



## Implementing Technology Invention For Micro, Small, And Medium-Sized Enterprises' Human Resource Improvement: A Conceptual Model

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**Abstract.** Micro, Small, and Medium-Sized Enterprises (MSMEs) in Indonesia are now commercial organizations that can employ many people. There is a need for an efficient information system since there is a dearth of knowledge about marketing goals, despite the fact that many different MSME products have the potential to become high-quality exports. The more people there are who utilize the internet, the more probable it is that businesses will benefit from the increased competition. Therefore, the information system must provide MSMEs with access to digital marketing databases. To address this challenge, this piece presents a theoretical framework for applying technological innovation to the enhancement of human resources in micro, small, and medium-sized enterprises (MSME). Given the current shortcomings of HR improvement procedures in Indonesian MSMEs, this paper offers a comprehensive evaluation as a template for development in the field. In this article, we compare the current HR improvement practice in Indonesian MSMEs to national and international practices reported in the literatures reviewed and conclude that, in accordance with the national marketing information system of MSME owners, implementing technology invention has the potential to support HR improvement in Indonesian MSMEs.

**Keywords:** Technology Invention, Human Resource (HR) MSMEs, Indonesia.

### Introduction

At every level, from the national to the domestic, the ordinary lives of people and the economic world are inexorably entangled with one another. The business world is one that is always moving in new directions and developing in a way that does not stop. It suggests that the enterprise undergoes continuous change regardless of the era, decade, or time period in question (Cardella et al., 2021), in management specifically with regards to the strategy system (Sanchis et al., 2020).

Businesses of all sizes can't be differentiated from tiny ones in practice. It argues that the "spirit" of a small business is essential to a business's ability to innovate quickly. According to the data, most of the involved businesses have been severely damaged and are facing a wide range of issues, including monetary hardship, supply chain interruption, declining demand,

declining sales, and decreased profitability (Sanchis et al., 2020). Therefore, a literature analysis into many variables that have an immediate influence on the owners of these businesses has to be explored with a focus on the growth of small businesses. The focus of this study is on micro, small, and medium-sized enterprises (MSMEs). Consequently, it is hoped that this study's findings would lead to the development of a new system that may provide useful data to people in the business world, especially the owners of MSMEs. This view is conbusinessed by the inseparability of business and daily life at all scales, from the global to the domestic (Sanchis et al., 2020). The world of business is one that never stops moving and never sleeps. It suggests that across all centuries, decades, and times, enterprise will always continue to change, notably in terms of its strategic system, management, and other features associated to it. This indicates that smaller businesses are inextricably linked to their larger counterparts (Sanchis et al., 2020). It is possible that an organization may not advance very quickly if it does not possess the mentality of a small business. In light of this, the researchers are concentrating their efforts in this study on the development of micro, small, and medium-sized enterprises (MSMEs) by looking at a variety of factors that have a direct influence on the owners of these businesses. In addition to this study, the researchers are doing research with micro, small, and medium-sized enterprises (MSME) as the subject. Therefore, it is expected that the conclusions of this study would eventually lead to the construction of a new system that may deliver fresh information to the business community, particularly owners of MSME businesses.

Specifically, micro, small, and medium-sized enterprises (MSMEs) are now commercial entities in Indonesia that have the potential to employ a large number of people. For the time being, the workforce is the most important source of capital assets/intellectual assets, skills, creativity, and knowledge for the increase of competitiveness among MSME (Sanchis et al., 2020). The challenges that micro, small, and medium-sized businesses (also known as MSMEs) are currently up against can be mitigated via the utilization of digital platforms and social media. Internet access and other forms of digital technology are becoming more important to the success of micro, small, and medium-sized businesses (MSMEs), who rely on these technologies to expand their operations and ensure their continued existence. Even if they have not yet returned to their regular routine (Sanchis et al., 2020). Other factors include money, various manufacturing methods, and technological advancements. Businesses, as well as micro, small, and medium-sized businesses (MSMEs), that are able to rely on a sizeable pool of intellectual property and other assets contributed by their employees have a tendency to expand and develop at a more fast rate. The process of managing the employees of a business or other organization is referred to as human resource management. The actions of recruiting, selecting, appraising, and compensating employees are all included in the process of acquiring staff. Workers need to have their roles and duties defined and communicated to them. For workers to acquire the necessary skills, participation in training and other improvement activities is very necessary. Because of this, the workplace and the business as a whole might be negatively impacted as a result of these activities. In order to be successful, micro, small, and medium-sized businesses (MSMEs) need to efficiently manage their operations with knowledgeable and competent staff. This calls for recruiting and selection processes that are rigorous and accurate. SME human resources will also be able to aid the marketing process be more accurate and on target if it is possible for this concept to be correctly utilized in the field (Shafi et al., 2020). It is literally known that the process of executing marketing and its strategy is the key part of enterprise management that has a direct impact on the day-to-day operations of a business. This is because the execution of marketing is what makes the marketing plan possible.

