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Digital Economy and Development Opportunities in Developing Countries

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Abstract: This research examines the role of the digital economy as a catalyst for economic development in developing countries. The research method employs a qualitative approach with secondary data analysis from various sources. Research results show that Indonesia's digital economy grew 13% from 2023 to 2024, reaching USD 90 billion. The e-commerce sector dominates with a contribution of USD 65 billion, while the online transportation and food delivery services sector grew 13% to USD 9 billion. Digital divide remains a major issue, with 49% of Indonesian adults still lacking internet access. The research found that digital transformation requires infrastructure improvement, human resource development, and adaptive regulation. This study concludes that the digital economy provides great opportunities for economic development in developing countries but requires a structured strategy to overcome various obstacles.

Keyword: digital economy, developing countries, economic development, digital divide, digital transformation

INTRODUCTION

The digital era has transformed the paradigm of global economic development, creating unprecedented new opportunities for developing countries. The digital revolution not only offers broader access to global markets but also paves the way for innovation, efficiency, and inclusiveness across various economic sectors. Nevertheless, behind this enormous potential, developing countries must address various challenges in optimally utilizing the digital economy. The digital economy has proven to be a driving force for economic growth in various parts of the world. In Indonesia, as one of the largest developing countries in Southeast Asia, the digital economy is experiencing rapid growth, with a value of USD 90 billion by 2024, representing a 13% increase from the previous year (Antara, 2024). This phenomenon is not unique to Indonesia; it is also being experienced by various other developing countries that are beginning to feel the positive impacts of digital transformation.

Digital transformation in the economy is inseparable from the increasingly rapid development of information and communication technology. This technology has enabled the

emergence of various new business models, from e-commerce and fintech to digital platforms that connect various economic stakeholders. This change creates a new, more dynamic and efficient ecosystem that can reach segments of society previously difficult to access through conventional economic systems. The potential of the digital economy to drive development in developing countries is enormous. Data shows that Indonesia has 64 million MSMEs that can utilize digital platforms to expand their market reach (Ekon.go.id, 2024). Furthermore, the continued rise in internet penetration and the growth of smartphone users create a solid foundation for the development of a digital ecosystem. However, harnessing this potential cannot be achieved without a well-thought-out and structured strategy.

The opportunities offered by the digital economy encompass various aspects of economic development. In terms of market access, digital platforms enable small and medium-sized enterprises (SMEs) to reach a wider consumer base, even reaching international markets. In terms of efficiency, digital technology can reduce transaction costs, accelerate business processes, and increase productivity. Meanwhile, in terms of inclusivity, the digital economy can provide broader access to financial services, education, and healthcare for previously unaffordable communities. However, the journey to an inclusive and sustainable digital economy is not easy. Various obstacles remain, ranging from gaps in technology access and limited infrastructure to inadequate human resource readiness. The digital divide is a major issue that must be addressed. World Bank data shows that 49% of Indonesia's adult population still lacks internet access, indicating a significant gap in access to digital technology.

Infrastructure issues are also crucial in the development of the digital economy. The availability of a stable and fast internet network, equitable access to electricity, and adequate information and communication technology infrastructure are key prerequisites for a thriving digital ecosystem. In many developing countries, these infrastructure limitations remain a serious obstacle, requiring significant investment and considerable time to overcome. Human resource readiness is equally crucial. Digital transformation requires a workforce with adequate digital skills. However, in many developing countries, digital literacy levels remain low, both among the general public and businesses. This creates unique challenges in optimizing the benefits of the digital economy.

Regulation and policy aspects also play a crucial role. Adaptive regulations that support innovation can accelerate the growth of the digital economy, while rigid regulations that are not aligned with technological developments can hinder the sector's growth. Developing countries need to establish regulatory frameworks that strike a balance between fostering innovation and protecting consumers. This research aims to thoroughly analyze the role of the digital economy in the economic development of these nations, with a particular emphasis on the opportunities and challenges they encounter. Through a qualitative approach and secondary data analysis, this study seeks to provide a comprehensive overview of how the digital economy can be utilized as a catalyst for economic development in developing countries. The results are expected to contribute to the development of effective strategies and policies to optimize the benefits of the digital economy.

Literature Review

Digital Economy Concept

The digital economy is a concept that has developed rapidly in recent decades along with advances in information and communication technology. According to the OECD, the digital economy can be defined as economic activity based on digital technology, including all business activities that use digital technology as a key input in the production and distribution of goods and services. The development of the digital economy concept is inseparable from technological evolution. The initial phase began with the emergence of the internet and personal computers in the 1990s, which then evolved with e-commerce, social media, and

mobile technology. Today, the digital economy encompasses various aspects such as big data, artificial intelligence, the Internet of Things, and blockchain technology. Key characteristics of the digital economy include the digitization of information, network connectivity, strong network effects, and platform-based business models. Digitization allows information to be stored, processed, and transmitted electronically at very low cost. Network connectivity enables real-time interactions and transactions between economic actors worldwide.

