

IMPACT OF E-COMMERCE, HEALTHCARE LOGISTICS, AND CONSUMER TRUST ON MEDICAL PRODUCT SALES

Diana Pratiwi^{1*}, Vip Paramarta², Farida Yuliaty³, Alexandra DeSousa Guterres⁴

^{1,2,3}Universitas Sangga Buana, Bandung

⁴Universitas Da Paz, Timor Leste

E-mail: dianapратиwi14068993@gmail.com^{1*}, vip@usbykp.ac.id², fys@usbykp.ac.id³, Aldesgguterres2022@gmail.com⁴

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Abstract

In the era of growing digitalization, e-commerce plays an important role in the distribution of medical products, making it easier for consumers to access medicines, medical devices, and supplements through online platforms. This study aims to analyze the influence of e-commerce, healthcare logistics, and consumer trust on medical product sales. E-commerce in the healthcare sector offers easy access and competitive pricing, but also faces challenges related to product authenticity, transaction security, and applicable regulations. One of the key factors in the success of online medical product sales is efficient logistics, including supply chain management and safe delivery of products. Consumer trust is also a key aspect, where consumers must feel confident in product quality and online transaction security. The method used in this research is a literature review to analyze findings from various academic sources related to health e-commerce, logistics, and consumer trust factors. The results show that an efficient logistics system and high consumer trust play a major role in the success of e-commerce in the healthcare sector. This research provides important insights for the development of safer and more efficient medical product e-commerce business strategies and policies in the future.

Keywords: *E-commerce, Medical Products, Healthcare Logistics, Consumer Trust, Medicines*

INTRODUCTION

In the era of growing digitalization, e-commerce has become an important part of various industry sectors, including healthcare. Advances in technology and the internet have enabled consumers to access various healthcare products and services more easily through online platforms. This phenomenon has intensified after the COVID-19 pandemic, where people rely more on purchasing medical products online to reduce physical interactions. This change in consumption patterns signifies a significant shift in the way people acquire their health needs (Seipalla et al., 2024). With the increasing use of e-commerce in the healthcare sector, various aspects such as logistics and consumer trust become crucial factors that affect the sustainability of medical product sales.

E-commerce in the healthcare industry makes it easier for consumers to obtain medicines, medical devices, and supplements without having to visit a pharmacy or healthcare facility in person. Various online platforms such as marketplaces and online drug stores offer a wider selection at competitive prices. However, along with the increase in digital transactions, challenges arise such as product safety, authenticity, and compliance with applicable regulations. Regulations from health authorities such as BPOM and Kemenkes are important to ensure that products sold online meet established health standards (Adhi et al., 2021). Therefore, understanding the effectiveness of e-commerce in supporting the sale of medical products needs to be studied further.

One important aspect in the successful sale of medical products through e-commerce is an efficient logistics system. Healthcare logistics not only includes the delivery of products from sellers to consumers, but also involves supply chain management, appropriate storage, as well as the assurance that products arrive in a safe condition (Faridz et al., 2024). Some medical products such as medicines and vaccines require special distribution systems such as cold chains to maintain their quality. Inefficiencies in logistics can lead to delivery delays, product damage, or even health risks for consumers (Putri et al., 2023). Thus, the role of healthcare logistics in e-commerce needs to be investigated to understand the extent to which this factor affects the sales of medical products.

Apart from logistics, consumer trust is also a major factor in the success of e-commerce in the healthcare sector. Consumers are often hesitant to buy medical products online due to concerns about product authenticity, transaction security, and seller credibility. Several cases of illegal or counterfeit medical products being sold reinforce these concerns, making consumers more selective in choosing trusted platforms and sellers. Other factors such as customer reviews, product certification, and information transparency also contribute to building consumer trust (Faradiba, 2021). Therefore, research on consumer trust in the context of medical product e-commerce is important to understand how people perceive the safety and quality of products purchased online.

