

# DIGITALIZATION AS A CATALYST FOR ECONOMIC DEVELOPMENT: STRATEGIC ANALYSIS AND IMPLEMENTATION IN INDONESIA

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**Abstract:** Digitalization has become one of the main drivers of global economic transformation, especially in facing modern economic challenges. This study aims to analyze the urgency of digitalization on economic development through the Systematic Literature Review (SLR) method by identifying 12 relevant articles. The review is grouped into three main subthemes: (1) digitalization as a driver of economic growth, (2) digitalization helps economic recovery during the pandemic, and (3) digitalization strategies. The analysis shows that digitalization plays a central role in improving efficiency, productivity, and innovation, which contribute to long-term economic growth. In the context of the COVID-19 pandemic, digitalization is an important solution to maintain economic stability through e-commerce, and fintech services. In addition, an effective digitalization strategy requires strengthening digital infrastructure, increasing technological literacy, and regulations that support data security and innovation. In conclusion, digitalization has a high urgency in encouraging more inclusive, adaptive, and sustainable economic development.

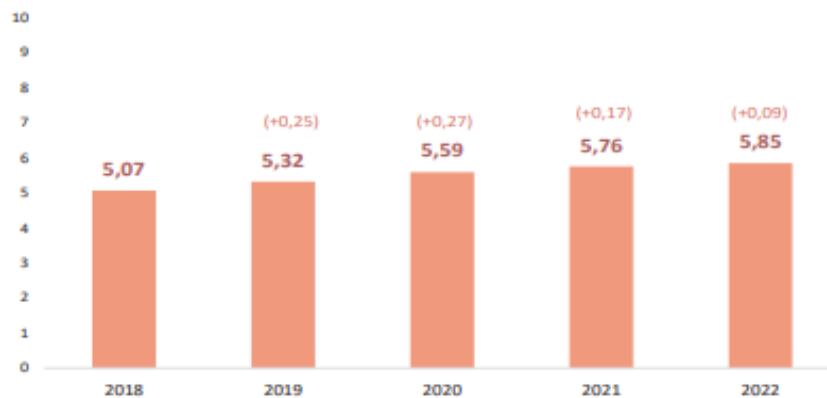
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## Introduction

In the era of globalization and industrial revolution 4.0, digitalization has become the main pillar that drives transformation in various sectors, including economic development (Mentari et al., 2024). The development of information and communication technology (ICT) opens up great opportunities for countries to accelerate economic growth through efficiency, innovation, and inclusion (Abdillah, 2023). Digitalization not only facilitates business and government processes, but also gives people wider access to financial, education, and health services. Thus, digitalization is no longer an option, but an urgent need in the context of sustainable economic development (Woishi, 2019).

Digital-based economic development has great potential to reduce economic disparities between regions and promote social inclusion. Digitalization enables more equitable access to economic opportunities, especially for people in remote or less developed areas. Digital technologies, such as e-commerce, fintech, and internet-based applications, have changed the way individuals and businesses participate in the global economy (Ovami et al., 2022). In developing countries, in particular, the adoption of digital technologies can be a solution to overcome physical infrastructure barriers that have been limiting economic growth.

However, while the opportunities offered by digitalization are promising, the challenges that arise cannot be ignored. These challenges include a high digital divide, limited technological infrastructure, and a lack of digital literacy among the public (Nigam, 2024). It is undeniable that Indonesia's ICT development has shown positive developments in the last five years, illustrated by the increasing value of the ICT Development Index. This can be seen from the following data



**Figure 1: Development of ICT Development Index in Indonesia**

Source: BPS, 2022

In 2018, the ICT Development Index value was recorded at 5.07 and continues to increase until 2022 with a value reaching 5.85. Overall, the increase in the index that occurred in five years amounted to 0.78 points. However, the achievement of these results is inseparable from other problems, namely the infrastructure gap between urban and rural areas. According to BPS, most villages in Indonesia have not been touched by telecommunication network transmitter towers or Base Transceiver Stations (BTS). In 2020, for example, there were still 46,486 or 55.3% of the total villages in the country without BTS towers. In addition, the number of people using the internet continues to creep up every year. But until 2021, there are still more than 100 million or around 41.7% of the total population who have not used these digital support facilities. This unpreparedness can widen the economic gap and create digital exclusion if not addressed strategically. Therefore, collaboration between the government, private sector, and society is needed to ensure that the benefits of digitalization can be felt equally (Mandira & Jaya Kusuma, 2022).

