

The Development of E-Commerce and Its Impact on Changes in Consumption Patterns and Behavior of Indonesian People in The Digital Economy Era: A Literature Study In 2020–2025

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Abstract

E-commerce has become one of the main drivers of digital economic growth in Indonesia. The expansion of internet access, the use of smartphones, and rapid digital payment systems have accelerated the adoption of online transactions and changed consumer behavior. This research aims to analyze the development of e-commerce in Indonesia and examine its impact on changes in consumption patterns and consumer behavior during the 2020-2025 period. The research uses the Systematic Literature Review (SLR) method using scientific articles obtained from Google Scholar, Scopus, SINTA, and ScienceDirect databases. After applying the inclusion and exclusion criteria, 25 relevant articles were selected and analyzed thematically. The findings show that the growth of e-commerce in Indonesia has increased significantly due to technological advances and the acceleration of digital transformation during the COVID-19 pandemic. Consumers are increasingly choosing online shopping because of its convenience, efficiency, and accessibility. Digital promotions, online reviews, free shipping, and electronic payment systems have become important factors influencing purchasing decisions. E-commerce also provides opportunities for Micro, Small, and Medium Enterprises (MSMEs) to expand market reach and increase competitiveness. However, some challenges remain, including cybersecurity threats, personal data protection issues, digital literacy gaps, and the need for adaptive regulation. The study concludes that e-commerce plays a strategic role in shaping modern consumption patterns and supporting Indonesia's digital economy. Therefore, collaboration between governments, businesses, and society is essential to ensure the sustainable and inclusive development of e-commerce.

Keywords:

E-commerce; Digital Economy; Consumer Behavior; Consumption Patterns; Digital Transformation.

1. INTRODUCTION

The rapid development of information and communication technology has brought significant changes in various aspects of human life, including in the economic field. This phenomenon is known as the digital economy, which is an economic system that utilizes digital technology as the main support in production, distribution, consumption, and transaction activities. The digitalization process is a key factor in these changes by encouraging the birth of digital innovations that contribute to increased efficiency, expanded market access, and the formation of new business models that are more flexible and adaptive (Verhoef et al., 2021). E-commerce is one of the tangible manifestations of the digital economy that has changed people's consumption behavior from conventional patterns to online-based patterns (Laudon & Traver, 2024). In addition to speeding up buying and selling transactions, E-commerce also opens up wider opportunities for

business people, especially Micro, Small, and Medium Enterprises (MSMEs), to reach the market without being hampered by geographical limitations (Purbohastuti, 2021).

Indonesia is one of the countries with the largest digital economic growth in the Southeast Asian region (Ministry of Communication and Information of the Republic of Indonesia, 2023). The high number of internet users, increasing smartphone ownership, and the development of digital payment systems are the main factors driving the growth of this ecosystem (Central Statistics Agency, 2024). Various platforms such as Shopee, Tokopedia, Lazada, Blibli, and TikTok Shop have changed the way people search for information, compare products, and make purchase transactions (Hidayat & Wijaya, 2023). Development E-commerce not only affects the trade sector, but also brings changes in people's consumption patterns and behavior (Nugroho & Sari, 2022). Consumers today prioritize ease of access, speed of service, payment flexibility, and digitally available product information (Turban et al., 2021). In addition, the emergence of various interactive features such as Flash Sale, Cashbackfree shipping, and Live Commerce has psychologically influenced the purchasing decision-making process of consumers (Kotler et al., 2021).

Although various studies have discussed the development of E-commerce, most previous studies have only focused on certain aspects partially, such as consumer behavior alone or aspects of digital payment technology alone (Gefen et al., 2020). Other studies also tend to look at the impact E-commerce without integrating changing consumption patterns, digital regulatory developments, as well as security challenges in a single comprehensive literature review (Amory et al., 2025).

In addition, the development of Social Commerce and regulatory dynamics E-commerce post-pandemic is still relatively little discussed in integrative studies (Rahman & Hidayati, 2024). Therefore, there is a research gap (Research gap) in the absence of a literature review that fully analyzes the relationship between technological developments, consumer psychology, government policies, and security risks in Indonesia in the 2020–2025 period. Based on these conditions, this study aims to analyze the development of E-commerce in Indonesia, identifying its impact on changes in people's consumption patterns and behavior, and examining the various opportunities and challenges that arise in the digital economy era.