High consumer trust can have a direct impact on purchasing decisions and loyalty to a particular e-commerce platform. When consumers feel safe and confident in the quality and authenticity of the products they purchase, they are more likely to make repeat purchases on the same platform. Conversely, if consumers encounter counterfeit products or have a bad experience, they are likely to avoid online transactions for medical products in the future. Factors such as product return policies, responsive customer service, and guaranteed transaction security can also increase consumer trust. Therefore, understanding how consumer trust is formed in healthcare e-commerce is important in this study (Sudirjo et al., 2023).

Based on the above, it can be concluded that e-commerce in the healthcare industry has great potential in improving the accessibility and efficiency of medical product sales. However, the success of this ecosystem is highly dependent on the efficiency of logistics as well as the level of consumer trust in the platform and the products offered. If logistics do not work well, then medical products sold online may experience delays or even lose their quality. Similarly, without consumer trust, e-commerce of medical products cannot develop optimally due to the hesitation in digital transactions. Therefore, this study was conducted to analyze the extent to which e-commerce, health logistics, and consumer trust affect the sales of medical products.

This research uses the literature review method to examine various previous studies that discuss the relationship between e-commerce, health logistics, and consumer trust in medical product sales. With this approach, it is expected to find the main patterns and factors that influence the success of online sales of medical products. In addition, this research can also provide insights for healthcare industry players in developing more effective e-commerce-based business strategies. By understanding the factors that influence the sales of medical products, stakeholders can take more appropriate steps in increasing consumer confidence and improving the healthcare logistics system. Ultimately, this research aims to contribute to the development of safer, more reliable and efficient medical product e-commerce in the future.

LITERATURE REVIEW

E-Commerce

E-commerce has become an integral part of the healthcare industry, particularly in the distribution and sale of medical and pharmaceutical products. Seipalla et al. (2024) explain that e-commerce in hospital management systems contributes to service effectiveness and operational efficiency. Adhi et al. (2021) developed a web-based application to support drug sales in pharmacies, demonstrating that digitalization can enhance accessibility and transparency in pharmaceutical transactions. Additionally, Syahputri and Anggoro (2020) highlight the role of e-commerce in improving the performance of regional pharmaceutical companies.

Healthcare Logistics

Logistics management in healthcare services plays a crucial role in ensuring the optimal availability of medicines and medical supplies. Faridz et al. (2024) emphasize the importance of efficient drug procurement and distribution systems in pharmacy installations to prevent stock shortages. Putri et al. (2023) highlight that a pharmacy service logistics management system in public health centers can enhance drug distribution effectiveness. Furthermore, Luthfiah et al. (2021) discuss the storage of medicines and vaccines in public health centers as part of logistics management that must comply with safety and quality standards.

Consumer Trust

Consumer trust in e-commerce is a crucial factor in the decision to purchase medical products online. Faradiba (2021) found that customer satisfaction and trust during the COVID-19 pandemic influenced e-commerce user loyalty. Sobandi and Somantri (2020) discovered that trust significantly affects online purchasing decisions, particularly in the healthcare product category. Additionally, Adinda and Azira (2024) identified that service quality and management information systems play a role in shaping customer trust when purchasing skincare products through e-commerce platforms.

Medical Products

The distribution and regulation of medical products in e-commerce require strict oversight to ensure consumer safety. Laksana (2024) discusses legal protection for consumers in online health product transactions and the risks of cybercrime. Rastika et al. (2022) emphasize the role of the logistics industry in ensuring the safety of drug and food circulation, which poses challenges in the broad distribution of medical products. Furthermore, Pania and Harahap (2020) examine e-commerce sales of herbal medicines, demonstrating that digitalization in the healthcare product business can enhance accessibility while ensuring compliance with legal and safety regulations.

