

THE ROLE OF E-COMMERCE IN EQUITABLE DIGITAL ECONOMY IN INDONESIA

Hendri Hermawan Adinugraha^{1*}, Ayatullah Sadali², Ferida Rahmawati³, Rizky Andrian⁴

^{1,2,3} UIN K.H. Abdurrahman Wahid Pekalongan

⁴ Universiti Utara Malaysia

*hendri.hermawan@uingusdur.ac.id



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Abstract: *The rapid development of online trading or e-commerce has become a new phenomenon in the Indonesian economy. This fact has not been proven to positively impact the welfare of digital economic equality in Indonesia. This study intends to explain the role of e-commerce in the distribution of the digital economy in Indonesia. This study uses a systematic literature review method. The data sources for this research come from books, journals, and other literature related to the role of e-commerce in the distribution of the digital economy in Indonesia. The findings in this literature review conclude that, ideally, high e-commerce transactions can benefit the realization of economic equality in Indonesia. This fact can be found in the e-commerce business, which has embraced local economic sectors such as agriculture, plantations, fisheries, and even MSMEs in all regions by playing an active role in this digital-based trade. Technology has been proven to break the long chain in the distribution process. Business actors in rural areas and regional MSMEs can be essential if they can make friends with technological sophistication. Local business actors can increase their productivity and welfare. Support from the Indonesian government is urgently needed to build infrastructure to realize trade through digital media in villages and remote areas. Another tough challenge is ensuring the e-commerce business is fully secure to gain the public's trust. This is a crucial aspect of the digital economy, as trust and reliability are key to its success.*

Keywords: *e-commerce, digital, economy.*

Abstrak: Pesatnya perkembangan perdagangan *online* atau *e-commerce* telah menjadi fenomena baru dalam perekonomian Indonesia. Kenyataan ini belum terbukti memberikan dampak positif terhadap pemerataan ekonomi digital di Indonesia. Penelitian ini bermaksud untuk menjelaskan peran *e-commerce* dalam pemerataan ekonomi digital di Indonesia. Penelitian ini menggunakan metode tinjauan literatur yang sistematis. Sumber data penelitian ini berasal dari buku, jurnal, dan literatur lain yang berkaitan dengan peran *e-commerce* dalam pemerataan ekonomi digital di Indonesia. Temuan dalam tinjauan literatur ini menyimpulkan bahwa transaksi *e-commerce* yang tinggi dapat memberikan manfaat bagi terwujudnya pemerataan ekonomi di Indonesia. Fakta ini dapat ditemukan pada bisnis *e-commerce* yang telah merangkul sektor-sektor ekonomi

lokal seperti pertanian, perkebunan, perikanan, dan bahkan UMKM di seluruh daerah dengan berperan aktif dalam perdagangan berbasis digital. Teknologi telah terbukti mampu memutus rantai panjang dalam proses distribusi. Pelaku usaha di pedesaan dan UMKM daerah dapat menjadi penting jika mereka dapat bersahabat dengan kecanggihan teknologi. Pelaku usaha lokal dapat meningkatkan produktivitas dan kesejahteraan mereka. Dukungan dari pemerintah Indonesia sangat dibutuhkan untuk membangun infrastruktur guna mewujudkan perdagangan melalui media digital di desa dan daerah terpencil. Tantangan beratnya adalah memastikan bisnis *e-commerce* sepenuhnya aman untuk mendapatkan kepercayaan masyarakat.

Kata kunci: *e-commerce*, digital, ekonomi.

BACKGROUND

The electronic commerce (e-commerce) sector experienced the most significant growth during the pandemic compared to other digital economic sectors (Xie et al., 2023). This proves that even before the pandemic, micro, small, and medium enterprises (MSMEs) could use online shopping platforms to develop their business (Ballerini et al., 2023). Based on a report entitled Digital Economy Outlook released by Bain Analysis, the e-commerce sector recorded the most significant growth, reaching 52 percent, followed by the online media sector at 48 percent, food and transport at 36 percent, and online travel at 29 percent. The four sub-sectors that recorded the highest growth in the digital economy are closely related to the service sector, which continues to grow and contributes significantly to employment in Indonesia. This is because businesses that can survive during a pandemic are companies that are successful in adopting or transforming to digital. Currently, digital technology plays an essential role in the efficiency and productivity of the service sector (CNN Indonesia, 2022)

In the digital era, where everything allows humans to control it remotely, using internet facilities connected to gadgets and laptops. Digital technology is used not only to obtain information, as a medium of long-distance communication but also for the digital economy. Digital technology can be the primary source of profit in the economy in the digital era. The digital economy supports economic activities (Liu et al., 2022). The digital economy is believed to be able to drive economic growth in Indonesia. Through digital technology, Indonesian local products can enter the global market. The digital economy is expected to increase product and service competition from the micro to macro levels (Larionova & Shelepov, 2021).

E-commerce is the activity of distributing, selling, purchasing, and marketing products (goods and services) by utilizing the Internet network. Even though

consumers and sellers do not meet in person, transactions continue to run smoothly. In other words, e-commerce offers the convenience of shopping online (Criveanu, 2023). The increase in the number of online shop members has increased the value of e-commerce transactions in Indonesia, where in 2018, it reached IDR 77.766 trillion. This figure skyrocketed by 151% compared to the previous year when it reached IDR 30.942 trillion. This proves that business through e-commerce is increasingly promising. The rapid growth of the e-commerce business is due to the habits of consumers who are starting to depend on e-commerce sites to buy various kinds of products, especially those that are difficult to find in physical stores, also due to the increasing number of Internet users every year. The increase in the e-commerce business will also help the business development of MSMEs. E-commerce can be an excellent opportunity for MSME actors to develop their businesses and enable MSMEs to carry out marketing with global market goals so that they have the chance to penetrate exports (Kurdi et al., 2021).

The rapid increase in e-commerce business shows the many advantages it has to offer. From the consumer side, online shopping is more practical than retail stores. Consumers can quickly obtain information about the products they need and make purchase transactions anywhere and anytime, whether from home, office, internet cafe, or other online places. Only by using their gadgets can consumers select goods, make payment transfers, and wait for the goods to arrive (Tridalestari et al., 2022). From a business perspective, e-commerce opens new markets for the products and services offered and makes it easier for MSMEs to do business. E-commerce also makes company operations more efficient. Business actors do not need physical offices and shops. Business actors can market their products from home or from anywhere. E-commerce is also very efficient from a time standpoint. Searching for product and transaction information can be done more quickly and accurately (Petroșanu et al., 2022).

E-commerce in Indonesia is experiencing rapid development. However, the rapid growth is only in the scope of Java Island and big cities. One of the main problems is the need for more existing infrastructure, which is not evenly distributed throughout Indonesia. As is well known, the heart of e-commerce itself is Internet technology. Meanwhile, in remote places in Indonesia, the internet network still needs to be improved. It takes the government's seriousness to gradually build good

infrastructure and introduce the Internet to people in remote areas of Indonesia (Ginting et al., 2023).

The following important issue is the security of personal data. Indonesian people are often asked for personal data to be inputted on marketplaces or other e-commerce sites. Tighter regulations are needed so that marketplaces can be more responsible for consumer personal data and not be misused by irresponsible parties (Marune & Hartanto, 2021). The security of buying and selling transactions online is also still a significant problem. Many fake transactions and online shopping scams still make people doubt online transactions. Marketplaces like Tokopedia, Bukalapak, Lazada, and others have become trusted and responsible online transaction media. However, there is no consumer protection for transactions with business actors using social media and personal websites. The public must carefully choose a trusted online trader.

Logistical problems are also a weakness of e-commerce. Logistics parties generally need help to cover remote areas in Indonesia. The risk of old goods not even arriving because addresses are too difficult to find makes people too lazy to transact online. Not to mention, if the goods that come are not as expected, consumers will feel cheated (Lee et al., 2021).

