



Digitalization and Innovation System Information As Driver Growth Economy

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Abstract

Digital transformation not only enables businesses to improve operational efficiency but also boosts productivity through process optimization and the use of data-driven technologies. By implementing innovative information systems, such as e-commerce, fintech, big data, and artificial intelligence, organizations are able to increase the added value of products and services and strengthen their competitive position in the global market. Furthermore, digitalization enables faster, more informed decision-making, increases operational transparency, and reduces costs. This study aims to explore how digitalization and information systems innovation contribute to accelerating contemporary economic growth, with a particular focus on emerging challenges in developing countries. Some of the issues identified include technological infrastructure readiness, digital access inequality, cybersecurity, and risk management related to the adoption of new technologies. The results show that organizations that are able to effectively integrate information systems innovation with their business strategies will gain a significant competitive advantage, while those that fail to adapt risk being left behind in global competition. The study concludes that digitalization is not simply a technical tool but also a strategic factor that drives economic growth, innovation, and efficiency, while also requiring careful planning to address the inherent risks and challenges. This understanding is important for designing business policies and strategies that can optimally utilize modern technological opportunities.

Keywords: *Information Systems; Economic Growth; Risk Management*

Abstrak: Transformasi digital memungkinkan bisnis tidak hanya untuk meningkatkan efisiensi operasional tetapi juga untuk meningkatkan produktivitas melalui proses yang dioptimalkan dan teknologi berbasis data. Dengan menerapkan sistem informasi inovatif seperti e-commerce, fintech, big data, dan kecerdasan buatan, organisasi dapat menambah nilai yang signifikan pada produk dan layanan mereka sekaligus memperkuat posisi kompetitif mereka di pasar global. Selain itu, digitalisasi memfasilitasi pengambilan keputusan yang lebih cepat dan akurat, meningkatkan transparansi dalam operasional, dan mengurangi biaya operasional. Penelitian ini bertujuan untuk mengeksplorasi bagaimana digitalisasi dan inovasi sistem informasi berkontribusi dalam mempercepat pertumbuhan ekonomi kontemporer, dengan fokus khusus pada tantangan yang dihadapi di negara berkembang. Masalah utama yang diidentifikasi termasuk kesiapan infrastruktur teknologi, kesenjangan akses digital, keamanan siber, dan manajemen risiko yang terkait dengan adopsi teknologi baru. Temuan ini menunjukkan bahwa organisasi yang secara efektif mengintegrasikan inovasi sistem informasi ke dalam strategi

bisnis mereka memperoleh keunggulan kompetitif yang substansial, sedangkan organisasi yang gagal beradaptasi berisiko tertinggal dalam persaingan global. Penelitian ini menyimpulkan bahwa digitalisasi bukan hanya alat teknis tetapi faktor strategis yang mendorong pertumbuhan ekonomi, inovasi, dan efisiensi, sekaligus membutuhkan perencanaan yang matang untuk mengelola risiko dan tantangan yang melekat. Memahami dinamika ini sangat penting untuk merancang kebijakan dan strategi bisnis yang dapat memanfaatkan peluang teknologi modern secara optimal.

Kata kunci: *Sistem Informasi; Pertumbuhan Ekonomi; Manajemen Risiko*

INTRODUCTION

Information is very important thing for every humans, because if somebody left behind information a little only, then he will feel like outdated. One of the method for increase quality, speed and accuracy information is with use technology. Therefore that technology have big contribution in distribution information to society. This can be seen in development knowledge increasingly advanced technology advanced and sophisticated. Current technology this is improvement from results technology previously, so that information provided have mark plus for public (Lindhult et al., 2018).

With access fast information needed by leaders can make more decisions good about procedures, future directions, and developments competitors, and make access more fast. Management needs a lot of information to work efficiently and effectively. A lot of information the no possible all of it can accommodated by management. For that needed something a system that can support need management in manage something company / organization. With existence system good information expected no existence deviations that occur in company / organization. In addition something a good system will also push high productivity and provide contribution on achievement objective organization. (Angelina Wijaya Tan et al., 2024)

The role of technology information it is very important even crucial in growth economy in the era of industry 4.0 or has enter Industry 5.0. Progress technology information a country can become means for continuity life man in answer problem about development economy. According to Subramanian (1997) [1] in the global era it is predicted that progress technology will give contribution more from 65 percent in development world economy. (Vigren et al., 2022)

Information technology continues to experience rapid development. In the past, people were familiar with postal services, telephones, typewriters, and telegrams. However, with innovation and technological advancements, people have now shifted to using smartphones, tablets, the internet, and various other sophisticated devices. The development of information technology can also strengthen a country's competitiveness in developing its economy.