Economic Development Theory in the Digital Age

Classical economic development theory, developed by economists such as Adam Smith and David Ricardo, has evolved to accommodate the realities of the digital economy. The theory of comparative advantage, for example, must now consider digital factors such as data accessibility, internet connection speed, and technological innovation capabilities. The endogenous growth theory developed by Paul Romer demonstrates high relevance in the digital economy. In this theory, knowledge and innovation are key factors in long-term economic growth. The digital economy, with its knowledge- and innovation-based characteristics, fits perfectly into this theoretical framework. Joseph Schumpeter's concept of creative destruction also provides a strong theoretical foundation for understanding how the digital economy is transforming traditional economic structures. This process of creative destruction is evident in various sectors disrupted by digital innovation, such as the media, retail, and transportation industries.

The Digital Divide as an Obstacle to Development

The concept of the digital divide was first introduced by the National Telecommunications and Information Administration of the United States in the 1990s. The digital divide refers to differences in access to and ability to use information and communication technologies between individuals, groups, or geographic regions. The digital divide has several interrelated dimensions. The first dimension is the access gap, which refers to the availability of infrastructure and the financial ability to access technology. The second dimension is the skills gap, which pertains to an individual's capability to use technology effectively. The third dimension is the utilization gap, which involves the ability to make optimal use of technology. In developing countries, the digital divide is a complex issue because it is linked to various structural factors such as economic inequality, educational disparities, and limited infrastructure. Data shows that the digital divide in Indonesia remains quite high, with 49% of the adult population lacking internet access.

Digital Economy in Developing Countries

The experiences of various developing countries in developing their digital economies show diverse patterns. China, as one of the most successful developing countries in the digital economy, has developed an integrated strategy of infrastructure investment, talent development, and policy support. India demonstrates a different approach by focusing on the development of an information technology-based services sector. The Digital India program, launched in 2015, aims to transform India into a digitally connected society and economy. In Africa, countries such as Kenya and Nigeria have demonstrated interesting innovations in the fintech sector, particularly in the development of mobile payment systems. M-Pesa in Kenya has become a successful example of how digital technology can improve financial inclusion in developing countries.

The Role of MSMEs in the Digital Economy

Micro, Small, and Medium Enterprises play a crucial role in the digital economy of developing countries. MSMEs possess high flexibility and adaptability to technological

changes, making them a potential sector to drive digital economic growth. Digital platforms have provided MSMEs with broader access to larger markets. E-commerce, online marketplaces, and social media platforms have enabled MSMEs to expand their business reach without requiring significant investments in physical infrastructure. However, MSMEs also face various challenges in leveraging the digital economy, including limited digital skills, access to technology, and understanding of digital business models. Therefore, integrated empowerment and mentoring programs are needed to help MSMEs adapt to the digital era.

METHOD

This research employs a qualitative approach with secondary data analysis methods. The qualitative approach was chosen because this research aims to understand digital economic phenomena in depth and context, which requires descriptive and interpretive analysis rather than solely statistical measurements. The secondary data used in this study comes from various reliable sources, including official publications from government institutions such as the Coordinating Ministry for Economic Affairs, Bank Indonesia, Statistics Indonesia (BPS), and the Ministry of Communication and Informatics. Furthermore, this study utilized data from international organizations such as the World Bank, the OECD, and various research reports from global consulting firms like Google, Temasek, and Bain & Company. Data collection techniques included documentation studies and content analysis of various scientific publications, research reports, and policy documents. The collected data included digital economy statistics, demographic data on technology users, digital sector growth trends, and various related economic development indicators.

Data analysis was conducted using thematic content analysis techniques. The collected data were organized based on the research's main themes: digital economy opportunities, challenges, and development strategies. Each theme was then analyzed in depth to identify patterns, trends, and relationships between variables. Data validity was ensured through source triangulation, which involves using multiple different data sources to verify the same information. This study uses member checking techniques to compare its findings with those of similar previous studies. The limitations of this research include the use of secondary data, which may not always be current, and reliance on publicly available information. However, these limitations are mitigated by using data from multiple trusted sources and by cross-checking information among those sources.

RESULTS AND DISCUSSION

Indonesia's Digital Economy Growth as a Representative of Developing Countries

Research results show that Indonesia's digital economy has experienced significant growth in recent years. The data shows that Indonesia's digital economy grew by 13% from 2023 to 2024, reaching a value of USD 90 billion. This growth is particularly striking compared to the previous period, which only grew 6% from 2022 to 2023. The e-commerce sector is the largest contributor to Indonesia's digital economy growth, reaching a value of USD 65 billion in 2024. This sector's growth is driven by increasing internet penetration, changing consumer behavior, and innovations in digital payment systems. Video commerce, a subset of e-commerce, accounted for 22% of the total digital economy generated in the e-commerce sector in 2024. The online transportation and food delivery sectors also demonstrated impressive performance, growing 13% from 2023 to 2024, reaching a value of USD 9 billion. This sector experienced a significant recovery after a 4% contraction in 2022-2023. This recovery demonstrates the digital sector's resilience and adaptability to various economic challenges.