Taxes on business actors in e-commerce are also not equal. This makes business actors fuss about unclear government regulations regarding taxes. In the past, offline business actors were taxed, and they complained about online business actors whose tax regulations were ambiguous. Now, there are tax regulations for online transactions (Indriyani & Jayanto, 2020). However, there are also differences between online business actors through marketplaces and social media. Most importantly, e-commerce must allow micro, small, and medium enterprises (MSMEs) to develop. Indonesian local products must be competitive with imported products. But at present, most of Indonesia's online MSMEs are as if they are only "resellers" of imported goods. Indonesian e-commerce actors will only become a "market" for foreign traders, and this will increase imports of goods. (Karyati, 2019).

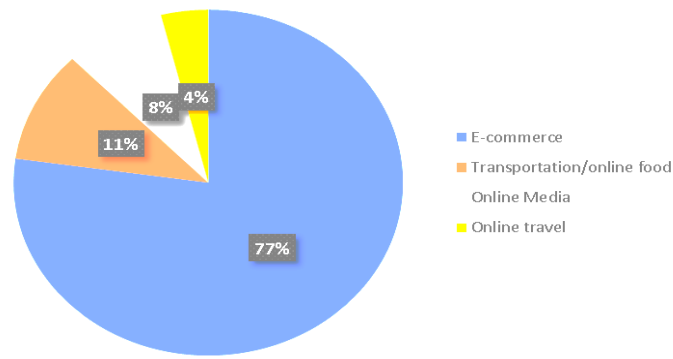


Figure 1. The value of Indonesia's digital economy

Indonesia's digital economic value from the e-commerce sector reached 59 billion, the transportation/online food sector reached 80 billion, the online media sector reached 64 billion, and the online travel sector reached 300 billion. The value of Indonesia's digital economy as a whole will reach around US\$77 billion in 2022, a 22% increase from the previous year. This was conveyed by Google, Temasek, and Bain & Company in the Economy SEA 2022 report. The report records the digital economic value of Southeast Asian countries based on gross merchandise value, namely the value of gross sales of goods and services during a specific period. In Indonesia, the largest GMV in 2022 will come from the e-commerce sector, with an estimated value of US\$59 billion. Then, other digital economy sectors, namely transportation and food delivery services, travel ticket bookings, and online media, each of which has a GMV below US\$10 billion, are shown in the chart.

The Indonesian national economy is resilient and continues to recover more quickly, supported by improvements in domestic economic fundamentals, such as increased consumption, investment, and exports. In addition, it is also supported by the great potential of digital economic growth in the last two years, one of which is motivated by people's increasingly contactless behavior, namely relying more on e-commerce and on-demand services, such as ride-hailing, online food delivery, and online logistics (Coordinating Ministry for Economic Affairs of the Republic of Indonesia, 2023).

Indonesia's digital economy has excellent growth potential (McKinsey, 2018). The We Are Social report shows that 77% of Indonesia's population is active internet users, reaching 212.9 million in January 2023. In 2022, Google, Temasek, and Bain & Co. reported the contribution of the Indonesian e-commerce sector to USD 59 billion,

or the equivalent of 76% of the value of Indonesia's digital economy. It is projected to reach USD 130 billion in 2025.

Google, Temasek, and Bain & Company project that Indonesia's digital economy will continue to grow and remain the largest in Southeast Asia until 2030. However, several macroeconomic challenges can potentially weigh on this growth prospect. Consumers non-essential spending will decrease with an economic slowdown and a weak labor market. Inflation in fuel and food prices, as well as the depreciation of Southeast Asian currencies, are pushing up food transportation and delivery rates (Hidayat, 2022).

The Indonesian Ministry of Communication and Information stated that the post-pandemic economic recovery would go well if a sustainable and safe digital infrastructure supported it. These two outcomes are prerequisites for providing affordable digital public services. The value of the digital economy is estimated to reach US\$ 315.5 billion. This will advance the growth of digital innovation. In 2021, the value of Indonesia's digital economy has reached US\$ 70 billion (Rp 1,042 trillion) and will continue to grow to US\$ 315.5 billion (Rp 4,698 trillion) in 2030. That presents the potential for the future of the Indonesian economy.

Digital innovation is essential in handling the global Covid-19 pandemic and accelerating post-pandemic recovery. The government continues to encourage the development of startup companies so that they can play an optimal role in the domestic economy. Digital innovation will continue to be critical in driving tomorrow's economy. As the G-20 Presidency, Indonesia has prioritized the growth of the national, international, domestic, and global startup ecosystem within the scope of the role of digital innovation.

Data from the World Bank (2022) shows that in line with the pace of digital innovation, the valuation of the world's digital economy has reached 15.5% of the total global gross domestic product. That number has increased 2.5 times faster than in the last 15 years. Digital innovation specifically supports MSMEs and startup businesses. Based on data from the previous five years, Indonesia has had two dec acorns and 14 unicorns. Startups are again laying a solid foundation for the promising growth trajectory of Indonesia's digital economy. By 2030, 70% of new value creation in the economy is estimated to be based on digitally enabled business models (Nugroho & Nugraha, 2020).

Indonesia is ranked fifth in the world, with 5,662 startups per year. A startup is a form of research and development for MSMEs. The Indonesian Ministry of Communication and Information produces 50 to 100 new startups annually. Meanwhile, implementing the 1,000 Startups program has now made 1,400 startups. Meanwhile, the Indonesian Ministry of Communication and Informatics' Startup Studio Program (SSI) has made 65 startups. In the 1,000 startup program, the Ministry of Communication and Informatics gathers entrepreneurs and then encourages them to create networks to deliver products (Wantiknas, 2023).

Indonesia's digital economy is robust and the largest among neighboring countries. This is Indonesia's capital to develop (Sapulette & Muchtar, 2023). Digital economic transformation must be optimized because it drives economic growth in Indonesia. Indonesia's digital economy is projected to grow 20 percent from 2021 to USD 146 billion in 2025 and is predicted to continue to increase. The policies for developing the digital economy in Indonesia cover vast fields, such as government, education, health, trade and industry, population administration, and the financial sector. For this reason, the government provides support for the development of Indonesia's digital ecosystem by encouraging policies and regulations that support innovation; building basic infrastructure and financial infrastructure that is strong, robust, and integrated; providing fiscal support, such as tax incentives and financing support for MSMEs; and utilizing digital technology in various government programs and public services (Negara & Sugiana, 2022).

At the same time, in addition to developing human resources and building capacity to deal with digital Indonesia, consumer protection must also be. When digitalization enters into economic activities, consumer protection becomes very important. Protection of data protection privacy is essential to be seated neatly, and the Indonesian people work with it (Nazara, 2022). This research aims to explain the role of e-commerce in the distribution of the digital economy in Indonesia.

RESEARCH METHODS

The researcher used the literature review method to analyze the role of e-commerce in supporting an equitable digital economy in Indonesia. We chose this approach because literature review provides an opportunity to review previous studies, understand existing concepts, and identify gaps in the relevant literature.

The researcher collected secondary data from various scientific sources, such as journals, books, research reports, and articles relevant to e-commerce and an equitable digital economy. The researcher prioritized articles indexed in trusted academic databases such as Google Scholar, Scopus, and ScienceDirect to ensure data quality and relevance.

The qualitative process of this research using the NVivo application includes data collection, importing data into NVivo, coding to identify themes such as e-commerce access and digital economic equity, theme analysis, and data visualization to reveal the role of e-commerce in an equitable digital economy in Indonesia.

