку. Рекомендації щодо посилення ролі ММСП в економіці Індонезії включають: Розширення доступу до легшого та доступнішого фінансування, особливо для ММСП, які хочуть перейти на цифровий бізнес. Розширення програм навчання та наставництва для підвищення компетентності та потенціалу ММСП. Побудова потужної цифрової екосистеми, сприятливої для ММСП, шляхом надання онлайн-платформ, цифрової інфраструктури та легкодоступних цифрових послуг. Посилення співпраці між ММСП, урядом і приватними установами для заохочення інновацій і розробки продуктів.

Ключові слова: мікро-, малі та середні підприємства (ММСП), цифрова трансформація, національна економіка, пандемія Covid 19.

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