The term "micro, small, and medium-sized enterprises" (MSMEs) refers to businesses that have a marketing reach that extends to the emerging economic sector of the world and a growth potential that is promising (Shafi et al., 2020). Although many different types of commodities produced by MSME have the potential to become high-quality exports, the adoption of a plan is required in order to overcome barriers to entry into export markets. These barriers include domestic regulations and a lack of awareness of the varied demands of export markets. As a consequence of this, it is recommended that this stance lends support to various improvement tactics, such as broadening already existing markets, accessing market prospects, and creating a brand for the purpose of product marketing. If micro, small, and medium-sized businesses (also known as "MSMEs") have access to adequate resources, they may also engage in horizontal integration. This involves improving the product value by either exporting commodities or processing the items that they already sell (Namotemo et al., 2021).

MSMEs perform exceptionally well as a result of their flexibility, independence, and usage of technology that is both low cost and hands on (Dwi Amalia & Citra Melati, 2021). Due to their reliance on human resources, MSMEs hold a special place in the economy. MSMEs increasingly look to the human resources as a substitute for traditional forms of investment capital. There is, at most, a marginal effect of the human resources on improving MSME results. Improving the participation of MSME workers in marketing aims is crucial to increasing MSMEs' output. A adequate, efficient, and targeted digital marketing information system is crucial for achieving goals in this area (Watini et al., 2022).

When there are more people using the internet, there is a greater possibility that there will be positive results in an atmosphere where business is more competitive (Putranti et al., 2020). Because of this school of thought, micro, small, and medium-sized businesses (often abbreviated as MSMEs) need access to digital marketing databases. It is no longer possible for SMEs to avoid it. The goal of developing and implementing this information system was to enhance the competitiveness of micro, small, and medium-sized businesses (MSMEs). In light of the fact that Banyuwangi already possesses a platform for the exchange of MSME information sources, the internal business procedures of each MSME have the potential to be integrated online. The processing of data through technology invention is another component that is necessary for the running of a business (Rahardja et al., 2019).

The Internet connects people from all over the world, regardless of political, geographical, or cultural obstacles. In terms of its physical composition, the Internet is analogous to a spider's web (The Web), which is comprised of interconnected nodes (the globe) (Mourtzis et al., 2021). Along with the proliferation of internet use, there has been a corresponding rise in the importance of internet marketing in the commercial sector (Sundaram et al., 2020). In recent years, there has also been a significant increase in the number of people in Indonesia who have access to the internet. As proof of this trend, a rising number of businesses are striving to provide their wares and services via online mediums, such as platforms offered by the internet. This causes entrepreneurs to have less trust in the relevance of technology in achieving their financial business objectives through the adaptation and efficiency of organizational operations, notably through the utilization of E-Commerce. When discussing the issue of e-Commerce, a number of different phrases, including Internet Commerce, Ecom, E-Commerce, and Immerce, are all examples of terminologies that can be used to refer to basically the same notion. This objective is for all business dealings to be completed only through the use of the internet. An organization needs a marketing information system that can help with the planning, administration, and processing of the necessary transactions in order to carry out marketing operations such as sales, advertising, and promotion. These activities are all part of marketing. In the event that this can be carried out in

a thorough and accurate manner, the quality of the system for financial management will also be done according to the plan.

Problems with management or insufficient management qualities are frequently to blame for the challenges that small businesses must contend with. This business's management is having trouble in a number of different areas, such as its organizational structure, its finances, its human resources, and its marketing. In addition to these problems, the following are the types of technical problems that most frequently arise: problems with preparing business plans due to increasingly fierce market competition; issues with access to technology, particularly if the market is dominated by a small number of enterprises or businesses; and the problem of how to obtain it. the absence of a good financial administration and management system; the problem of how to plan according to the target market and make a feasibility study to get a loan from a bank or venture capital; the problem of how to obtain it. This article therefore addresses this issue by offering a conceptual model on implementing technology invention for MSME Human Resource (HR) improvement.

The gains that were acquired have the potential to contribute favorably to future research, particularly those that investigate the enhancement of human resources in MSMEs. In addition, it is thought that the findings of this study may assist the winners of MSME businesses in Indonesia in managing their businesses in a more focused manner by using technological invention. This is something that is something that is considered to be possible according to the findings of this study.