In the literature selection process, we applied the following criteria: 1) Articles published within the last 5-10 years, 2) Studies that discuss e-commerce, digital economy, and the concept of economic justice in Indonesia and globally, and 3) Studies that use both qualitative and quantitative approaches to ensure a diverse depth of analysis. After the literature was collected, the researcher conducted several steps of analysis: 1) Exploration of Key Themes: We identified key themes related to the role of e-commerce in the digital economy and the principle of equity, such as financial inclusion, income distribution, and the impact on MSMEs, 2) Compilation of Findings: Researchers grouped the findings based on specific categories, such as the impact of e-commerce on the macro and micro economy, and the challenges faced in creating economic justice through digital platforms, and 3) Evaluation and Synthesis:** We evaluated the appropriateness and strength of the arguments from various sources, then synthesized the information to develop a clear theoretical framework regarding the role of e-commerce in realizing an equitable digital economy in Indonesia.

The results of this literature review will be presented systematically in the form of a narrative accompanied by tables or graphs if necessary. The researcher will discuss the relationship between the concepts and provide recommendations based on the findings. This method is designed to produce a robust and comprehensive conclusion on how e-commerce can create an equitable digital economy in Indonesia.

RESULTS AND DISCUSSION

An Introduction to E-commerce in the Digital Economy

E-commerce is an essential sector in the digital economy landscape. Its presence, which is driven by the latest technology, makes it easier for consumers to

shop and allows access for users to do business and increase their income. E-commerce consists of two words, namely electronic and commerce. In simple terms, e-commerce means electronic commerce. It refers to various trade processes carried out through electronic or online networks, from ordering to shipping goods. E-commerce is a platform that allows the sale and purchase of goods electronically. Electronic commerce also refers to companies and individuals who buy and sell goods and services via the Internet. Almost every product and service is available in e-commerce, from books, airline tickets, clothing, electronic products, household appliances, and others (Deloitte, 2021). Therefore, e-commerce technology is considered a disruption in the economy.

E-commerce as a technological innovation has several advantages and benefits, such as saving time from the consumer's side. In general, the benefits and advantages of e-commerce are 1) Increasing efficiency and workforce. E-commerce allows the buying and selling process not to be done conventionally face to face. With electronic commerce, promotion, marketing, ordering, payment, and delivery of products can be done through the platform; 2) Increasing transactions between regions. Electronic commerce can increase transactions between areas within or even between countries. Sellers can have a more comprehensive market coverage, and buyers also benefit because they have many choices and can get goods at the best prices; 3) No need for a physical store. In e-commerce, sellers do not need a physical store to sell. That means sellers can save costs because they don't have to spend money on building maintenance, renting a place, etc. At the same time, doing business in e-commerce does not need significant capital, especially compared to conventional ones, such as opening a physical store; 4) Flexible business. The operation and management of e-commerce are not limited by space and time. Sellers do not need to go to the store, open and close the store every day. They work at home to continue their business. From the consumer side, this also makes it easier for them to view product catalogs. In addition, they have a choice of products at various prices; 5) The business has the potential to grow. The use of e-commerce allows savings in terms of costs. That way, the funds saved can be used to develop the business. In addition, e-commerce also allows sellers to get more consumers from various places. The more consumers, the greater the benefits that can be obtained (Harnani et al., 2020).

E-commerce has several business models, including 1) Business to Business (B2B). This type of e-commerce is carried out between producers or companies and

companies. Usually, goods are ordered in large quantities or wholesale, and the prices are competitive. Examples of e-commerce using B2B are trading and indonetnetwork.com. Products usually traded include industrial materials, factory raw materials, chemical products, and the like; 2) Business to Consumer (B2C). This type of business is prevalent for many business people, both beginners and micro, small, and medium enterprises (MSMEs). This is because the company directly sells products to consumers. The transaction process will occur quickly, and product prices may even be below the market price. Some examples of this e-commerce are Shopee, Lazada, Tokopedia, or Blibli; 3) Consumer to Consumer (C2C). This type of e-commerce is popular among business people. It brings together consumers on both digital and physical platforms. For offline, they meet because the desired payment method is cash on delivery (COD). Some examples of this type of e-commerce that are commonly used include Bukalapak or OLX; 4) Consumer to Business (C2B). This type brings together consumers and companies or business people. Usually, business people look for products that consumers already own. If interested, businesses will usually give a reasonable price to consumers. Examples of this type of e-commerce are freelancers or sribulancers; 5) Business to Administration (B2A). In this e-commerce, the company cooperates with the government. In general, the cooperation model concerns the public sector. For example, the government needs an application to make an e-KTP. Therefore, the government will contact private parties who are experts in this matter (Firmansyah, 2022).

The following describes the supporting sectors of Indonesia's digital economy: e-commerce, online media, financial technology, application-based transportation, and online travel.

Table 1. Supporting sectors of Indonesia's digital economy

No	Support sector	Explanation
1	E-commerce	The first sector contributing to the digital economy is E-commerce or electronic commerce, namely buying and selling goods or services, transferring funds or data through electronic networks, especially the Internet, and transferring money and data to complete these transactions. These trade transactions consist of business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer, or consumer-to-business. The facts in our society show that 8 million people shop online and are expected to continue to grow. The main drivers are consumers, Digital Behavior in Indonesian Society, and expanding market reach. Examples of E-commerce in Indonesia are Shopee, Lazada, Tokopedia and Blibli, Tokopedia, Bhinneka, and Ralali.

2	Online media	The second sector contributing to the digital economy is online media. Online media is an information-based haven for news, facts, entertainment, and knowledge. Media published online (e.g., online magazines, marketing, news sites, etc.) pushes boundaries and opens markets to a broader audience. With this online media, many Indonesian people now work as YouTubers, content creators, videographers, SEOs, bloggers, and others.
3	Financial technology	Financial technology centers more on companies that innovate in financial services with a touch of modern technology. Financial technology focuses on companies that use the latest technology to innovate in financial services. On the other hand, financial technology aims to support the buying and selling process so that the wider community can accept it. Financial technology has had a significant impact on the lifestyle of the business world. The combination of effectiveness and technology positively impacts society at large. The presence of financial technology in society has several advantages. The first advantage is that financial technology can support new developments in the mushrooming technology startup space. This will help expand employment and promote economic growth. Financial technology can reach people that traditional banks cannot. In addition, financial technology can also improve the macroeconomy. The convenience offered by financial technology can increase e-commerce sales. Financial technology has the potential to become a significant sector of the digital economy in the future because of its various advantages, product diversity, and financial services. The following are examples of financial technology in Indonesia: kitabisa, Amarta, cloudcash, and Payfazz.
4	Application-based transportation	The development of application-based or online public transportation can significantly impact the Indonesian economy. Economic growth will be supported by sectors that are now absorbing more workers. Online transportation facilitates expanding employment opportunities, absorbs many workers, and creates efficiency, ultimately increasing the country's productivity. Examples of online transportation today are Grab, Gojek, Maxi, Indriver, and others.
5	Online travel	The emergence of a new online travel sector has a valuable impact on society because online travel sites have much more travel information and choices than traditional agents. With online travel as a website, you can combine them to reach millions of consumers online. Websites that allow you to create promotions and advertisements more efficiently. Consumer needs to obtain detailed information from various service providers, travel planning, compare prices, reservations, and payments can be adopted better. With online travel, it helps foreign tourists to visit Indonesia, be it during holidays, work, and so on. Of course, this will help the economy in the tourism sector. Examples of online travel are traveloka, tickets, trips, etc.

Source: Fai, (2023).

Digital Economy Transformation in Indonesian E-commerce

The digital world encourages the birth of new industries for Indonesia's digital economy (Deloitte, 2021). This is due to technological developments that are developing rapidly. The industrial sector that is growing in line with technological developments influences and brings the country's economy positively and makes people enter the era of the digital economy. Indonesia is a country with great potential for digital economic development. This is a growing challenge for governments. The impact that occurs is social change that is increasingly complex—changes in lifestyle attitudes due to changes in business models in various industries. Indonesia's digital economy can have many positive impacts. However, this is also a challenge for Indonesian government policies. With the development of the digital economy, new business models, cross-departmental integration, and changes in existing sector business models. Developing the digital economy is one of the main strategies for transforming the Indonesian economy, which aims to accelerate economic recovery after the COVID-19 pandemic. Changes in people's behavior also drive the development of the digital economy, and they tend to use digital platforms in various industries. Some sectors can contribute to Indonesia's growing digital economy (Fai, 2023).