METHOD

This study uses the literature review method to analyze the relationship between e-commerce, health logistics, and consumer trust on the sale of medical products. This method was chosen because it allows researchers to collect, evaluate, and synthesize various relevant academic sources, such as scientific journals, books, and industry reports related to healthcare e-commerce. The analysis process was conducted by identifying key findings from previous studies that addressed the role of e-commerce in medical product distribution, healthcare logistics challenges, and factors that influence consumer trust in digital transactions. With this approach, the research can provide a comprehensive understanding of the factors that influence the sale of medical products on e-commerce platforms (Wulandari et al., 2024).

In doing so, this research will use content analysis techniques to review the literature that has been collected. The data obtained will be categorized based on key themes, such as healthcare e-commerce business models, logistics efficiency, and strategies to increase consumer trust. In addition, this research will also compare results from various sources to find patterns and trends that can provide deeper insights into the impact of e-commerce on medical product sales. With this method, the research is expected to provide a strong theoretical foundation for the development of business strategies and policies in the healthcare e-commerce sector in the future.

RESULTS AND DISCUSSION

E-Commerce in Medical Product Sales

E-commerce has experienced rapid growth in various sectors, including the healthcare industry. The emergence of marketplaces and digital platforms specialized in medical products allows consumers to purchase medicines, medical devices, and supplements more easily. Various pharmaceutical companies and healthcare providers have adapted to this digitalization, offering their products through official websites and marketplace platforms such as Tokopedia, Shopee, and Bukalapak, as well as specialized platforms such as Halodoc and Alodokter. The existence of these platforms provides wider accessibility, especially for people in remote areas who previously had difficulty obtaining medical products. With the development of technology, many platforms have also begun to integrate features such as online doctor consultations and electronic prescription services to ensure that consumers get products that suit their medical needs (Indasari et al., 2022).

E-commerce in the healthcare industry offers convenience to the public in acquiring various types of medical products. Consumers can now purchase over-the-counter medications, medical devices such as thermometers and tensimeters, and supplements without having to visit a physical pharmacy. In addition, some platforms also provide direct delivery services that allow patients to receive prescription drugs after consulting with a doctor online. This convenience not only saves time but also reduces the risk of exposure to infectious diseases in healthcare facilities, as was the case during the COVID-19 pandemic. However, while this convenience is a plus, consumers still need to be careful in choosing products and ensure that they buy from a trusted seller or platform to avoid getting products that do not meet health standards (Syahputri et al., 2020).

Online sales of medical products are governed by various regulations to ensure the safety and quality of the products sold. In Indonesia, the Food and Drug Administration (BPOM) is responsible for overseeing the distribution of medicines and supplements in e-commerce. In addition, the Ministry of Health (MOH) also has regulations governing the practice of online drug sales, including policies regarding drugs that can only be purchased with a doctor's prescription. Several regulations have been implemented to prevent misuse and circulation of illegal drugs, such as the obligation for online pharmacies to have an official license and requiring product certification before being traded in the marketplace. However, challenges remain, especially in monitoring the thousands of products circulating on various e-commerce platforms, so cooperation between the government, e-commerce service providers, and the public is needed to ensure compliance with regulations (Laksana, 2024).

While e-commerce offers many advantages in the distribution of medical products, there are some challenges that are still faced. One of the main challenges is transaction security, where many consumers are still concerned about the risk of fraud or personal data theft when making purchases online. Therefore, e-commerce platforms must have secure payment systems as well as clear consumer protection policies. In addition, challenges related to regulatory compliance are also a concern, especially in monitoring the circulation of drugs sold without a prescription or products that have not obtained a distribution license from BPOM. Several cases of illegal drug sales online show that there are still gaps in the supervision system that need to be improved. In terms of ethics, online marketing practices of medical products also need to be considered so as not to mislead consumers, such as exaggerated health claims or promotion of certain drugs without strong scientific evidence. By addressing these challenges, e-commerce in the healthcare sector can develop in a safer manner and provide optimal benefits to society (Pania et al., 2020). With the rapid development of e-commerce, increasingly stringent regulations, and efforts to improve transaction security, the online medical product sales industry has great potential to continue to grow. However, the challenges must be addressed so that e-commerce can become a safe, efficient, and reliable solution in providing health products to the public.