## **Literature Review**

### **Technology Invention for Marketing Development**

The development of the global socioeconomic system has been facilitated in part by the emergence of the digital economy. Making use of intellectual capital makes it possible to modify the function of material production, which, in turn, creates the conditions for consistent corporate operation on the global market (Al-Khoury et al., 2022). In addition, the utilization of digital technology makes it possible for businesses that have a significant innovative potential to improve the efficiency of their management procedures. As a consequence of this, the research paper in question provides a synopsis of previous work that has been published on the subject of big data analytics and the performance of businesses. This synopsis is based on a content analysis that was performed on highly regarded papers (Maroufkhani et al., 2019). Based on those results, the strategic objectives of managing enterprises utilizing the digital economy by employing enterprises from various economic segments as case studies as well as knowledge which will be an important component in determining one's willingness to participate in Laila et al. (2022). The components of the MSME structure's management plan are as follows: priority support for digital technology infrastructure (Khurana et al., 2021); mass distribution of products through Internet channels (Thaha et al., 2021a); and operation in virtual space (Rakshit et al., 2021).

In an MSME environment, becoming increasingly competitive (Madhavan et al., 2022) and the increased usage of the internet (Deshati, 2016), is anticipated to give advantages (Badam & Gochhait, 2020). Based on this reasoning, MSMEs require an online-based marketing information system (Ernawati, 2021). No longer can MSME actors avoid it (Bias et al., 2022). This information system is anticipated to generate an integrated competitive advantage in the SME sector.

The development of a better economic and social infrastructure on a global scale is now facilitated by the rise of the digital economy. The function of material production may be changed by the use of intellectual capital, so paving the way for consistent operational

procedures on a global scale in MSMEs. In addition, the utilization of digital technology has made it feasible for MSMEs with a remarkable potential for innovation to enhance the management practices of their organizations. As a result, this study offers a summary of some of the existing literature on big data analytics and the performance of businesses by conducting a descriptive and content analysis of the most reputable publications. These findings provide insight into the strategic goals of managing businesses in the digital economy. These goals include the use of businesses operating in a wide range of economic sectors as case studies and the acquisition of information that will be essential in determining individuals' levels of engagement with the sector. Both of these aspects will be addressed in this research. As a result, there is a demand for new developments in technological invention. As a result, the management strategy for improving the marketing of MSMEs through the use of technological invention contains the following components: an emphasis on digital technology infrastructure; extensive product distribution through online channels; and virtual space operations. Growing internet usage and increased levels of competition both present opportunities for micro, small, and medium-sized businesses. This is the reason why even the tiniest organizations need to have access to a marketing database that is hosted in the cloud. Workers in MSMEs are unable to ignore it any longer. This information system may give MSMEs a competitive advantage in the market.

### **Implementing technology invention to MSMEs' HR Improvement in Indonesia**

It is possible to connect the business activities of any MSME to the internet (Business & Research, 2021), especially considering that Indonesia has a platform that allows MSMEs to share information and sources of services with one another (Merdika Mansur, 2021). In addition, the website that provides information for micro, small, and medium-sized enterprises in Indonesia may be found at <https://portal-umkmgoonline.kominfo.go.id>. It has become much easier for MSMEs in Indonesia to market and sell their wares through the use of the internet thanks to the proliferation of online marketplaces and e-commerce software (Thaha et al., 2021). There are other names for E-Commerce, including Internet Commerce (Tuah Putra Nasution et al., 2018) and Immerce (V. T. Nguyen et al., 2020), but they all have the same meaning. These words refer to electronic purchasing and/or selling (Pradana et al., 2021). Additionally, the created technology includes data processing services (Mohapatra, 2013). Computerized data processing is particularly crucial for commercial operations (Tong-On et al., 2021).

The rapid expansion of e-commerce sites in Indonesia inevitably leads to rivalry amongst them (Ueasangkomsate, 2015). There are some e-commerce websites that are more popular among their users than others (Ingaldi & Ulewicz, 2018). Top 10 e-commerce sites in Indonesia from January to June 2017 based on comScore data. ComScore is a standard data provider approved by the Creative Economy Agency (Bekraf) to measure online users in Indonesia (Sanchez, 2022). According to the results from the Amazon real-world dataset (T. Van Nguyen et al., 2020), remanufactured product demand forecasting is a complicated, non-linear issue, but that our suggested solution, which makes use of state-of-the-art machine learning techniques, can successfully forecast product demand. Market determinants are prioritized according to their predicting abilities of demand (Kyrylov et al., 2020). In addition, their impacts on demand are analyzed using partial dependency plots (T. Van Nguyen et al., 2020). A careful analysis of the sales impact of various market conditions on remanufactured and new items reveals several insights for management (Goltsos et al., 2019). Then, in 2020, the results of purposive sampling method investigation in a big city of Indonesia revealed that Lazada, the most popular Indonesian e-commerce website, found that shoppers' pleasure and propensity to repurchase were directly related to both the utilitarian and hedonic value they received from their purchases ( et al., 2021). Based on other findings on online shopping in Indonesia (Dennis