Digital transformation has moved forward at a breakneck pace and has changed the paradigm of the global economy and society. This digital transformation brings many positive things, including using digitalization to achieve economic and business goals. Digital transformation is the future of the economy and industry. The survey results confirm the rapid shift in customer interaction with digital channels. On average, 58 percent of customer interactions worldwide after the COVID-19 pandemic were digital compared to 36 percent in the pre-pandemic period, and now it's even 80 percent. One of the opportunities that can be utilized from the digital economy is to help accelerate Indonesian business through the empowerment of MSMEs and the development of the Islamic economy. Indonesia has nearly 64 million MSMEs in the economy. It accounts for 97% of the country's workforce and contributes over 60% of GDP. While digitization has many benefits for businesses and the economy, it also has challenges that must be overcome. First, the lack of digital literacy is still a considerable homework for all of us. Second, the state needs to ensure equality in digital literacy among its citizens. Apart from that, many other challenges in the digital economy, such as cybersecurity, human resources, internet access, and regulations,

must be solved together in stages (Ministry of Finance of the Republic of Indonesia, 2023).

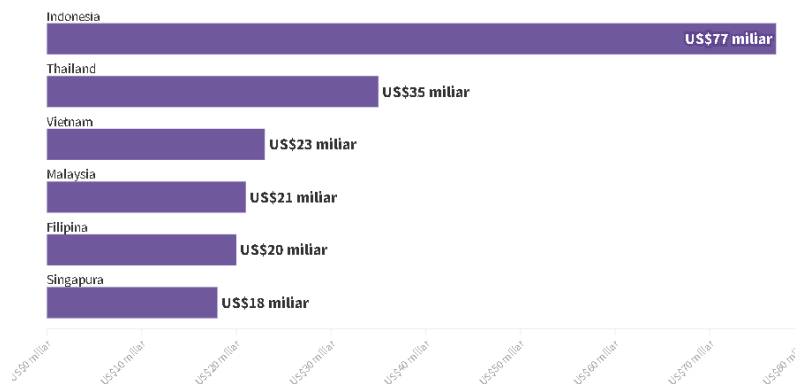
E-commerce transactions make the most significant contribution to Indonesia's digital economy, where in 2021, the value reached US\$53 billion. This number is predicted to increase to US\$104 billion in 2025, with a growth rate of 18. Digital platforms have provided global access to consumers and made it easier for service providers to increase capacity and competitiveness in the e-commerce and trade sectors. Therefore, efforts to develop these two sectors need to optimize the role of digital platforms in promoting the products offered. Ways to be done include increasing user-generated content, providing digital infrastructure and competent human resources, and protecting consumers. Specifically for the tourism sector, efforts to optimize peer-to-peer accommodation must be supported to increase the participation of MSMEs and local communities (Capri, 2017).

Adaptation, innovation, and collaboration are the primary keys for the e-commerce and trade sector to recover from the downturn caused by the pandemic. The acceleration of the digital economy, particularly in the e-commerce and online travel sub-sectors, is an effective strategy to boost Indonesia's economic performance. For this reason, the Indonesian government has committed to strengthening the resilience of the e-commerce sector as one of the pillars of the latest economic recovery. All stakeholders should jointly strengthen cross-sectoral collaboration, especially in increasing the role of the digital economy by optimizing the potential in the trade and e-commerce sectors. With effective collaboration, it will be able to realize inclusive and sustainable economic growth to achieve the Golden Indonesia Vision 2045 (Coordinating Ministry for Economic Affairs of the Republic of Indonesia, 2022)

Indonesian e-commerce contributed USD 59 billion this year and will grow to USD 95 billion in 2025. The digital economy is believed to drive Indonesia's economy, especially e-commerce services. The Indonesian government continues to encourage and always pays attention to the birth of startups that will not only grow and form market share but can also increase their valuation. Digital economy actors also need to pay attention; they are not only able to grow and form market share, even to increase the valuation of their startups, but must also be able to grow with a resilient business model with solid resilience. Undeniably, the digital economy is the future of Indonesia, as projected by research by Google, Temasek, and Bain & Company. The digital economy is the future for Indonesia's young people. Therefore, the digital

talents of the younger generation continue to be encouraged to develop a knowledge base economy so that many innovations will be born to grow the digital economy and compete with other countries (Hidranto, 2022).

Indonesia has the most prominent digital economy in Southeast Asia. In 2023, its GMV is estimated to reach US\$77 billion, or around IDR 1,198.3 trillion.



Sources: Google, Temasek, and Bain & Company.

Graph 1. Digital Economy in Southeast Asia (2022)

Google, Temasek, and Bain & Company report show that the gross merchandise value (GMV) of the digital economy in Southeast Asia was recorded at US\$194 billion in 2022. This amount has increased by 20% compared to the previous year, which amounted to US\$161 billion. Indonesia is the country with the most prominent digital economy in Southeast Asia. This year, the GMV of Indonesia's digital economy is estimated at US\$77 billion or around Rp.1,198.3 trillion. Indonesia's digital economy growth this year has reached 22% or higher than the average in Southeast Asia. It's just that this growth has slowed compared to 2019 to 2021, when it reached 25%. Thailand is in second place with a digital economy GMV of US\$35 billion. After that, Vietnam and Malaysia had digital economy GMVs that reached US\$23 billion and US\$21 billion. After that, the Philippines has a digital economy GMV of US \$ 20 billion. Then, the GMV of Singapore's digital economy was recorded at US\$ 18 billion. By sector, the GMV of online marketplaces or e-commerce is still the largest in Southeast Asia. Its value reached US \$ 131 billion this year. The GMV of online media in the region is recorded at US\$24 billion. Then, the GMV of online transportation and food delivery reached US\$22 billion. Meanwhile, online tourism GMV was recorded at US\$17 billion (Mustajab, 2022).

The Impact of E-commerce on the Indonesian Economy

Technological developments have evolved from the industrial revolution 1.0 to the industrial revolution 4.0, and even now, it is developing to Society 5.0, which significantly changes human life. One example that has a considerable impact is the use of the internet. With the development of the modern era, the internet is also increasingly sophisticated with its various features. The Industrial Revolution 4.0 has significantly impacted multiple fields, including the economy and trade. The rapid use of the Internet has substantially impacted economic growth. Communities can do various things, including buying and selling transactions through communication devices connected to the internet (Kumala, 2022).

In Indonesia, the Indonesian Association of Internet Service Providers survey on its official website noted that internet penetration in Indonesia had reached 78.19 percent in 2023, or penetrated 215,626,156 people out of a total population of 275,773,901 people. The high use of the Internet in Indonesia is in line with the development of online business, commonly known as e-commerce. Electronic commerce, or e-commerce, uses communication networks and computers to conduct business processes. The popular view of e-commerce is using the internet and computers with web browsers to buy and sell products. (Junaedi et al., 2022). However, over time, e-commerce has become accessible not only via the web but also through applications.

Several years ago, the world economy, including Indonesia, was hit by a downturn due to the COVID-19 outbreak, which required several regions to carry out large-scale social restrictions, and many employees were laid off so that economic activity was disrupted. This makes people adapt to new conditions where all dominant activities are carried out online, as well as buying and selling transactions. Many people use online platforms and marketplaces for buying and selling activities. Even though the current situation has improved, people's interest in making transactions on e-commerce is still high because the products offered are very varied apart from being effective and efficient. Currently, e-commerce is increasing. The ease of access to doing business online, broad reach, and a large number of internet users in Indonesia encourage someone to open a stall to make a profit (Qolbi & Sukmana, 2022).

From millennials to adults armed with perseverance, creativity, and innovation, and taking advantage of digital technology facilities, they can build creative businesses with great opportunities to succeed. In addition, it can also create jobs for many people.