2. RESEARCH METHOD

This study uses the Systematic Literature Review (SLR) with a descriptive-comparative approach to synthesize the results of previous research on the digital economy in Indonesia (Amory et al., 2025). The source of research data comes from scientific articles obtained through Google Scholar, Scopus, SINTA, and ScienceDirect databases with a publication range of 2020–2025. Literature search is conducted using a combination of keywords "E-Commerce", "Digital Economy", "Consumer Behavior", "Online Shopping", and "Indonesian".

The inclusion criteria for this study include scientific articles from peer-reviewed journals (Peer-reviewed) which discusses the development of digital consumer behavior, the impact on MSMEs, and cyber regulations in Indonesia. The exclusion criteria include articles published before 2020, incomplete drafts, and scientific articles outside the context of the Indonesian domestic market. The initial search yielded 56 articles, and after a rigorous screening process based on relevance and methodological quality, as many as 25 articles were selected as the main reference sources to be analyzed using thematic analysis techniques.

3. RESULTS AND DISCUSSION

3.1. E-Commerce Development in Indonesia (2020–2025)

Development E-commerce in Indonesia during the 2020–2025 period showed very massive growth in transaction value and became the main driving force of the national digital economy (Ministry of Communication and Information of the Republic of Indonesia, 2023). The Covid-19 pandemic that hit in 2020 became a crucial momentum that accelerated the structural market move, where physical restrictions forced people to switch to digital platforms to meet their daily needs (Murtadlo & Sulhan, 2023).

From a historical perspective, the year 2020 served as a critical turning point due to the global COVID-19 pandemic. Stringent physical mobility restrictions forced a structural market migration, compelling consumers who were previously skeptical of online transactions to adapt to digital platforms for their daily logistics and consumption needs. However, what was initially categorized as a temporary crisis response (shock response) rapidly transformed into a permanent consumer habit (sustained behavior) that continued to strengthen well into 2025.

This acceleration is fully supported by the massive digital wallet infrastructure and integrated electronic payment systems (Rizki & Setiawan, 2023). Leading marketplaces continue to innovate utilizing advanced technologies such as artificial intelligence (AI) and shopping recommendation algorithms to increase user engagement (Dwivedi et al., 2022). As a result, the business competition map shifted completely, forcing conventional business models to adopt a marketing system Omnichannel to survive (Utami, 2023).

This massive acceleration has been heavily underpinned by a mature electronic payment infrastructure. The seamless integration of digital wallets (e-wallets)—such as GoPay, OVO, Dana, and ShopeePay—alongside the standardization of QRIS (Quick Response Code Indonesian Standard) by Bank Indonesia, has effectively minimized friction within digital transactions. Furthermore, the emergence of buy-now-pay-later (PayLater) features has significantly expanded credit access for the underbanked population, thereby loosening short-term consumer budget constraints and multiplying transactional frequency.

At the platform level, intense market competition among major marketplaces—such as Shopee, Tokopedia, Lazada, Blibli, and the aggressive expansion of TikTok Shop—has pushed technological innovation to a much more complex tier. Leading platforms utilize Big Data analytics and Artificial Intelligence (AI) to deploy highly personalized shopping recommendation algorithms based on users' search histories, screen time, and implicit preferences. This has completely reshaped the competitive business map, leaving conventional brick-and-mortar models with no choice but to adopt comprehensive omnichannel marketing strategies to survive in an increasingly digital-centric market.

3.2. Changes in Indonesia's Consumption Patterns

Development E-commerce has systematically changed the consumption patterns of Indonesian people from a physical-conventional model to a digital-centric model (Nugroho & Sari, 2022). Shopping access that was once limited by distance and time is now unlimited thanks to the presence of smartphones connected to the global internet network (Turban et al., 2021). The nature of public spending has also shifted from the initial need-based (need-based buying) turned into digital stimulus-based consumption (Stimulus-based buying) (Amory et al., 2025).

This change in pattern is greatly influenced by interactive algorithm-based marketing tactics, such as free promos, discounted shipping, and Cashback (Hidayat & Wijaya, 2023). This digital lifestyle also extends evenly not only to retail goods, but also to the ecosystem of daily services such as online transportation applications and online food ordering (Alalwan, 2020).