et al., 2020), researching the correlation between reviews, ratings, information quality, and media richness on e-commerce websites and e-marketplaces using a descriptive analysis and regression analysis. The study concluded that satisfaction and perceived value are key factors affecting purchase intentions, while the other variables act as precursors. In addition, an e-marketplace is a trading forum on the Internet maintained by party vendors that join the trading forum give information about the items being exchanged (Nautiyal et al., 2020). Without the need to develop a personal purchasing and selling website, these third-party sellers can register accounts (Oyza & Edwin, 2015) and provide a selection of things to be sold by the buyer through the e-marketplace (Han et al., 2021). In e-marketplace buying and selling transactions, joint accounts are utilized to establish credibility and prevent fraud (Sanalkumar, 2020). It can lead to a high level of trust among the vendors (Khanfar et al., 2021), and cause many customers to choose e-marketplaces since they are more efficient, convenient (Rosário & Raimundo, 2021), and secure (Cano et al., 2022). It is a novel method for enhancing sales performance that has an influence on the financial performance of MSMEs.

Given that Indonesia provides a platform for MSMEs to exchange information and services, it is possible for all business operations to be conducted online. Further, <https://portal-umkmgonline.kominfo.go.id> is the address of the MSME information website in Indonesia. Several marketplace service providers and e-commerce software have emerged as useful innovations in the IT for MSMEs sector, making it easier for MSMEs in Indonesia to market and sell their wares online. E-Commerce also goes by the titles "Internet Commerce" and "Immerce," although they all signify the same thing. Buying and selling online is what these terms relate to. Data processing services are also a part of the new technology. In enterprise, electronic data processing is necessary. As a result, the competition among Indonesia's e-commerce platforms was certain to emerge as the industry grew rapidly. Some online marketplaces have greater renown than others among their clientele. Based on data collected by comScore, below are the top 10 online marketplaces in Indonesia for the first half of 2017. The Creative Economy Agency (Bekraf) has approved ComScore as a credible source of data due to the business's capacity to monitor Internet traffic in Indonesia. Our suggested technique has been tested on the Amazon real-world dataset, and the results show that remanufactured product demand forecasting is a difficult, non-linear problem, which employs state-of-the-art machine learning techniques, can successfully predict product demand. According to their predictive power, market factors are ranked in order of importance. Partial dependence graphs are often used to assess the effects on demand. Several lessons for management may be gleaned from a detailed examination of how different market circumstances affect the sales of refurbished and brand new products. Then, in 2020, researchers found that utilitarian shopping value and hedonic shopping value had a direct influence on consumer happiness and repurchase intention with the most visits to an Indonesian e-commerce website, namely Lazada. In light of previous research on the topic of e-commerce in Indonesia, the authors conducted a descriptive analysis and a regression analysis to test whether or not a website's rating, review count, information quality, or media content density influenced potential buyers' decisions to make a purchase. Satisfaction and perceived value were shown to be the most important determinants in determining future purchases, with the other characteristics serving as precursors. E-marketplaces allow consumers and sellers to interact digitally and learn more about one other's products and services. This online marketplace allows third-party vendors to set up shop and provide their wares to customers without the trouble and expense of creating their own shopping and selling website. Joint accounts are used to create authenticity and avoid fraud in e-marketplace buying and selling transactions. Because of its efficiency, convenience, and security, more customers are beginning to choose e-marketplaces over traditional ones. This new approach to improving sales' results can have a material impact on the bottom lines of MSMEs.

The reason why this new approach in marketing strategy of MSMEs is that President Joko Widodo of Indonesia has released a technology improvement strategy with the goal of making Indonesia the largest digital economy in Asia by 2020, with a digital revenue target of US\$130 billion (Role et al., 2022). The National Movement of 1,000 Startup Digital Program was created as part of this initiative and has made significant success (Suwarni et al., 2020). Investments in Indonesian startups amounted to \$1.4 billion in 2016 and \$3 billion in the first eight months of 2017 (Abecassis et al., 2018). According to a study conducted in 2017 by the Indonesian Commission for the Supervision of Business Competition, the digital economy would create 3.7 million additional occupations by 2025, and MSMEs may increase their income by as much as 80% by employing technology (World Bank, 2020).