Health Logistics in E-Commerce

Healthcare logistics plays an important role in ensuring the availability and efficient distribution of medical products. Supply chain efficiency is essential to ensure that medicines, medical devices, and supplements can be delivered on time and in a standardized condition. In the e-commerce ecosystem, an optimized supply chain involves cooperation between manufacturers, distributors, logistics service providers, and online sales platforms. The main challenge in the supply chain of medical products is maintaining the quality of the products, especially those that have an expiration date or require special storage conditions. Therefore, the healthcare logistics system must have a good tracking mechanism to ensure that each product reaches the consumer with maintained quality (Rastika et al., 2022).

Based on data from the Central Bureau of Statistics and Supply Chain Indonesia (SCI), it is known that the transportation and warehousing sector contributed 5.6% (IDR 881.7 trillion) of the overall Gross Domestic Product (GDP) in 2019 which reached a total of IDR 15,833.9 trillion. Then when viewed more deeply, it is known that the warehousing subsector and supporting services for transportation, post and courier contribute 17.4% to the GDP of the transportation and warehousing sector (Indonesia Shipping Line, 2020; Central Bureau of Statistics, 2020). Next for 2020, based on data from the Central Bureau of Statistics, Indonesia's GDP in 2020 is known to reach 15,434.2 trillion rupiah, of which 689.6 trillion rupiah (4.5%) comes from the transportation and warehousing sector. Gross Domestic Product (GDP) is one of the important indicators to determine the economic condition of a country in a certain period where GDP is basically the amount of added value generated by all business units in a certain country or is the total value of final goods and services produced by all economic units (BPS, 2022).

Technology plays a key role in improving the efficiency of inventory management and distribution of medical products. By using big data and Internet of Things (IoT)-based systems, companies can optimize stock management, predict market demand, and reduce the risk of shortages or excess inventory. Blockchain technology is also being applied in healthcare logistics systems to increase transparency and prevent the circulation of counterfeit products. In addition, real-time tracking systems allow consumers and healthcare providers to monitor the delivery status of medical products more accurately. The adoption of technology in healthcare logistics not only improves operational efficiency, but also helps in ensuring that medical products sold through e-commerce continue to meet established safety and quality standards.

In the healthcare industry, speed and reliability of delivery are key factors in building customer trust and satisfaction (Putri et al., 2020). Consumers who purchase medicines or medical devices through e-commerce often need these products quickly, especially for patients with critical conditions or chronic diseases. Therefore, healthcare logistics services should be able to offer same-day delivery or next-day delivery options, especially in urban areas that have better delivery infrastructure. In addition, reliability in delivery is also very important-medical products should be well-packed and arrive in proper condition without damage. If e-commerce logistics can guarantee fast and timely delivery, consumer confidence in online shopping for medical products will increase (Yasmin, 2019).

Medical products have stricter shipping standards compared to other products as most medicines and medical devices require special handling. One prime example is the cold chain system used for certain vaccines and medicines that must be kept at a certain temperature to remain effective. If these standards are not adhered to, the product may suffer damage or lose its efficacy. In addition, regulations from the Food and Drug Administration

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(BPOM) and the Ministry of Health (MOH) govern how medicines and medical devices should be shipped, including packaging procedures, labeling, and documentation at every stage of shipment. In addition to regulatory aspects, safety factors are also a concern, especially in preventing theft or misuse of certain drugs that have psychotropic or narcotic effects. Therefore, e-commerce and logistics companies should work closely with the government and health authorities to ensure that all safety standards in the delivery of medical products are met (Luthfiyah et al., 2021).