This article aims to review the urgency of digitalization in economic development by analyzing various articles related to the research problem. This approach is expected to provide insights for policymakers, academics, and practitioners in viewing digitalization as a supporter of inclusive and sustainable economic development.

## Literature Review

### Theory of Economic Development

According to Adam Smith, the factor that determines development is population development. Population growth will drive economic development. An increasing population will expand the market. Market expansion will raise the level of specialization in the economy. As a result of the specialization that occurs, the level of economic activity will increase. The development of specialization and division of labor among workers will accelerate the process of economic development, because specialization will raise the level of labor productivity and encourage technological development (Nindhi et al., 2024).

Arthur Lewis' *theory* of economic development, known as the *Dual Sector Model*, explains economic development as a process of structural transformation through a shift of labor from the traditional (subsistence) sector to the modern (capitalist) sector. The traditional sector is characterized by low productivity and surplus labor, while the modern sector is more productive with high use of technology and capital investment. In this theory, surplus labor from the traditional sector is absorbed by the modern sector, enabling economic growth through increased production capacity and capital accumulation. This

transformation occurs until the surplus labor is exhausted, which then triggers an increase in labor wages and marks the advanced stage of economic development. The theory emphasizes the role of the modern sector as the main driver of growth but is criticized for relying too much on the assumption of labor surplus and ignoring structural bottlenecks such as social inequality and infrastructure (Lestari et al., 2021).

The theory of economic development proposed by Walt Whitman Rostow is known as the Stages of Economic Growth Theory or the Five Stage Model of Economic Development. According to Rostow, every country must go through five stages of economic growth to achieve mature development. Here are the five stages:

1. Traditional stage of society
2. Precondition stage for takeoff
3. Take-off stage
4. The stage to maturity
5. High consumption stage (Lestari et al., 2021)

### **The concept of digitization**

The definition of digitization itself, namely the increased availability of digital data made possible by advances in creating, transferring, storing, and analyzing digital data, which has the potential to "structure, shape, and influence the contemporary world" (Ismunandar et al., 2023). All digital process activities that use the internet are called digitization (Hisnul et al., 2022).

Digitization is the process of converting information into various forms such as digital formats "0" and "1" (binary sapta). Although at first glance the concept seems simple, its presence has made a buzz and has had a tremendous impact on changes in global business transactions that are being transformed into digital form because it can facilitate efficient and effective storage in a denser capacity even with just icloud. See how two-dimensional images such as paintings and photographs can be represented in bit-generated formats so that they can be physically stored and exchanged electronically. This, of course, can improve business efficiency as it reduces the costs associated with media production, storage and exchange. Even recent technologies have made it possible to convert analog audio and video formats into digital formats (Seltina et al., 2023).

### **Method**

This research uses a qualitative approach with *Systematic Literature Review* (SLR) analysis. *Systematic Literature Review* analysis is conducted by identifying, selecting, and assessing then collecting, analyzing, and synthesizing published research literature on digitalization and economic development. The search process was conducted by organizing the criteria in a transparent manner (Lame, 2019). This limits systematic error (bias) (Higgins et al., 2011).

### **Sources and search terms**

Database searches were conducted with a focus on databases sourced from Publish or Perish. The search terms for the database were "digitization" and "economic development". Searching with keywords in the use of diverse search terms would result in a too large amount of data, so the search terms were limited to the articulation of digitalization and economic development.

### **Scope and selection principles**

The scope of this review is research on the urgency of digitalization for economic development. The coverage criteria are related to the publication year and index. The criteria for limiting the publication year is 2022 to 2024. Meanwhile, the publication index is limited to articles published by Sinta-indexed journals. There are no restrictions set for geographical

areas and research results. The scope of research design includes quantitative, qualitative and mixed research.