According to projections made by the Ministry of Cooperatives and Small and Medium Businesses (Kemenkop UKM), 3.79 million MSMEs would utilize internet platforms to promote their goods in 2022 (Alborn, 2010). The central bank (BI) said that the overall value of e-commerce transactions reached IDR 227.8 trillion during the first semester of 2022, an increase of 22.1% from the same time the previous year. There was a substantial rise in terms of volume. Where, from January to June 2022, the overall amount of e-commerce transactions increased by 39.9% year-over-year to 1.74 million transactions. In the October 2022 edition of the book Financial Stability Study for Semester I-2022, the central bank stated that the public's preference for digital economic and financial activities is growing. This is spreading to more and more societal levels and is even establishing new preferences and behaviors. This can have a favorable effect on the business improvement of MSMEs in Indonesia.

### **Factors Influencing Technology Invention to MSMEs in Indonesia**

In terms of e-commerce for MSMEs in Indonesia, seven success parameters of the virtualization process are site quality (Засоріна, 2021), product image quality (Rosário & Raimundo, 2021), brand reputation (Aditya Arie & Muhammad Fikry, 2021), service (Novari, 2020), payment (Kurniawan & Yun, 2018), delivery time length (Fatonah, 2017), and product pricing (Chonsawat & Sopadang, 2020). E-marketplace sellers and purchasers have differing perspectives towards their participation in e-marketplaces (Chonsawat & Sopadang, 2020).

Based on the above findings, the vendor values need to be applied in order to increase of brand reputation, quantity of users, exploration, and functioning. Whereas for purchasers, functionality, user reputes, and quantity of users are most important, exploration is next.

### **Conclusion and Future Research**

The term "Micro, Small, and Medium-sized Enterprises" (MSMEs) refers to businesses that are currently operating in Indonesia and have the capability of employing a significant number of people. Even though many different kinds of items produced by MSME have the potential to develop into high-quality exports, an efficient information system is required since there is a lack of awareness about marketing goals. In addition to the fact that we are living in the digital age, there are more people using the internet, which means there is a greater likelihood that this will result in positive consequences in an increasingly competitive business climate. As a consequence of this, micro, small, and medium-sized enterprises need access to the digital marketing databases utilized by the information system. Implementing technology invention for MSMEs in Indonesia deals with IT for marketing improvement, implementing technology invention to MSMEs' Human Resource (HR) improvement, and factors influencing technology invention improvement. This is done by comparing the current practice of HR improvement in Indonesian MSMEs with national and international practices reported in the literatures reviewed.

Implementing technology invention for MSMEs in Indonesia encompasses the management strategy, which places a focus on digital technology infrastructure, extensive product distribution via online channels, and virtual space operations. Additionally, the Implementing technology invention to HR improvement for marketing of MSMEs in Indonesia can be run by several marketplace service providers and e-commerce software that have emerged as useful innovations in technology invention for MSMEs sector. This makes it easier for MSMEs in Indonesia to market and sell their wares online, resulting in joint accounts to create authenticity and avoid fraud in e-marketplace buying and selling transactions. Customers are increasingly leaning toward using online markets rather to conventional ones due to the former's superior effectiveness, convenience, and safety features. This innovative strategy for enhancing the results of sales might potentially have a significant influence on the bottom lines of MSMEs. In addition, the components that influence technology innovation improvement for the marketing of MSMEs in Indonesia stand on the vendor values that need to be used in order to enhance the brand recognition, quantity of users, exploration, and functioning of the product or service. In conclusion, the creation of technology has the ability to promote human resources improvement in MSMEs, in line with the national marketing information system of MSME owners.

## References

- Abecassis, D., Morgan, R., & Osman, S. (2018). Infrastructure Investment By Online Service Providers. In *Infrastructure investment by online service providers* (Issue December).
- Aditya Arie, H., & Muhammad Fikry, A. (2021). Improvement of synergistic between digitalization MSMEs and digital society in Indonesia. *Ho Chi Minh City Open University Journal of Science - Economics and Business Administration*, 11(2), 18–30. <https://doi.org/10.46223/hcmcoujs.econ.en.11.2.1934.2021>
- Al-Khoury, A., Hussein, S. A., Abdulwhab, M., Aljuboory, Z. M., Haddad, H., Ali, M. A., Abed, I. A., & Flayyih, H. H. (2022). Intellectual Capital History and Trends: A Bibliometric Analysis Using Scopus Database. *Sustainability (Switzerland)*, 14(18). <https://doi.org/10.3390/su141811615>
- Alborn, T. (2010). Economics and business. *The Cambridge Companion to Victorian Culture*, 2(1), 61–79. <https://doi.org/10.1017/CCOL9780521886994.004>
- Andriani, N., Mugiono, M., & Rahayu, M. (2021). Utilitarian Shopping Value and Hedonic Shopping Value To Improve Customer Satisfaction and Repurchase Intention on E-Commerce Business. *Jurnal Aplikasi Manajemen*, 19(1), 166–174. <https://doi.org/10.21776/ub.jam.2021.019.01.15>
- Badam, D., & Gochhait, S. (2020). Digitalization and Its Impact on Indian Economy. *International Journal of Advanced Research in Engineering and Technology (IJARET)*, 11(10), 1559–1568. <https://doi.org/10.34218/IJARET.11.10.2020.149>
- Bias, I., Prasadhya, G., Putri, Y., Mulya, D. N., & Umbu, A. (2022). Implementation Of Instagram ‘ My Rise Clothing Store ’ Marketing Strategy Based On Aida Model. *Jurnal Mantik*, 6(36), 1620–1629.
- Business, G., & Research, M. (2021). The Role of Social Media in SMEs Branding: A Systematic Review and Future Research Agenda. *An International Journal*, 13(4s), 50–62.