With the growth of e-commerce in the healthcare sector, an efficient and secure logistics system is key in ensuring the quality and reliability of medical products sold online. Evolving technology, close supervision of the supply chain, and compliance with existing regulations will be the determining factors for the success of e-commerce in supporting wider access to health products for the public.

Consumer Trust in Medical Products in E-Commerce

Consumer trust in medical products sold through e-commerce is an important factor in the success of this industry. Given the nature of medical products that are directly related to the health and safety of individuals, consumers tend to be more cautious in choosing and purchasing such products online. This trust relates not only to the quality and safety of the products, but also to the reliability of the e-commerce platform, transaction security, and consumer protection policies implemented by sellers and service providers (Kosasih, 2017).

There are several key factors that affect the level of consumer confidence in buying medical products online. First, the reputation of the e-commerce platform plays a big role. Consumers are more likely to buy from a known and trusted platform that has positive reviews and clear consumer protection policies. Secondly, product quality is also an important aspect. Medical products must meet strict health standards and be accompanied by certification or permission from health authorities such as BPOM or the Ministry of Health. Third, transaction security is also an important factor. Consumers must feel secure in making payments and shipping, especially when dealing with products that are relatively expensive. E-commerce platforms that use secure payment systems and provide protection for personal data tend to be more trusted by consumers (Adinda et al., 2024).

Consumer trust is also influenced by the extent to which e-commerce platforms provide clear and transparent information about the medical products being sold. This includes complete product descriptions, including composition, usage, dosage, and possible side effects. Sellers who provide detailed and easy-to-understand information will tend to gain more trust from consumers. In addition, the presence of product certifications that show that the product has been tested and approved by authorized institutions (such as BPOM) provides a sense of security for consumers in purchasing medical products online. The use of technology such as barcode scanning or QR codes to verify product authenticity is also gaining popularity to increase transparency and provide confidence to consumers.

Consumer trust is also greatly influenced by reviews and testimonials from other consumers who have bought and used the medical product. Positive reviews from previous users can increase the confidence of new consumers in choosing the same product. Many e-commerce platforms now provide a product review feature that allows consumers to rate and share their experiences. These reviews are often considered more credible compared to advertisements delivered by sellers as they come from real user experiences. However, it is important for consumers to pay attention to the authenticity of these reviews, as there is also the possibility of fake or sponsored reviews. Therefore, transparency in the review system is essential to create higher trust.

One equally important aspect of building consumer trust in medical products in e-commerce is customer service and product return policies. Consumers buying medical products should feel that they can get help in case of problems with the products received, such as defects or shipping errors. Service providers that offer a return guarantee or quality warranty are often more trusted by consumers. For example, if the product received is defective or does not match the description, an easy and seamless return policy will increase consumer satisfaction and strengthen trust in the platform. This policy gives consumers a sense of security, especially when buying high-priced products or products that affect their health.

To increase consumer confidence in purchasing medical products online, there is a need to improve digital health literacy. Many consumers may feel apprehensive about buying medical products online due to a lack of knowledge about the products they are buying. Therefore, e-commerce platforms that provide health education, as well as guidance on how to choose the right products, can help consumers make better decisions. In addition, providing clear information on how to distinguish between genuine and counterfeit products is also important in preventing consumers from being scammed. Thus, good digital health literacy will build a stronger relationship between consumers and e-commerce service providers in the health sector.

Impact of E-commerce, Healthcare Logistics, and Consumer Trust on Medical Product Sales

The increase in sales of medical products through e-commerce is driven by the ease of access provided by the digital platform. E-commerce allows consumers to purchase medical products such as medicines, supplements, medical devices, and other medical devices easily and quickly, with just a few clicks. Consumers no longer need to go to pharmacies or physical stores, which makes the purchasing process more practical, especially for those who live in remote areas or have physical limitations. This convenience is further strengthened by a variety of secure payment options, including digital payment systems, which ease transactions and increase consumer convenience. Thus, ease of access not only makes it easier for consumers, but also drives an increase in the rate of online purchases of medical products (Putri et al., 2023).