This is also beneficial for government agencies because there is revenue from the value-added tax sector, which can increase national economic growth. Therefore, the younger generation must develop a knowledge-based economy so that there will be many innovations from the nation's children to improve the digital economy so that it can compete on the international stage (Janah, 2023).

Today's technological developments are increasing rapidly, and the benefits of technological sophistication can be used to improve people's economies by buying and selling online. On the one hand, through online buying and selling smartphone applications, we can purchase what society wants without leaving the house. The existence of e-commerce that uses a payment system by transfer or non-cash can encourage the creation of a Less Cash Society, which is felt to be faster, more efficient, and more practical. The increase in the number of online shop members has also resulted in a significant rise in the value of e-commerce transactions in Indonesia (Kurnia Maharani & Sari, 2023).

E-commerce can be utilized in its business operations; MSMEs will get more comprehensive market access and have the opportunity to attract new customers. On the other hand, it will be easier for customers to get the information they need online. E-commerce is a type of electronic business mechanism that focuses on individual-based business transactions using the internet (digital network-based technology) as a medium for exchanging goods or services between two institutions (business to business) and direct consumers (business to consumers) (Wahyuni et al., 2020).

Buying and selling activities now do not require transacting and choosing goods directly with the cash-only payment method. Using e-commerce as a place for buying and selling online will encourage changes in business activities from the old to the new financial era. The following is a comparison table of business activities between the old economic era and the latest economic era. With the change towards a new economy where sellers and buyers do not meet each other directly, transactions use a non-cash payment system. The transaction method used in e-commerce is less cash, either through automated teller machines, electronic fund transfers, mobile banking, online banking, electronic data interchange, or e-commerce transactions. Telecommunications network in the form of the internet (Fernando et al., 2020).

Most e-commerce payment methods are through ATM transfers 77.50%, payment on the spot 22.50% and the third via mobile or internet banking 20.70%. The various electronic payment products offered can encourage the banking industry to

expand the non-cash payment system because it can increase the volume of digital transactions in Indonesia. The government must also ensure that electronic payment systems are easily accessible, secure, and usable. This will build greater trust among Indonesians and increase the use of electronic payments.

Including MSMEs in e-commerce can increase Indonesia's economic growth because it is one way that MSMEs can market their products besides expanding market access. MSMEs in Indonesia have carried out various innovations to create quality products that can be sold through e-commerce. Automatically if a quality product will encourage consumer buying interest through e-commerce so that electronic payments from time to time will become a habit and can create a cashless society that was previously with a cash payment system which had efficiency constraints because procurement and management costs are classified as expensive, carries a risk of being easily lost, stolen or counterfeited.

The relationship between MSMEs and e-commerce in this global era cannot be separated. Thus, MSME actors can utilize technological advances to market and develop their businesses through e-commerce to create many product/service innovations to attract consumers. Consumers will automatically look at e-commerce to buy the desired goods/services. Ease in card-based and electronic-based payment systems will increase efficiency, cost, and time. In this instant and practical era of globalization, electronic payments can change people's habits and, at the same time, create a less-cash society, which has many benefits compared to cash transactions (Wiraguna et al., 2023).

This impacts the development of MSMEs, increasing economic growth in Indonesia because they can absorb jobs and various products that MSME actors can produce. Of course, a solid legal basis and transaction security are needed to create a less-cash society. This role is not solely the task of Bank Indonesia but also support from the government, parties, and national banks to encourage less cash society activities (Putra, 2017).

E-commerce has a positive impact on the progress of MSMEs in Indonesia. MSMEs play an important role in Indonesia's economy. The increase in Indonesia's economic growth is inseparable from the role of MSME businesses—particularly the contribution of MSMEs to the gross domestic product. The contribution of MSMEs to national GDP reaches around 60.34%. In terms of numbers, small businesses in Indonesia contribute more to GDP, reaching 93.4 percent, then medium companies at

5.1 percent, and large businesses at only 1 percent. As explained, e-commerce has become an excellent opportunity for MSMEs to market and develop their business. Utilization of e-commerce can be done to expand market access, create jobs, and have a positive impact on various other supporting e-commerce business sectors, which in turn can contribute to accelerating Indonesia's economic growth (Maharany et al., 2021).

MSME actors carry out various innovations in creating quality and competitive products/services, which are then marketed through e-commerce. Quality products will encourage consumer buying interest so that through e-commerce, MSMEs can expand their market and get more new customers. So that export opportunities can also be achieved. In addition, it must also be balanced with good administrative management. It is necessary to develop websites and e-commerce as a means for the promotion and marketing of business products so that it will increase the number of sales and increase revenue. Which will eventually develop MSMEs (Burhanudin et al., 2022).

E-commerce can also be an access for MSMEs to penetrate the export market. MSMEs use digital technology to penetrate international markets. In its development, technology will become cheaper and open opportunities for MSMEs to use e-commerce for company operations. There are many advantages offered by e-commerce to develop MSMEs, but there are still obstacles. One of the obstacles for entrepreneurs is their low mastery of technology and their reluctance to optimize the use of e-commerce in their business. Many feel they must be more technologically literate and active to learn new technologies (Sadali et al., 2024). MSME business people must proactively learn new technologies to advance their business. Information technology infrastructure is not evenly distributed in various regions, and internet networks are still limited, especially in remote areas of Indonesia, making it difficult for regional MSMEs to enter e-commerce. This requires collaboration between the Indonesian government, e-commerce practitioners, and business actors, as well as the support of all communities, to become a solution to these obstacles. In particular, the Government, as regulator, facilitator, and accelerator, plays an essential role in providing a solid legal basis regarding equality of treatment between offline and online business actors, strengthening and empowering local products and local business actors, including MSMEs and consumer protection. It is hoped that e-commerce will

encourage the progress of MSMEs in Indonesia to increase Indonesia's economic growth (Karyati, 2019).

MSMEs are the backbone of the regional and national economy and foster the development of the digital economy. The results of the hypothesis show that the application of e-commerce significantly positively affects the increase in MSME's income in the Tegal Regency. The more significant development of E-commerce has a good effect on improving one's business economy by carrying out business promotions that are very effective and practical in obtaining large profits so that they can increase income optimally and encourage the development of the digital economy (Krisdiyawati et al., 2021). The results of Farida et al.'s research show that perceived ease of use and HR competence variables influence the readiness of MSMEs toward digitalization (Farida et al., 2020).

Digital Economy Equality through the Role of E-commerce in Indonesia

The rapid advancement of digital technology has impacted the development of e-commerce, which has also spurred the Indonesian economy. Online commerce has currently created 4 million jobs and will jump to 26 million by 2022. This indicates that digital economy equality in Indonesia will soon be realized (Universitas Indonesia, 2023).

The rapid development of online trading or e-commerce has become a new phenomenon in the Indonesian economy. Hopefully, this fact will positively impact the welfare of digital economic equality in the archipelago. This is related to Indonesia's extensive condition, consisting of 16 thousand islands with a population of around 240 million. Implementing equitable economic development in all fields is challenging for the country.

The fact that transactions through e-commerce are high must be utilized to realize economic equality in Indonesia. This can be done if the e-commerce business can embrace local economic sectors such as agriculture, plantations, fisheries, and even MSMEs in all regions can play an active role in this digital-based trade. With technology, it is hoped that it can break the long chain in the distribution process so that producers are closer to consumers and market prices remain competitive and healthy. The government believes that business actors in rural areas and regional MSMEs can be important if they can make friends with technological sophistication.

Local business actors can increase their productivity and welfare (Ausat & Peirisal, 2021).