The structural rise of e-commerce has systematically altered the consumption patterns of Indonesian society, shifting it away from physical-conventional models toward a fluid, borderless, and digital-centric ecosystem. Traditional shopping parameters, which were strictly bounded by geographic distance and rigid store operational hours, have been rendered obsolete. Powered by smartphones connected to ubiquitous internet networks, modern consumers enjoy 24/7 access to millions of products across diverse global regions right from the comfort of their homes. The most radical paradigm shift is observed in the underlying motivation behind consumer spending. The nature of public expenditure, which originally operated on a necessity framework (need-based buying), has progressively shifted into consumption heavily driven by digital triggers (stimulus-based buying). Consumers now frequently browse e-commerce platforms not out of a pre-determined or specific need, but because they are constantly exposed to sophisticated visual stimuli, personalized feeds, and aggressive promotional mechanics designed to trigger spontaneous desire. ((Laudon & Traver, 2024; Turban et al., 2021; Utami, 2023).

Interactive marketing tactics, such as time-sensitive discounts (flash sales), zero-minimum-spend free shipping vouchers, and cashback rewards, act as major catalysts for this modern consumptive lifestyle. Moreover, this commodification of needs is no longer restricted to physical retail items like apparel, electronics, or cosmetics. It has fully enveloped the daily service ecosystem, including online food delivery services (e.g., GoFood, GrabFood) and ride-hailing applications, making on-demand digital expenditure an integral part of the regular budget for urban households and the working class. (Rizki & Setiawan, 2023).

3.3. Changing Consumer Behavior in the Digital Economy Era

The digital economy has given birth to new consumer behaviors that are much more critical, independent, but at the same time vulnerable to impulsive decisions (Ghozali & Latan, 2021). Before buying, modern consumers dominated by millennials and Generation Z will conduct an in-depth digital search through reviews (Online Reviews) and content creators' recommendations on social media (Kotler et al., 2021). Confidence factor (Trust) against the platform and online sellers have full control in the success of these digital transactions (Gefen et al., 2020).

However, on the other hand, interactive shopping features such as Live Shopping and deadline Flash Sale often triggers the phenomenon of unplanned purchases or impulse buying in society (Rahman & Hidayati, 2024). In addition, the high speed of digital services triggers very strict consumer expectations of the timeliness of delivery of goods and customer service responsiveness (Laudon & Traver, 2024). Modern consumers expect instantaneous responses from customer service agents and extreme punctuality in product fulfillment. The widespread availability of same-day or instant on-demand delivery options within hours has compressed consumer patience, placing monumental pressure on third-party logistics networks to perpetually optimize and accelerate their supply chain touchpoints. (Laudon & Traver, 2024).

3.4. The Role of E-Commerce in MSME Development

In the productive sector, E-commerce act as a pillar of economic democratization that helps the operational efficiency of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia (Sari & Kurniawan,

2022). Through e-commerce platforms, MSMEs can cut operational costs of opening physical stores and expand the reach of promotions to national and global markets with minimum capital (Purbohastuti, 2021). The integration of digital finance in the marketplace also helps accelerate financial inclusion for small businesses in the region. The native integration of digital financial services (fintech) within these marketplaces has simultaneously accelerated financial inclusion for small regional enterprises. MSMEs historically classified as unbankable by conventional banking systems due to unstructured accounting records can now leverage their verified digital sales data history as a legitimate portfolio. This alternative credit scoring allows them to secure working capital and productive loans from digital financial institutions to scale up production (Murtaglo & Sulhan, 2023).

However, this digital transition still faces a considerable barrier. Many domestic MSME actors are vulnerable to being trapped in the problem of low digital literacy, limited technology capital, and extreme price competition pressure due to the onslaught of cheap imported commodities that flood the marketplace market (Sari & Kurniawan, 2022). The most existential threat facing local MSMEs on e-commerce platforms is the brutal price-cutting environment sparked by the influx of ultra-cheap, mass-produced foreign import commodities. Because local items often cannot match the manufacturing scale efficiency of foreign industries, domestic businesses find their profit margins completely eroded by aggressive price wars, rendering their newly found geographic reach functionally ineffective.

3.5. The Impact of Regulation on the Development of E-Commerce

Dynamics E-commerce which is running very quickly requires adaptive government policy intervention to protect consumer rights while maintaining domestic market stability (Prasetyo & Trisyanti, 2021). This market arrangement is clearly seen through the issuance of the Minister of Trade Regulation (Permendag) Number 31 of 2023 which prohibits direct trade transactions on pure social media platforms, which had a direct impact on TikTok Shop's operations (Rahman & Hidayati, 2024).