Consumer trust has a very important role in making decisions to purchase medical products through e-commerce. Consumers will only shop online if they feel confident that the products they buy are safe, quality, and come from a trusted source. The higher the consumer trust, the more likely they are to make repeat purchases and become loyal customers. Consumers who are satisfied with the products they buy tend to return to buy medical products on the same platform, given that they already feel confident about the quality and safety. As such, consumer trust not only influences the first purchase decision, but also contributes to customer loyalty which further drives increased sales (Sobandi et al., 2020).

In addition, the role of logistics in supporting the growth of online sales of medical products is crucial. Delivery speed and product quality assurance during the shipping process are key factors that affect consumer satisfaction. Medical products, which often require special supervision, such as vaccines that require a cold chain, must be delivered on time and in a maintained condition. Therefore, efficient inventory management and timely distribution are essential to ensure a smooth purchase process and minimize costly errors. E-commerce platforms that work with trusted logistics companies, which are able to guarantee fast and safe delivery, can build a positive reputation in the eyes of consumers, which of course will increase sales (Yasmin, 2019).

The trend of selling medical products through e-commerce has been on the rise, especially with the change in consumer behavior during the COVID-19 pandemic. Consumers are turning to online purchases of medical products due to mobility restrictions and concerns over the risk of transmission in public places. Reports from major e-commerce platforms show a surge in sales of medical products, especially for medical devices and supplements. Statistics show that by 2021, global e-commerce sales of health products are expected to reach more than \$100 billion, with medical and health products contributing significantly to this figure. In Indonesia, e-commerce platforms such as Tokopedia, Shopee, Bukalapak, and Lazada have also reported a significant increase in sales of medical products, along with the growing public awareness about health and the convenience offered by e-commerce (Sudirjo et al., 2023).

Overall, the ease of access, consumer trust, the role of logistics, and statistical data showing an increasing trend in medical product sales further emphasize the importance of e-commerce in supporting the growth of the medical product market. E-commerce platforms that are able to provide easy access, maintain consumer trust, and have efficient and reliable logistics systems, will have a competitive advantage in tapping into the growing market potential. All these factors play a role in creating an e-commerce ecosystem that supports sustainable growth in the medical products industry.

CONCLUSION

Based on the results of the above research, what the author can conclude is as follows:

1. E-commerce has brought about significant changes in the healthcare industry, especially in the sale of medical products. With the presence of various marketplaces and specialized platforms, consumers can now purchase medicines, medical devices, and supplements easily and safely.
2. Logistics systems play a key role in ensuring the availability and distribution of medical products through e-commerce with high efficiency. The supply chain of medical products involves cooperation between manufacturers, distributors, and e-commerce platforms to ensure that products reach consumers on time and in a quality-assured condition.
3. Consumer trust in medical products sold through e-commerce is a crucial factor in determining the success of the transaction. Factors that influence this trust include the reputation of the e-commerce platform, the quality of products that meet health standards, and the security of the transaction.
4. All the factors reviewed above play a role in creating an e-commerce ecosystem that supports sustainable growth in the medical products industry.