**Procedure**

The database search procedure is carried out by providing reference results of 100 papers including duplicated data, books and research results in the form of theses, theses and dissertations. The data including books, theses, theses and dissertations were not included and we eliminated them. Only journal articles were included as data in this study. This process begins with adjusting the criteria. The criteria were carried out by analyzing the titles and abstracts in accordance with the theme. The articles selected were only those that described digitalization and those related to development economics. The articles selected were only articles indexed by Sinta. Articles that did not meet the inclusion criteria were excluded and the results showed that 12 articles met the criteria. The articles selected according to the criteria were then extracted by grouping related to the author's name, year of publication, title, research method and design, results and relevance of the research to the theme of the research conducted.

**Results and Discussion**

The results of the research search on the urgency of digitalization on economic development identified 12 articles that were analyzed using a systematic literature review. The research data included is based on the research theme, namely:

**Table 1: Article Classification**

Article theme	Autho
Digitalization as a driver of economic growth	(Abdillah, 2023; Celsa et al., 2022; Ismunandar et al., 2023; Leo & Alimuddin, 2023; Majid et al., 2023; Mentari et al., 2024; Pratiwi et al., 2024)
Digitalization can help recovery	(Hidayat et al., 2023; Hisnul et al., 2022; Suhedi & Alfarisi, 2023; Sunyoto et al., 2023)
Digitalization strategy	(Mandira & Jaya Kusuma, 2022)

Source: Processed by the author, 2024

Based on table 1 above regarding articles related to the urgency of digitalization in economic development, the themes will be detailed as follows:

**Digitalization as a driver of economic growth**

The articles included in the theme of digitalization as a driver of economic growth amounted to 7 studies. The following presents details regarding articles included in the theme of digitalization as an economic driver.

**Table 2: Categories of Articles on Digitalization as a Driver of Economic Growth**

Name of author	Yea	Titl
Khubbil Abdillah	2023	The Effects of Digitalization and Economic Variables on Economic Growth in Asia
Abdulloh Majid	2023	The Role of Economic Digitalization to Shape the Economic Independence of Islamic Boarding Schools
Pratiwi A. N., Muhammad Randhy Kurniawan, Rahman A. A.	2024	Sparkling in the Digital Age: Carving Economic Success through Optimization and Digitalization of Batik Product Variety
Arif Ismunandar	2023	The Role of Digitalization in Community Creative Economy Development (Study in

Dimas Al Aziz Celsa	2022	Sumberrejo Village, Batanghari District, East Lampung Regency) Development of Digitalization of Bumdes of Mekarmulya Village, Teluk Jambe Barat Sub-district, Karawang Regency
Muarif Leo, Irmawati Alimuddin	2023	The Effect of Digitalization of Tax Payments, Tax Rates on Taxpayer Compliance of Umkm Actors in Baubau City
Chintia Indah Mentari, Fitri Wahyuni, Putri Rahmadani, Wahyu A Rindiani, Joni Hendra	2024	The Impact of Digitalization on Indonesia's Macroeconomic Growth

Source: Processed by the author, 2024

Digitalization has become one of the main drivers of economic growth in the modern era. In this study, it was found that digitalization affects various sectors of the economy through increased efficiency, productivity and innovation for example for tax payments (Leo & Alimuddin, 2023) . One significant example is the development of information and communication technology (ICT) that enables global market integration (Abdillah, 2023). Small, medium and large enterprises can utilize digital technology to accelerate business processes, reduce operational costs, and expand market reach. For example, e-commerce companies such as shopee and Tokopedia utilize digital platforms to create efficient online markets and provide access to global customers, even for small and medium enterprises (MSMEs). through digitalization MSMEs and the creative economy can be further developed as expressed in research (Celsa et al., 2022; Ismunandar et al., 2023; Pratiwi et al., 2024). With the increase in MSME businesses, it will have an impact on economic growth, including the macroeconomy (Mentari et al., 2024)

However, to ensure digitalization has an optimal impact on economic growth, it is important for the government and private sector to continue investing in the development of digital infrastructure and a supportive ecosystem. Without equitable internet access, skilled human resources, and policies that support innovation, the benefits of digitalization may only be felt by a small portion of the population, potentially widening economic disparities. Therefore, digitalization should be considered as a strategic investment capable of bringing economic transformation to a more inclusive and sustainable level.