- 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>
- Cardella, G. M., Hernández-Sánchez, B. R., Monteiro, A. A., & Sánchez-García, J. C. (2021). Social entrepreneurship research: Intellectual structures and future perspectives. *Sustainability (Switzerland)*, *13*(14). <https://doi.org/10.3390/su13147532>
- Chonsawat, N., & Sopadang, A. (2020). Defining smes' 4.0 readiness indicators. *Applied Sciences (Switzerland)*, *10*(24), 1–30. <https://doi.org/10.3390/app10248998>
- Dennis, L., Ramdhana, F., Faustine, T. C. E., & Hendijani, R. B. (2020). Influence of Online Reviews and Ratings on the Purchase Intentions of Gen Y Consumers: the Case of Tokopedia. *International Journal of Management (IJM)*, *11*(6), 26–40. <https://doi.org/10.34218/IJM.11.6.2020.003>
- Deshati, E. (2016). Business Strategies of SME's, Innovation Types and Factors Influencing their Innovation: Albanian Case. *International Journal of Economics & Management Sciences*, *05*(02). <https://doi.org/10.4172/2162-6359.1000319>
- Dwi Amalia, A., & Citra Melati, F. (2021). Analysis of MSMEs Recovery using Digital Technology in the Covid-19 Pandemic Era. *Jurnal Ilmiah Bidang Ilmu Ekonomi*, *16*(2), 117–128. <http://journal.umpo.ac.id/index.php/ekuilibrium>
- Ernawati, W. (2021). Optimization of Digital-Based MSME E-Commerce: Challenges and Opportunities in the New Normal Era of the Covid-19 Pandemic. *Social Science Journal for Advanced Research*, *1*(3), 1–9. <https://doi.org/10.54741/ssjar.1.3.1>
- Fatonah, S. (2017). The impact of market orientation and marketing strategies on performance of SMES in batik industry. *International Journal of Civil Engineering and Technology*, *8*(8), 1290–1298.
- Goltsos, T. E., Ponte, B., Wang, S., Liu, Y., Naim, M. M., & Syntetos, A. A. (2019). The boomerang returns? Accounting for the impact of uncertainties on the dynamics of remanufacturing systems. *International Journal of Production Research*, *57*(23), 7361–7394. <https://doi.org/10.1080/00207543.2018.1510191>
- Han, R., Lam, H. K. S., Zhan, Y., Wang, Y., Dwivedi, Y. K., & Tan, K. H. (2021). Artificial intelligence in business-to-business marketing: a bibliometric analysis of current research status, improvement and future directions. *Industrial Management and Data Systems*, *121*(12), 2467–2497. <https://doi.org/10.1108/IMDS-05-2021-0300>
- Ingaldi, M., & Ulewicz, R. (2018). Evaluation of quality of the e-commerce service. *International Journal of Ambient Computing and Intelligence*, *9*(2), 55–66. <https://doi.org/10.4018/IJACI.2018040105>
- Khanfar, A. A. A., Iranmanesh, M., Ghobakhloo, M., Senali, M. G., & Fathi, M. (2021). Applications of blockchain technology in sustainable manufacturing and supply chain management: A systematic review. *Sustainability (Switzerland)*, *13*(14). <https://doi.org/10.3390/su13147870>
- Khurana, S., Haleem, A., Luthra, S., Huisingh, D., & Mannan, B. (2021). Now is the time to press the reset button: Helping India's businesses to become more resilient and effective in overcoming the impacts of COVID-19, climate changes and other crises. *Journal of Cleaner Production*, *280*(November 2019), 124466.