REFERENCES

- Adhi, D. P., Dewi, W. N., & Sulhan, M. A. (2021). Perancangan aplikasi e-commerce produk obat-obatan pada Apotik Bagja Cirebon berbasis web. *Jurnal Digit: Digital of Information Technology*, 11(2), 155-165.
- Adinda, Z., & Azira, M. (2024). Analisis faktor-faktor yang mempengaruhi keputusan pembelian skincare pada e-commerce: Implementasi sistem informasi manajemen. *Jurnal Sistem Informasi, Akuntansi dan Manajemen*, 4(1), 01-12.
- Badan Pusat Statistik. (2022). *Statistik Indonesia 2022*. Badan Pusat Statistik.
- Faradiba, B. (2021). Kepuasan dan kepercayaan pelanggan serta loyalitas pengguna belanja online selama pandemi COVID-19. *Ganaya: Jurnal Ilmu Sosial dan Humaniora*, 4(1), 21-28.
- Faridz, H. M., et al. (2024). Analisis manajemen logistik kesehatan dalam pengadaan dan pendistribusian obat pada instalasi farmasi. *Journal Health & Science: Gorontalo Journal Health and Science Community*, 8(3), 128-139.
- Indahsari, T., & Yuliati, A. (2022). Pengaruh e-commerce dan mata kuliah sistem informasi akuntansi terhadap pengambilan keputusan berwirausaha masa pandemi COVID-19. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, 6(3), 452-471.
- Kosasih, V. A. (2017). Perencanaan strategi pemasaran online untuk end-user Pant of Shoes berdasarkan SWOT. *Jurnal Performa: Jurnal Manajemen dan Start-up Bisnis*, 2(2), 183-190.
- Laksana, T. G. (2024). Perlindungan hukum konsumen e-commerce pada produk kesehatan: Pembelajaran pada kejahatan siber. *Indo Green Journal*, 2(1), 31-44.
- Luthfiyah, U. F., Roesdiyanto, R., & Puspitasari, S. T. (2021). Manajemen logistik penyimpanan obat dan vaksin pelayanan kefarmasian puskesmas. *Prosiding Seminar Kesehatan Nasional Sexophone*.
- Pania, S., & Harahap, M. K. (2020). E-commerce penjualan obat herbal pada Toko PO. Propolis dan Herbal Center Medan. *REMIK: Riset dan E-Jurnal Manajemen Informatika Komputer*, 4(2), 319-325.
- Putri, K. A. S., Vania, A., & Fikriah, N. L. (2020). Pengaruh kualitas layanan terhadap kepuasan pelanggan dengan kepercayaan pelanggan sebagai variabel mediasi pada UKM Kharisma Sejahtera. *Journal of Industrial Engineering & Management Research*, 1(2), 140-152.
- Putri, U. A., Prasetyo, A. B., & Purnami, C. T. (2023). Sistem informasi manajemen logistik obat di pelayanan farmasi puskesmas: Literature review. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 6(6), 1016-1024.
- Rastika, D. G. B., Giritikawati, N., & Pramudita, A. W. (2022). Peran industri logistik terhadap keamanan peredaran obat dan makanan. *Eruditio: Indonesia Journal of Food and Drug Safety*, 3(1), 17-28.
- Seipalla, F., Fenska, et al. (2024). A review of e-commerce as part of the excellence movement theory in hospital management system. *FIRM Journal of Management Studies*, 9(1), 49-57.
- Sobandi, A., & Somantri, B. (2020). Pengaruh kepercayaan konsumen terhadap keputusan pembelian secara online. *Winter Journal: Imwi Student Research Journal*, 1(1), 41-52.
- Sudirjo, F., et al. (2023). Analisis dampak strategi pemasaran digital dalam meningkatkan loyalitas pelanggan: Perspektif industri e-commerce. *Jurnal Pendidikan Tambusai*, 7(2), 7524-7532.
- Syahputri, A. N., & Anggoro, D. A. (2020). Penerapan sistem informasi penjualan dengan platform e-commerce pada Perusahaan Daerah Apotek Sari Husada Demak. *SINTECH (Science and Information Technology) Journal*, 3(1), 58-69.
- Wulandari, T. I., et al. (2024). Kewirausahaan dan digitalisasi terhadap pemasaran daring. *Jurnal Kewirausahaan, Akuntansi dan Manajemen Tri Bisnis*, 6(2), 210-219.
- Yasmin, G. N. S. A. (2019). Peran logistik dalam kemajuan e-commerce di Indonesia. *Supply Chain Indonesia*, 60-63.