**Digitalization aids economic recovery**

As for the articles included in the theme of digitalization being able to help economic recovery during a pandemic, there are 4 studies. The following presents details regarding articles included in the theme of digitalization helping economic recovery.

**Table 3: Article Categories Digitalization Helps Economic Recovery**

Name of author	Yea	Titl
Hisnul Hisnul et al	2022	Umkm During the Covid 19 Pandemic Impacts on Technology and Digitalization at the By Rahma Center in Kendalrejo Village
Sunyoto	2023	Transformation of the Digitalization Era in the Recovery of the Islamic Economy

Suhedi	Suhedi, 2023	after the Covid Pandemic 19
Muhammad Alfarisi	Adib	Economic Recovery of Pontianak City through Creative Economy-Based MSME Digitalization
Agus Rohmat Nur Alifah, Ahmad Rodiansjah	Hidayat, 2023	The Contribution of Business Digitalization in Supporting Economic Recovery and Reducing Unemployment in Indonesia

Source: Processed by the author, 2024

Digitalization played a crucial role in helping the economy recover during and after the COVID-19 pandemic. While social restrictions are in place and physical mobility is limited, digital technologies enable economic activity to continue through the transformation of ways of working, trading and public services. Digitalization opens up new opportunities to accelerate economic recovery through technological innovation and the development of new business models. Technology-based services such as *fintech* facilitate access to finance for MSME players affected by the pandemic (Hisnul et al., 2022; Suhedi & Alfarisi, 2023; Sunyoto et al., 2023). By utilizing digital technology, the country has succeeded in creating an economic ecosystem that is more adaptive, inclusive, and resilient in facing the crisis, while accelerating the transformation process towards the post-pandemic digital economy era.

**Digitalization strategy**

The articles included in the theme of digitalization strategies amounted to 1 study. The following presents details about articles that are included in the theme of digitalization strategies.

**Table 4: Categories of Digitization Strategy Articles**

Name of author	Yea	Titl
I Made Chandra Mandira, Putu Sri Arta Jaya Kusuma	2022	Digitalization Strategy for the People's Economy

Source: r: Processed by the Author, 2024

Referring to research revealed by (Mandira & Jaya Kusuma, 2022) that the increasingly fast technology industry forces business actors, especially the people's economy, to follow suit. So that the strategy that needs to be done is to synergize between Ministries / Institutions and Stakeholders in the process of digitizing the people's economy. Universities are one of the institutions that can become intermediaries (where there are CDOs) between business actors and Ministries / Institutions and stakeholders in the digitization process. Facilitating, educating, representing, and technical capabilities are the focus of all elements of Ministries/Institutions and stakeholders in digitizing the people's economy towards economic sustainability. A Grand Strategy that considers strengths, weaknesses, opportunities, and threats that can answer and use competitive advantages in the form of differentiation, innovation and operational strategies is the answer to the resilience of MSMEs for national economic recovery.

**Conclusion**

Referring to the results of a review of 12 articles identified with three main subthemes, namely digitalization as a driver of economic growth, digitalization helps economic recovery during a pandemic, and digitalization strategies, shows that digitalization has a

very significant role in driving economic development in various contexts. Overall, digitalization not only improves efficiency and productivity through the use of information technology, but also creates new economic opportunities that contribute to sustainable economic growth. As a driver of economic growth, digitalization drives structural transformation by creating innovative business models, expanding market access for MSMEs. In the context of a pandemic, digitalization has proven to be a key instrument in maintaining economic stability, both through adaptation to physical restrictions and in accelerating post-crisis economic recovery, for example, e-commerce and fintech applications. Meanwhile, the success of the digitalization strategy relies heavily on the development of digital infrastructure, improving people's digital literacy, and strengthening data security regulations, which require close collaboration between the government, private sector, and society.

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