<https://doi.org/10.1016/j.jclepro.2020.124466>

- Kurniawan, A., & Yun, Y. (2018). Relationship Between Business Competence And Business Survival Of Culinary Business In Bandung. *MIMBAR : Jurnal Sosial Dan Pembangunan*, 34(1), 147–157. <https://doi.org/10.29313/mimbar.v34i1.3255>
- Kyrylov, Y., Kyrychenko, N., Stukan, T., & Zhosan, H. (2020). Formation of Enterprise Management Strategies and Entrepreneurship Training. *International Journal of Management*, 11(06), 793–800. <https://doi.org/10.34218/IJM.11.6.2020.067>
- Laila, N., Ratnasari, R. T., Ismail, S., Mohd Hidzir, P. A., & Mahphoth, M. H. (2022). The intention of small and medium enterprises' owners to participate in waqf: the case of Malaysia and Indonesia. *International Journal of Islamic and Middle Eastern Finance and Management*. <https://doi.org/10.1108/IMEFM-01-2022-0014>
- Madhavan, M., Wangtueai, S., Sharafuddin, M. A., & Chaichana, T. (2022). The Precipitative Effects of Pandemic on Open Innovation of SMEs: A Scientometrics and Systematic Review of Industry 4.0 and Industry 5.0. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3). <https://doi.org/10.3390/joitmc8030152>
- Maroufkhani, P., Wagner, R., Wan Ismail, W. K., Baroto, M. B., & Nourani, M. (2019). Big data analytics and business performance: A systematic review. *Information (Switzerland)*, 10(7), 1–21. <https://doi.org/10.3390/INFO10070226>
- Merdika Mansur, D. (2021). Digital-based SME Innovation Improvement Strategy: Marketing, Entrepreneurship Insight and Knowledge Management. *Golden Ratio of Mapping Idea and Literature Format*, 2(1), 65–84. <https://doi.org/10.52970/grmilf.v2i1.179>
- Mohapatra, S. (2013). E-commerce and Online Auctions. *International Journal of Management (IJM) Volume 12, Issue 1, January 2021*, 12(1), 127–154. [https://doi.org/10.1007/978-1-4614-4142-7\\_6](https://doi.org/10.1007/978-1-4614-4142-7_6)
- Mourtzis, D., Angelopoulos, J., & Panopoulos, N. (2021). Smart manufacturing and tactile internet based on 5g in industry 4.0: Challenges, applications and new trends. *Electronics (Switzerland)*, 10(24). <https://doi.org/10.3390/electronics10243175>
- Namotemo, H., Kour, F., Dilly, A., Akerina, F., & Amahorseja, A. (2021). Strategy for Micro and Small Businesses Improvement in the Fisheries Sector in North Halmahera Regency, Indonesia. *Indonesian Journal of Business and Entrepreneurship*, 7(1), 63–72. <https://doi.org/10.17358/ijbe.7.1.73>
- Nautiyal, N., Bisht, M. S., Joshi, M. B., Pandey, M. H., & Bisht, M. N. (2020). Blockchain Design for Logistics & Supply Chain Management in Developing Regions. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(6), 1711–1716. <https://doi.org/10.35940/ijrte.f7797.038620>
- Nguyen, V. T., Dinh, H. T. N., Vo, N. K., Ho, D. T., Bui, B. X., Phuoc, H. M., Phan, D. M., Nguyen, L. T., Tran, T. M., Nguyen, D. Van, & Nguyen, H. T. (2020). the Application of Advancement Technologies in Studying Customer Experiences in Vietnam. *International Journal of Mechanical and Production*, 10(3), 8233–8238.
- Novari, E. (2020). The Impact of Market Orientation to SMEs Performance with Mediation of Creation Value. *MIMBAR : Jurnal Sosial Dan Pembangunan*, 36(2), 361–370. <https://doi.org/10.29313/mimbar.v36i2.5987>
- Oyza, I., & Edwin, A. M. (2015). Effectiveness of social media networks as a strategic tool for

organizational marketing management. *Journal of Internet Banking and Commerce*, 1. <https://doi.org/10.4172/1204-5357.S2-006>