Table 1. Growth of Indonesia's Digital Economy Sector 2023-2024

Sector	Value 2023 (Billion USD)	Value 2024 (Billion USD)	Growth (%)
E-commerce	58.5	65.0	11%
Online & Food Delivery	8.0	9.0	13%
Transportation	7.3	9.0	24%
Online Travel	7.1	8.0	12%
Online Media	339.0	404.0	19%
Fintech Payment	7.1	9.0	27%
Online Lending			

The fintech sector demonstrated remarkable growth, particularly in the digital payments segment, which grew 19% with a total gross transaction value reaching USD 404 billion. Online lending also experienced significant growth of 27%, with outstanding loan book balances reaching USD 9 billion. Online investment grew the highest at 32%, reaching a total value of USD 5 billion.

Digital Economy Opportunities for Development

Data analysis shows that the digital economy offers significant opportunities for the economic development of developing countries. Projections indicate that the Gross Merchandise Value of Indonesia's digital economy could reach USD 200-360 billion by 2030. This figure indicates enormous growth potential in the coming decade. MSMEs are one of the segments benefiting most from the development of the digital economy. With 64 million MSMEs in Indonesia, the digitalization of this sector has the potential to boost the growth of the digital economy as a whole. Digital platforms have enabled MSMEs to access a wider market, reduce transaction costs, and improve operational efficiency.

Financial inclusion has also seen a significant increase, thanks to the digital economy. The Indonesian Standard Quick Response Code program has contributed to increasing access to financial services. The financial inclusion target of 90% by 2024 demonstrates significant progress in expanding financial access for those previously underserved by the conventional banking system. The digital sector has also become a source of new job creation. Data shows that the employed population increased by 4.79 million people, reaching 144.64 million in 2024. The proportion of formal workers also increased to 42.05%, largely driven by the growth of the digital sector.

Digital Divide Challenge

Although the digital economy in developing countries has shown notable growth, it still faces significant challenges related to the digital divide. World Bank data shows that 49% of Indonesia's adult population still lacks internet access. This gap indicates a significant digital divide between various segments of society. The gap in technology access exists not only between individuals but also across geographic regions. The majority of online businesses are concentrated on the island of Java, at 75.16%. It demonstrates the unequal distribution of the digital economy, which requires serious attention in future development strategies. Digital infrastructure remains a major obstacle, especially in remote, frontier, and outermost areas.

The government is developing a connectivity program via the SATRIA-1 satellite, which is expected to provide internet services at 150,000 public service points across Indonesia. However, implementing this program still requires time and significant investment. Digital skills are also a challenge. Although access to technology is increasing, not all users have the skills to utilize it optimally. It creates a gap in technology utilization that can exacerbate existing socioeconomic disparities.

Digital Economy Development Strategy

Based on analysis of existing data and trends, this study identifies several key strategies to optimize the use of the digital economy for development. First, developing equitable digital infrastructure is a top priority. This includes building a high-speed internet network, providing stable electricity access, and developing a national data center. Second, improving the quality of human resources through a systematic digital literacy program. This program should include basic digital skills training for the general public, developing high-level digital talent for industry, and building capacity for MSMEs to adapt to the digital economy. Third, developing an adaptive regulatory framework that supports innovation. It includes regulations that protect consumers without stifling innovation, standardize digital payment systems, and establish a clear legal framework for digital businesses. Fourth, creating an ecosystem that supports startups and digital innovation. Indonesia has demonstrated impressive achievements, boasting 15 unicorns and two decacorns, and ranking sixth globally for the number of startups. This momentum needs to be maintained and strengthened through funding support, mentoring, and market access.

CONCLUSION

This study concludes that the digital economy offers enormous opportunities for the economic development of developing countries. Empirical evidence from Indonesia indicates that the digital economy, which is expected to grow 13% by 2024 and reach a value of USD 90 billion, has significantly contributed to national economic growth. Sectors such as e-commerce, fintech, and other digital services have become new drivers of the economy. The opportunities offered by the digital economy are diverse, ranging from expanding market access for MSMEs, increasing financial inclusion, creating new jobs, and improving overall economic efficiency. Digital platforms have enabled economic actors to access global markets, reducing transaction costs and increasing productivity. However, harnessing the potential of the digital economy cannot be done without addressing various existing challenges. The digital divide remains a major obstacle, with 49% of Indonesia's adult population lacking internet access. Inequality in technology access, limited infrastructure, and low digital skills are challenges that must be addressed systematically.

An effective digital economy development strategy requires an integrated approach involving infrastructure development, human resource development, the creation of an adaptive regulatory framework, and the development of an innovation ecosystem. The success of this strategy requires close collaboration between the government, the private sector, and civil society. The transformation to a digital economy is not an instant process but requires long-term commitment and sustained investment. Developing countries that are able to overcome various challenges and effectively capitalize on the opportunities of the digital economy will have a competitive advantage in an increasingly digital global economy. This study recommends that developing country governments prioritize digital economy development as a long-term economic development strategy. It includes allocating adequate resources for digital infrastructure development, investing in human resource development, and creating a regulatory environment conducive to digital sector growth.

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