The Indonesian government also provides support to build infrastructure to realize trade through digital media in villages and remote areas. It can be said that until now the need for the internet has not been evenly distributed throughout Indonesia. However, if you see a positive response from the community and business players, the internet infrastructure may receive full support from the government. Another tough challenge is ensuring that the e-commerce business is fully secure to gain the public's trust. Several things can be done to work around this when choosing e-commerce for transactions. One of them is ensuring the credibility of e-commerce. Pay attention to whether the e-commerce is good and care about merchants/sellers and buyers by offering a large selection of products that can be obtained at the best and most transparent prices. The greater the number of products that have been purchased and received good reviews, the higher the level of public trust to recommend the e-commerce experience to a large audience. For the convenience of satisfactory e-commerce transactions, you can transact at Tokopedia. Tokopedia is a pioneer of online buying and selling platform connecting trust between sellers and buyers throughout Indonesia. Tokopedia can answer this challenge by ensuring user satisfaction so that it becomes the number 1 site in Indonesia with 150 million visits per month.

Tokopedia has helped more than 2 million MSMEs and local brands that offer more than 60 million types of products at transparent prices that can be enjoyed from Sabang to Merauke. Tokopedia also supports the government's mission to carry out digital economic equality so that local entrepreneurs have an essential role in increasing their productivity (Adinugraha et al., 2023). This concern makes Tokopedia continue to provide the best service through various features, attractive offers, and innovations dedicated to a better Indonesia. At Tokopedia, you can enjoy five services that will meet your needs at all conveniences. Starting from the "Sell" service. This service allows you to open your shop and sell or market your products more broadly. There is also a "Buy" service. This service provides tens of millions of types of products, official brands, local products, and digital (pulses, game vouchers).

The "Pay" service allows you to pay utility bills, PDAM water, make sacrifices online, and even zakat. Services include "Order" train tickets and Amusement Rides without the need to queue. A more accessible application submission service for

insurance, loans, and People's Business Credit (KUR) also exists. Please download the Tokopedia application or visit www.tokopedia.com to enjoy a convenient online transaction experience that will answer your various needs. Because all transactions for the convenience of your life, start from Tokopedia (Ino, 2017).

The role of e-commerce in the development of the digital economy in Indonesia. In this era, major changes have occurred in business activities, especially in the trading industry, driven by technological and internet developments, one of which is the emergence of e-commerce or electronic commerce. E-commerce is a 21st-century revolution regarding a new way of conducting internet-based trade transactions using an electronic system. E-commerce can also be interpreted as a business process carried out using the internet and electronic technology that can connect companies, communities, and consumers in the form of electronic transactions carried out such as the sale of goods, services, and or electronic information (Rudetskaya, 2021).

E-commerce, simply put, is the electronic process of buying and selling goods. It has grown rapidly in recent years and is starting to replace conventional or offline marketplaces. E-commerce itself has several forms, namely Business to Business (B to B) and Business to Consumers (B to C). Consumers are usually in a very strong position in B to C, which allows customers to impact long-term business continuity. As a result, customers need to be more careful when making online transactions.

Usually, security risks and payment methods are involved in these issues. It states that electronic transactions are legal activities carried out using computers, computer networks, or other electronic media by what is said in Article 1 number 10 of Law Number 11 of 2008 concerning Information and Electronic Transactions. One example of the provisions mentioned above in its implementation is electronic transactions. The parties conducting transactions conducted electronically usually establish legal relations in the form of electronic agreement contracts and are carried out following the guidelines in Article 1 Number 18 of the Law which regulates Information and Electronic Transactions (Tjipto, 2021).

E-commerce is exchanging products, services, and information through the Internet. E-commerce is also one of the e-businesses; e-businesses are covered more broadly, not only commercially but also as business partners, customer service, and employment. The www network is not only a network needed in e-commerce, e-commerce technology will also require databases, electronic mail or so-called e-mail, and several other non-computer technologies that will be used for distribution and as

a means of payment in the system. This e-commerce. In this digital era, e-commerce has brought significant changes in the business world and has an important role in economic development (Anindo Saka Fitri et al., 2022).

E-commerce has experienced rapid development since its inception in the 1990s. The United Nations Conference on Trade and Development reported that the value of global e-commerce transactions in 2021 reached \$28.5 trillion, while according to the Indonesian E-commerce Association, the value of e-commerce transactions in Indonesia grew 18.77% from the previous year (YoY) to IDR 476.3 trillion at the end of 2022 and it is projected that the value of Indonesian e-commerce transactions will reach IDR 572 trillion in 2023. This phenomenon shows that e-commerce has become an important part of global trade, coupled with shifts in people's habits due to the Covid-19 pandemic, which was originally buying and selling activities carried out conventionally (traders and buyers meeting in person) has shifted to electronically through e-commerce (traders and buyers do not need to meet in person).

E-commerce makes a significant contribution to economic development because it can have a positive impact on several aspects of economic development. First, it increased trading efficiency by reducing operational and transaction costs. E-commerce allows trade transactions to be carried out online, thereby reducing transportation costs and administrative costs that usually occur in conventional commerce; plus, e-commerce can speed up the process of trade transactions so that the time needed for transactions is relatively short. Second, it improves the economy and competitiveness of a country in terms of global trade. Through e-commerce, trade can be carried out online and is open to all people around the world; this has a positive impact because it broadens the reach of consumers and opens up new opportunities for local producers or small entrepreneurs to market products so that products and services produced by local producers can be sold, to the global market. This can help increase a country's economic growth in the long run. Third, e-commerce can help improve public access to product and service information. Through e-commerce, consumers can easily search and compare products and services sold by various sellers (Ainur Hardianti et al., 2022).

Based on what has been explained previously, it can be concluded that the influence of e-commerce on economic development has a significant influence on people's buying interest globally, including in Indonesia. This can happen because

many people use electronic media or smartphones a lot. Also, since the existence of Covid-19, more and more people are spending more time at home due to social restrictions, so people will more often carry out all their transactions virtually via smartphones or other digital media. This, of course, will significantly impact and influence the global economy and Indonesia itself. Since the existence of Covid-19 until now, people have tended to carry out all their activities via the internet, and this will indirectly give birth to innovations and also being able to give birth to new entrepreneurs in running their businesses to be able to compete on digital platforms globally. The growing development of e-commerce, supported by laws that protect e-commerce actors, is also the impact of globalization that can help create a sense of security in buying and selling e-commerce. The influence of digital marketing distribution products and processes on the buying interest of global and local people also emphasizes how important digitalization is in this era to keep the wheels of the economy running (Bakaro, 2023).

CONCLUSION

The findings in this literature review conclude that, ideally, high e-commerce transactions can benefit the realization of economic equality in Indonesia. This fact can be found in the e-commerce business which has been able to embrace local economic sectors such as agriculture, plantations, fisheries, and even MSMEs in all regions by playing an active role in this digital-based trade. Technology has been proven to be able to break the long chain in the distribution process. Business actors in rural areas and regional MSMEs can have an essential role if they can make friends with technological sophistication. Local business actors can increase their productivity and welfare. Support from the Indonesian government is urgently needed to build infrastructure to realize trade through digital media in villages and remote areas. Another tough challenge is ensuring that the e-commerce business is fully secure to gain the public's trust. The results of this study prove that the digital economy is believed to still be one of the sectors that play an essential role in driving the economy in Indonesia, especially in e-commerce services. Indonesia is one of the top 10 countries in the world with the fastest-growing e-commerce. The high value of e-commerce transactions in Indonesia is very promising for the survival and business of merchants on digital economy platforms, for example, MSME players in various Indonesian e-commerce. Another interesting finding is related to an e-commerce

ecosystem that is inclusive and easy to use or low in barriers, which positively impacts Indonesia's economic growth. This creates more equal opportunities for people from various groups, encourages richer interactions and fairer representation, encourages sustainable solutions, and ultimately, the development of the digital economy in Indonesia is more equitable.