- Pradana, A. F. P., Hasan, S., Putra, A. H. P. K., & Kalla, R. (2021). Moderating of SERVQUAL on E-WOM, Product Quality, and Brand Image on and E-commerce Purchase Intention. *Golden Ratio of Mapping Idea and Literature Format*, 2(1), 36–51. <https://doi.org/10.52970/grmilf.v2i1.135>
- Putranti, I. R., Windiani, R., Farabi, N., Amaliyah, A., & Rosyidin, M. (2020). Cyber Resilience of Small and Medium Enterprises in Semarang City. *MIMBAR : Jurnal Sosial Dan Pembangunan*, 36(2), 288–297. <https://doi.org/10.29313/mimbar.v36i2.5856>
- Rahardja, U., Lutfiani, N., & Amelia, S. (2019). Creative Content Marketing In Scientific Publication Management In Industrial Era 4.0. *Aptisi Transactions on Management (ATM)*, 3(2), 168–178. <https://doi.org/10.33050/atm.v3i2.991>
- Rakshit, S., Islam, N., Mondal, S., & Paul, T. (2021). Mobile apps for SME business sustainability during COVID-19 and onwards. *Journal of Business Research*, 135(January), 28–39. <https://doi.org/10.1016/j.jbusres.2021.06.005>
- Role, T. H. E., Accountants, O. F., In, S., Creative, S., & In, E. (2022). the Role of Accountants ' Strategy in Structuring Bank Performance Towards a. *Multicultural Education*, July. <https://www.mccaddogap.com/ojs/index.php/me/article/view/49>
- Rosário, A., & Raimundo, R. (2021). Consumer marketing strategy and e-commerce in the last decade: A literature review. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(7), 3003–3024. <https://doi.org/10.3390/jtaer16070164>
- Sanalkumar, S. (2020). Consumer Product Returns Post Online Purchases: Systematic Research. *International Journal of Management (IJM)*, 11(9), 171–186. <https://doi.org/10.34218/IJM.11.9.2020.018>
- Sanchez, A. V. (2022). *Master of Science in Engineering and Management Massachusetts Institute of Technology*. MASSACHUSETTS INSTITUTE OF TECHNOLOGY.
- Sanchis, R., Canetta, L., & Poler, R. (2020). A conceptual reference framework for enterprise resilience enhancement. *Sustainability (Switzerland)*, 12(4), 4–6. <https://doi.org/10.3390/su12041464>
- Shafi, M., Liu, J., & Ren, W. (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Research in Globalization*, 2. <https://doi.org/10.1016/j.resglo.2020.100018>
- Sundaram, R., Sharma, R., & Shakya, A. (2020). Power of digital marketing in building brands: A review of social media advertisement. *International Journal of Management*, 11(4), 244–254. <https://doi.org/10.34218/IJM.11.4.2020.025>
- Suwarni, Noviantoro, R., Fahlevi, M., & Abdi, M. N. (2020). Startup valuation by venture capitalists: An empirical study Indonesia businesses. *International Journal of Control and Automation*, 13(2), 785–796.
- Thaha, A. R., Maulina, E., Muftiadi, R. A., & Alexandri, M. B. (2021a). Digital Marketing and SMEs: A Systematic Mapping Study. *Library Philosophy and Practice*, 2021(April), 1–19.
- Thaha, A. R., Maulina, E., Muftiadi, R. A., & Alexandri, M. B. (2021b). Digital Marketing and

- SMEs: A Systematic Mapping Study. *Library Philosophy and Practice*, 2021(February), 1–19.
- Tong-On, P., Siripipatthanakul, S., & Phayaphrom, B. (2021). The implementation of business intelligence using data analytics and its effects towards performance in hotel industry in Thailand. *International Journal of Behavioral Analytics*, 1(2), 1–17. <https://ssrn.com/abstract=3944077>
- Tuah Putra Nasution, M. D., Rossanty, Y., Sari, P. B., & Utama Siahaan, A. P. (2018). Online shoppers acceptance: An exploratory study. *International Journal of Civil Engineering and Technology*, 9(6), 793–799.
- Ueasangkomsate, P. (2015). Adoption E-Commerce for Export Market of Small and Medium Enterprises in Thailand. *Procedia - Social and Behavioral Sciences*, 207, 111–120. <https://doi.org/10.1016/j.sbspro.2015.10.158>
- Van Nguyen, T., Zhou, L., Chong, A. Y. L., Li, B., & Pu, X. (2020). Predicting customer demand for remanufactured products: A data-mining approach. *European Journal of Operational Research*, 281(3), 543–558. <https://doi.org/10.1016/j.ejor.2019.08.015>
- Watini, S., Latifah, H., Rudianto, D., & Santoso, N. A. (2022). Adaptation of Digital Marketing of Coffee MSME Products to Digital Transformation in the Era of the Covid-19 Pandemic. *Startupreneur Business Digital (SABDA Journal)*, 1(1), 23–32. <https://doi.org/10.34306/sabda.v1i1.73>
- World Bank. (2020). *Indonesia: Eliminating poverty, bringing economic security to all* (June 2020). The World Bank. <https://documents1.worldbank.org/curated/en/717421594076964759/pdf/Indonesia-Systematic-Country-Diagnostic-Update.pdf>
- Засоріна, Г. В. (2021). Implementation with selected practical schedules. *Донну*. <https://doi.org/10.3390/en14040940>