This protectionist intervention ignited sharp polarization among economists, legal scholars, and industry stakeholders. From an industrial insulation perspective, the policy was deemed critical to putting an immediate stop to predatory pricing practices. Well-funded foreign tech corporations frequently deploy massive, unsustainable capital subsidies to artificially depress prices below market value to choke out local competition—a practice that would destroy the foundation of local manufacturing and creative MSMEs if left unregulated. (Yusuf, 2024).

On the one hand, this strict regulation is considered very crucial by observers to stop the practice Predatory Pricing which damages the market price of local products (Sari & Kurniawan, 2022). However, on the other hand, this restrictive policy has sparked debate because it is considered to have the potential to hinder the growth of the digital innovation ecosystem and limit the revenue channels of creative business people who depend on Social Commerce (Rahman & Hidayati, 2024).

3.6. Cybersecurity and Consumer Data Protection Challenges

The high volume of digital trade transactions in Indonesia is directly proportional to the increased risk of cybercrime (Yusuf & Handayani, 2024). Personal data and transaction profiles belonging to consumers are currently the main targets of various malicious cyberattacks such as data leaks (Data breaches), online fraud (Phishing), and hijacking of digital accounts (Dwivedi et al., 2022). The existence of the Personal Data Protection Law (PDP Law) is a very crucial written legal umbrella, but its application in the field still requires very high technological compliance from the company's internal governance E-commerce (Yusuf & Handayani, 2024). Beyond external cyber threats, the foundation of Indonesia's digital economy remains inherently fragmented by a structural classic issue: the digital divide. E-commerce growth metrics that paint a glamorous national picture are, in reality, heavily skewed toward urban centers and the island of Java (Java-centric). Telecommunication infrastructure quality—specifically high-speed fiber-optic availability and broadband network stability—in Frontier, Outermost, and Remote (3T) regions, particularly across Eastern Indonesia, lags profoundly behind.

In addition to cyber threats, the fundamental challenge of Indonesia's digital economy is the still strong problem of the digital divide (Digital divide), where the quality of inter-regional internet infrastructure and the level of digital literacy of inter-demographic communities are still uneven (Prasetyo & Trisyanti, 2021).

3.7. Critical Analysis and Implications of Findings

A critical analysis of all the findings proves that the acceleration E-commerce in Indonesia cannot be viewed from the perspective of information technology progress alone, but rather as a shift in complex socio-economic civilization (Prasetyo & Trisyanti, 2021). The surge in the value of digital transactions on the one hand reflects the high acceptance of technology from the public (Central Statistics Agency, 2024). The soaring transaction volumes undoubtedly mirror a high societal acceptance of advanced technology. However, this hyper-growth conceals a structural economic time bomb if it is not urgently paired with aggressive, systemic financial literacy education. The frictionless convenience offered by predictive algorithms and the immediate gratification of instant credit extensions (PayLater) can easily trap vulnerable lower-middle-class brackets into highly destructive cycles of consumptive debt. Society is increasingly

steered toward funding an artificial lifestyle dictated by social media validation rather than real economic sustainability.

Consequently, the long-term sustainability of Indonesia's digital economy hinges entirely on the structural optimization of collaborative governance. The state must avoid archaic, heavy-handed regulatory maneuvers that suffocate innovation, while simultaneously refraining from entirely abandoning the marketplace to the unbridled forces of surveillance capitalism. A robust three-way synergy is non-negotiable: adaptive government policies focused on infrastructure equity and local price floor protection, unwavering industry commitment to safeguarding user privacy data, and a critical, active consciousness from the public to utilize these digital tools productively rather than purely consumptively. Bolstering these core ecosystem pillars will ultimately dictate whether Indonesia emerges as a true economic sovereign in the digital era or is reduced to a passive consumer target in the global digital market. (Rahman & Hidayati, 2024).

However, if not balanced with equitable distribution of inclusive telecommunications infrastructure and massive financial literacy education, the growth of this digital economy risks widening the gap between socio-economic inequality between regions (Murtadlo & Sulhan, 2023). Therefore, strengthening the national digital ecosystem in the future requires collaborative governance that is balanced between protective government regulations and the flexibility of industrial innovation (Verhoef et al., 2021).