REFERENCES

- Adinugraha, H. H., Sartika, M., & Sulthoni, M. (2023). Santripreneur in Santrendelik : Evidence of Pesantren Concern for Entrepreneurship and Religiosity. *International Journal Ihya' 'Ulum Al-Din*, 25(2), 82–96. <https://doi.org/10.21580/ihya.25.2.13895>
- Ainur Hardianti, R., Permatasari, I., & Wahyuni, R. N. (2022). Paradigma Cashless Society Dan E-Commerce Di Indonesia, Keberhasilan Pemulihan Ekonomi Atau Euforia? *Jurnalku*, 2(1). <https://doi.org/10.54957/jurnalku.v2i1.134>
- Anindo Saka Fitri, Ana Wati, S. F., Safitri, E. M., Wulansari, A., & Yudha Kartika, D. S. (2022). Implementation of System Dynamics to Increase Successful Utilization of E-Commerce with Marketing and Innovation Capability in MSMEs. *International Journal of Data Science, Engineering, and Analytics*, 2(1). <https://doi.org/10.33005/ijdasea.v2i1.18>
- Ausat, A. M. A., & Peirisal, T. (2021). Determinants of E-commerce Adoption on Business Performance: A Study of MSMEs in Malang City, Indonesia. *Jurnal Optimasi Sistem Industri*, 20(2). <https://doi.org/10.25077/josi.v20.n2.p104-114.2021>
- Bakaro, T. (2023). *Peran E-Commerce Dalam Pembangunan Ekonomi di Era Digital*. Kompasiana.Com. <https://www.kompasiana.com/tiasbakaro5976/6422411508a8b5212a730922/peran-e-commerce-dalam-pembangunan-ekonomi-di-era-digital>
- Ballerini, J., Herhausen, D., & Ferraris, A. (2023). How commitment and platform adoption drive the e-commerce performance of SMEs: A mixed-method inquiry into e-commerce affordances. *International Journal of Information Management*. <https://doi.org/10.1016/j.ijinfomgt.2023.102649>
- Burhanudin, B., Yusnaini, Y., Khamisah, N., & Kartasari, S. F. (2022). Utilization of E-Commerce and Digital Marketing to Increase Value Added Products for MSMEs and Home Businesses in Kerinjing Village. *Sricommerce: Journal of Sriwijaya Community Services*, 3(1). <https://doi.org/10.29259/jscs.v3i1.77>
- Capri, A. (2017). Micro and Small Businesses in Indonesia's Digital Economy. *Asia Pacific Foundation of Canada*.
- CNN Indonesia. (2022). *E-Commerce Rajai Pertumbuhan Ekonomi Digital Saat Pandemi*. News. <https://www.cnnindonesia.com/ekonomi/20220615082930-92-809094/e-commerce-rajai-pertumbuhan-ekonomi-digital-saat-pandemi>
- Criveanu, M. M. (2023). Investigating Digital Intensity and E-commerce as Drivers for Sustainability and Economic Growth in the EU Countries. *Electronics (Switzerland)*, 12(10). <https://doi.org/10.3390/electronics12102318>

- Deloitte. (2021). Realizing the potential of Indonesia's digital economy. *Deloitte Indonesia Perspective*, 2(February).
- Fai. (2023). *Ekonomi Digital Indonesia*. Article. <https://umsu.ac.id/berita/ekonomi-digital-indonesia/>
- Farida, I., Aryanto, & Tiarso, R. C. (2020). *Persepsi UMKM di Kota Tegal Terhadap Kesiapan Menuju Digitalisasi UMKM di Era New Normal*. https://perpustakaan.poltektegal.ac.id/index.php?p=show_detail&id=4210804
- Fernando, N., Mery, M., Jessica, J., & Andry, J. F. (2020). Utilization of Big Data In E-Commerce Business. *Conference Series*, 3(1). <https://doi.org/10.34306/conferenceseries.v3i1.383>
- Firmansyah, L. M. (2022). *Mengenal E-commerce dalam Ekonomi Digital: Arti, Manfaat, dan Jenis*. Article. <https://www.fortuneidn.com/tech/luky/mengenal-e-commerce-dalam-ekonomi-digital-arti-manfaat-dan-jenis>
- Ginting, Y. M., Chandra, T., Miran, I., & Yusriadi, Y. (2023). Repurchase intention of e-commerce customers in Indonesia: An overview of the effect of e-service quality, e-word of mouth, customer trust, and customer satisfaction mediation. *International Journal of Data and Network Science*, 7(1). <https://doi.org/10.5267/j.ijdns.2022.10.001>
- Harnani, N., Rudi Suprianto Ahmadi, Nana Suhana, & Luthfi Setiadiwibawa. (2020). E-Commerce As A Technological Innovation Strategy Of Entrepreneurs In Bandung To Increase Sales In the Digital Era. *Dinasti International Journal of Digital Business Management*, 1(3). <https://doi.org/10.31933/dijdbm.v1i3.253>
- Hidayat, A. (2022). *Ini Nilai Ekonomi Digital Indonesia Tahun 2022 menurut Google*. <https://databoks.katadata.co.id/datapublish/2022/10/27/ini-nilai-ekonomi-digital-indonesia-tahun-2022-menurut-google>
- Hidranto, F. (2022). *Ekonomi Digital Indonesia Tetap 'Ngacir.'* Article. <https://www.indonesia.go.id/kategori/editorial/6654/ekonomi-digital-indonesia-tetap-ngacir?lang=1>
- Indriyani, P. D., & Jayanto, P. Y. (2020). Faktor-Faktor yang Mempengaruhi Kepatuhan WPOP Pelaku E-Commerce di Kota Semarang pada Platform Online Marketplace Blibli.com. *Moneter - Jurnal Akuntansi Dan Keuangan*, 7(1). <https://doi.org/10.31294/moneter.v7i1.7703>
- Ino. (2017). *Fenomena E-commerce dalam Pemerataan Ekonomi Digital di Indonesia*. Article. https://www.kompas.id/baca/adv_post/fenomena-e-commerce-dalam-pemerataan-ekonomi-digital-di-indonesia
- Janah, S. N. (2023). *Dampak E-Commerce Era Industri 4.0 Pada Perekonomian Indonesia*. Article. <https://ftmm.unair.ac.id/dampak-e-commerce-era-industri-4-0-pada-perekonomian-indonesia/>
- Junaedi, D., Supriyatna, R. K., & Arsyad, M. R. (2022). Era Baru Perkembangan Peradaban Ekonomi Digital. *Sci-Tech Journal*, 2(1). <https://doi.org/10.56709/stj.v2i1.61>
- Karyati, I. P. (2019). *E-Commerce untuk UMKM Dan Pertumbuhan Ekonomi Indonesia*. Article. <https://bppk.kemenkeu.go.id/pusdiklat-keuangan-umum/berita/e-commerce-untuk-umkm-dan-pertumbuhan-ekonomi-indonesia-237095>