4. CONCLUSION

Based on the results of a literature review of various scientific studies for the period 2020–2025, it can be concluded that E-commerce has transformed into the main pillar of the digital economy in Indonesia. This growth was triggered by high internet penetration, smartphone adoption, and massive integration of electronic payment systems, with the Covid-19 pandemic as the main catalyst. E-commerce significantly changes people's consumption patterns from conventional to digital-centric, as well as shifting purchasing behavior from need-based to impulsive consumptive behavior due to the influence of digital marketing strategies. First, the macroeconomic trajectory of Indonesia during the 2020–2025 era has been permanently realigned by an unprecedented, algorithmically-driven expansion of e-commerce capitalization, yielding a consistent Gross Merchandising Value (GMV) compound annual growth rate (CAGR) exceeding 22%. The historical analysis establishes that while the global COVID-19 pandemic acted as an involuntary, high-intensity exogenous shock that forced an unbanked population to cross the digital Rubicon out of absolute survival necessity (Prasetyo & Trisyanti, 2021), the subsequent post-pandemic phase (2023–2025) witnessed a complete stabilization and systemic consolidation of these behaviors. This permanent behavioral lock-in was structurally guaranteed by the rapid optimization of a unified domestic fintech infrastructure—most notably the universal interoperability of the Quick Response Code Indonesian Standard (QRIS) which democratized merchant liquid clearing (Utami, 2023), and the widespread deployment of integrated alternative credit architectures like Buy Now, Pay Later (BNPL) options (Rizki & Setiawan, 2023). Second, this study successfully provides a deep theoretical deconstruction of contemporary Indonesian consumer psychology, revealing a profound shift from a functional, utilitarian "need-based buying" paradigm toward an abstract, hyper-personalized, and continuous "stimulus-based buying" framework. Framed through the sociological lens of Jean Baudrillard's consumer society and Thorstein Veblen's conspicuous consumption, modern digital commodities are increasingly stripped of their physical use-value and instead acquired for their sign-value—serving as dynamic symbols of identity, prestige, and membership in a globally interconnected digital middle class (Rahman & Hidayati, 2024). E-commerce platforms have systematically minimized the cognitive friction of financial parting (pain of paying) through seamless user interfaces (Laudon & Traver, 2024), while simultaneously engineering complex gamification environments (e.g., Harbolnas twin-date mega sales, hourly flash drops) that exploit human heuristics, loss aversion, and cognitive urgency (Kotler & Keller, 2021).

Despite making a major contribution to expanding market access for MSMEs, this ecosystem is still overshadowed by serious obstacles in the form of cybersecurity threats, consumer data leakage issues, digital infrastructure gaps between regions, and regulatory complexity. To ensure inclusive and sustainable digital growth, strategic and collaborative synergy is needed between the government as a regulator, platform industry players, academics, and the user community. Finally, this research identifies an acute vulnerability matrix that threatens the long-term sustainability of the digital economy. The exponential expansion of capital flows has vastly outpaced the baseline cyber hygiene of the population and the legacy infrastructure of platforms, culminating in monumental centralized data breaches that feed predatory social engineering networks (Dwivedi et al., 2022). Furthermore, the entire digital revolution remains deeply fragmented by an intense, Java-centric infrastructure cleavage, where peripheral and remote regions (3T territories) remain economically marginalized by high satellite latency and prohibitive logistics costs that completely offset the theoretical equality of the digital storefront (Prasetyo & Trisyanti, 2021).

Suggestions:

- a. For the Government (Regulator): Accelerate the equitable distribution of telecommunication infrastructure development to remote areas to overcome the digital divide, as well as formulate adaptive policies that are able to protect local MSME commodities without shutting down the digital innovation space.
- b. For E-Commerce Platform Providers: Increase investment in cybersecurity architecture, periodic encryption data encryption, and comply with consumer protection rules in accordance with the legal corridor of the PDP Law to maintain public trust.
- c. For the Community and MSME Actors: Participating in various digital literacy and financial management training programs independently in order to be able to utilize technology productively, safely, and avoid cybercrime.
- d. For further research: It is recommended to switch to using empirical quantitative approaches such as Structural Equation Modeling (SEM) to spatially test the psychological and economic impact of new features (such as Metaverse or Live Commerce) against certain demographic groups in Indonesia.

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