- Kementerian Keuangan RI. (2023). *Transformasi Digital untuk Masa Depan Ekonomi dan Bisnis di Indonesia*. News. <https://djpb.kemenkeu.go.id/portal/id/berita/berita/nasional/4074-transformasi-digital-untuk-masa-depan-ekonomi-dan-bisnis-di-indonesia.html>
- Kementerian Kominfo RI. (2022). *Kembangkan Ekonomi Digital, Indonesia Butuh Talenta Digital Berkualitas*. Siaran Pers. https://www.kominfo.go.id/content/detail/47689/siaran-pers-no-28hmkominfo032023-tentang-kembangkan-ekonomi-digital-indonesia-butuh-talenta-digital-berkualitas/0/siaran_pers
- Kementerian Koordinator Bidang Perekonomian RI. (2022). *Akselerasi Ekonomi Digital pada e-Commerce dan Online Travel Menjadi Salah Satu Strategi Efektif Mendorong Kinerja Perekonomian Nasional*. Siaran Pers. <https://www.ekon.go.id/publikasi/detail/3978/akselerasi-ekonomi-digital-pada-e-commerce-dan-online-travel-menjadi-salah-satu-strategi-efektif-mendorong-kinerja-perekonomian-nasional>
- Kementerian Koordinator Bidang Perekonomian RI. (2023). *Pemerintah Dorong Pemulihan Ekonomi Lebih Cepat dengan Optimalkan Potensi Ekonomi Digital*. Siaran Pers. <https://www.ekon.go.id/publikasi/detail/4957/pemerintah-dorong-pemulihan-ekonomi-lebih-cepat-dengan-optimalkan-potensi-ekonomi-digital>
- Krisdiyawati, Kartika, D., & Maulida, A. (2021). *Peran Ekonomi Digital Melalui Teknologi E-Commerce dalam Meningkatkan Pendapatan UMKM di Tegal*. https://perpustakaan.poltektegal.ac.id/index.php?p=show_detail&id=4210805
- Kumala, S. L. (2022). Perkembangan Ekonomi Berbasis Digital Di Indonesia. *Journal of Economics and Regional Science*, 1(2). <https://doi.org/10.52421/jurnal-esensi.v1i2.190>
- Kurdi, M., Kurniawati, D., Andrianingsih, V., Furqani, A., Alfiah, N., & Arifin, M. (2021). *The Government's Role in MSMEs Development Through E-Commerce in Sumenep Regency*. <https://doi.org/10.4108/eai.6-3-2021.2306388>
- Kurnia Maharani, R., & Sari, S. P. (2023). Investment Decisions of Millennial Investors: Viewed From Herding Behavior, Investment Knowledge, Expected Return and Technological Advances. *The International Journal of Business Management and Technology*, 7(2).
- Larionova, M., & Shelepov, A. (2021). Emerging Regulation for the Digital Economy: Challenges and Opportunities for Multilateral Global Governance. *International Organisations Research Journal*, 16(1). <https://doi.org/10.17323/1996-7845-2021-01-02>
- Lee, Y., Kim, J. I., Khanzode, A., & Fischer, M. (2021). Empirical Study of Identifying Logistical Problems in Prefabricated Interior Wall Panel Construction. *Journal of Management in Engineering*, 37(3). [https://doi.org/10.1061/\(asce\)me.1943-5479.0000907](https://doi.org/10.1061/(asce)me.1943-5479.0000907)
- Liu, Q., Trevisan, A. H., Yang, M., & Mascarenhas, J. (2022). Digital functions and mechanisms are a framework of digital technologies for the circular economy. *Business Strategy and the Environment*, 31(5). <https://doi.org/10.1002/bse.3015>
- Maharany, A. M., Saidani, B., & Fidhyallah, N. F. (2021). Pengaruh Kepuasan Dan Manfaat Yang Dirasakan Terhadap Minat Beli Ulang Pada E-Commerce Marketplace X Di Indonesia. *Frontiers in Neuroscience*, 2(2).

- Marune, A. E. M. S., & Hartanto, B. (2021). Strengthening Personal Data Protection, Cyber Security, and Improving Public Awareness in Indonesia: Progressive Legal Perspective. *International Journal of Business, Economics, and Social Development*, 2(4). <https://doi.org/10.46336/ijbesd.v2i4.170>
- McKinsey. (2018). *McKinsey Expects Great Growth for Indonesia's E-Commerce Market*. Indonesia Investments.
- Mustajab, R. (2022). *Ekonomi Digital Indonesia Terbesar di Asia Tenggara pada 2022*. https://dataindonesia.id/ekonomi-digital/detail/ekonomi-digital-indonesia-terbesar-di-asia-tenggara-pada-2022#google_vignette
- Nazara, S. (2022). *Ekonomi Digital Indonesia Sangat Kuat dan Terbesar di antara Negara Tetangga*. News. <https://www.kemenkeu.go.id/informasi-publik/publikasi/berita-utama/Wamenkeu-Ekonomi-Digital-Indonesia-Sangat-Kuat>
- Negara, S. D., & Sugiana, A. M. (2022). The State of Indonesia's Digital Economy in 2022. *ISEAS Perspective*, 109(2022).
- Nugroho, L., & Nugraha, E. (2020). the Role of Islamic Banking and E-Commerce for the Development of Micro, Small, and Medium Entrepreneur Businesses. *Business, Economics and Management Research Journal - BEMAREJ*, 3(1).
- Petroșanu, D. M., Pîrjan, A., Căruțașu, G., Tăbușcă, A., Zirra, D. L., & Perju-Mitran, A. (2022). E-Commerce Sales Revenues Forecasting by Means of Dynamically Designing, Developing and Validating a Directed Acyclic Graph (DAG) Network for Deep Learning. *Electronics (Switzerland)*, 11(18). <https://doi.org/10.3390/electronics11182940>
- Putra, F. R. (2017). *Peran E-Commerce Dalam Pengembangan Usaha Mikro, Kecil Dan Menengah (UMKM)*. Article. <https://syariah.uinsaid.ac.id/peran-e-commerce-pengembangan-usaha-mikro-kecil-dan-menengah-umkm-mewujudkan-less-cash-society/>
- Qolbi, A., & Sukmana, R. (2022). Determinan Niatan Mahasiswa Terhadap Wakaf Tunai Secara Online Menggunakan Modifikasi Technology Acceptance Model. *Jurnal Ekonomi Syariah Teori Dan Terapan*, 9(1), 78. <https://doi.org/10.20473/vol9iss20221pp78-91>
- Rudetskaya, A. V. (2021). The Role Of E-Commerce In The Development Of The Country's Digital Economy. *Vestnik of Khabarovsk State University of Economics and Law*, 1–2. <https://doi.org/10.38161/2618-9526-2020-1-2-17>
- Sadali, A., Fikri, M. K., & Adinugraha, H. H. (2024). Halalpreneur Opportunities and Challenges: Empirical Evidence from Indonesia. *Al-Intaj*, 10(2), 240–258. <https://doi.org/10.29300/aij.v10i2.3893>
- Sapulette, M. S., & Muchtar, P. A. (2023). Redefining Indonesia's Digital Economy. *ERIA Policy Brief*, January.
- Tjipto, F. P. (2021). Comparative Law Analysis of Consumer Protection Law in E-Commerce Transaction Between Indonesia and United States. *UIR Law Review*, 5(2).
- Tridalestari, F. A., Mustafid, M., Warsito, B., Wibowo, A., & Prasetyo, H. N. (2022). Analysis of E-Commerce Process in the Downstream Section of Supply Chain Management Based on Process and Data Mining. *Ingenierie Des Systemes d'Information*, 27(1). <https://doi.org/10.18280/isi.270110>

- Universitas Indonesia. (2023). *Pemerataan Ekonomi Digital Melalui Peran E-Commerce dan Generasi Digital*. Berita. <https://www.ui.ac.id/pemerataan-ekonomi-digital-melalui-peran-e-commerce-dan-generasi-digital/>
- Wahyuni, S., Widodo, J., Zulianto, M., & Islami, N. N. (2020). The analysis of e-commerce utilization in Micro, Small and Medium Enterprises (MSMEs) at Jember. *IOP Conference Series: Earth and Environmental Science*, 485(1). <https://doi.org/10.1088/1755-1315/485/1/012037>
- WANTIKNAS. (2023). *2030, Nilai Ekonomi Digital Indonesia Akan Capai Rp 4.698 T*. News. <https://www.wantiknas.go.id/id/berita/2030-nilai-ekonomi-digital-indonesia-akan-capai-rp-4698-t>
- Wiraguna, S. A., Santiago, F., & Redi, A. (2023). Harmonization of Law on Transactions E-Commerce in order to support Indonesia's Economic Development. *Journal of Social Research*, 2(6). <https://doi.org/10.55324/josr.v2i6.937>
- Xie, H., Chang, S., Wang, Y., & Afzal, A. (2023). The impact of e-commerce on environmental sustainability targets in selected European countries. *Economic Research-Ekonomika Istrazivanja*, 36(1). <https://doi.org/10.1080/1331677X.2022.2117718>