Established companies can increase national income, which can then be used to support the welfare of their citizens. Ramanathan (1994) argues that in developing technology, every country and business faces two choices: first, developing technology through *invention and innovation*. Second, developing technology through technology transfer. Almost no country or business can meet all the technological needs.

In facing the condition said, a country or business can implementing a technology strategy called *make-some-and-buy some strategy*. Implementation strategy *make some* done with development technology new through R&D, while the buy-some strategy is implemented through the transfer process technology. Schumpeter (1934) and Brynjolfsson and McAfee (2014) stated that that innovation is determinant from growth productivity. Growth productivity at the level corporation No only problem How lower cost. Innovation is do something different or introduce method new and more Good in producing output or produce product new with quality more Good. (Jiang et al., 2023)

Research purposes This is For analyze, understand, and evaluate role digitalization as well as innovation system information as driving force main in growth modern economy. This research focus on efforts explain concept and implementation digitalization in context today's economy, at the same time identify the impact to improvement efficiency, productivity, and power competitiveness. In addition, research this also examines How innovation in system information capable push the birth of a business model new and create mark better economy area. Relationship between digital transformation and growth economy, both at the level national both local and global, also become part important from analysis this. In the end, the research This aim give recommendation strategic for government, perpetrators businesses and communities so that they can utilise potential digitalization and innovation system information optimally used push growth sustainable economy (Irajifar et al., 2023).

METHOD

In the article entitled "Digitalization and Information System Innovation as Drivers of Modern Economic Growth," the research method used is a descriptive qualitative approach. This approach was chosen to provide a comprehensive overview and analysis of the role of digitalization and information system innovation in driving modern economic growth. Secondary data used in this study comes from various sources, such as scientific journals and academic articles. In addition, data collection techniques are carried out through library research, namely by reading literature, books, and online sources relevant to the research topic. Next, the collected data are analyzed using descriptive qualitative analysis, which

includes the process of data reduction to select relevant information, data presentation in several formats, and data delivery in several formats.

RESULTS AND DISCUSSION

Research shows that digitalization and information system innovation significantly influence the acceleration of current economic growth. Digital transformation has led to more efficient operations, expanded markets, and the emergence of new technology-based business models. The use of information systems such as e-commerce, fintech, big data, and artificial intelligence (AI) has helped companies optimize decision-making, accelerate business processes, and improve data accuracy(Pyka, 2017).

In a macroeconomic context, digitalization helps increase national productivity through system automation and sectoral integration. For example, the financial sector is accelerating its services through digital banking and fintech systems, which expand public access to financial services, drive financial inclusion and increase public consumption.

The MSME sector also benefits significantly from digitalization due to the ease of product promotion and distribution through digital platforms such as marketplaces and social media. Furthermore, the analysis shows that advances in information systems have fostered the emergence of a data-driven economic ecosystem. Businesses can become more flexible and competitive in the global market by using big data analytics to predict market trends and create new products tailored to consumer needs(Panori et al., 2021)

However, many challenges remain in its implementation, especially in developing countries like Indonesia. Key challenges include limited digital infrastructure, technological literacy gaps, and data security and user privacy. Furthermore, unequal internet access in some regions has led to a digital divide that has the potential to widen economic disparities. From a policy perspective, collaboration between the private sector, public sector, and government is crucial to realizing an inclusive digital transformation. (Asma, 2024).

The government is responsible for establishing regulations that support innovation, expanding digital infrastructure, and improving digital literacy and education. Meanwhile, the private sector is expected to continue developing information systems and digital services to generate added economic value. Overall, the findings of this study reinforce the notion that digitalization and information systems innovation are not just technological trends; they are the main foundation for sustainable modern economic growth. Implementing appropriate digital strategies will accelerate economic transformation toward a more competitive, inclusive, and efficient society worldwide (Chauhan et al., 2022).

Innovation Technology

current digital era this , technology and innovation has become driver main growth global economy . Development technology information and communication (ICT) plays role important in increase productivity , efficiency , and power competition economy in various sector . Before the emergence of the digital era, theory economy classic emphasize that factors production main power labor , capital, and land constitute determinant main growth economy . However , along with with development modern economy , emerged awareness that technology and innovation also become factor key influencing factors growth economy in a way sustainable (Rijswijk et al., 2019).

Endogenous growth theory , developed by economists like Paul Romer, emphasizes that innovation and progress technology No only factor external influences economy , but originate from internal processes in system economy That itself . Romer (1990) argues that investment in research and development (R&D) and improvement skills power Work through education is source main growth economy term long . In other words, the ability a country or organization For create innovation Alone become determinant important in maintain growth economy sustainable . This is show that innovation technology No only just tool For efficiency , but also a source Power strategic that can increase position competitive in the global market (Kalogiannidis et al., 2022).

Innovation technology own impact significant to productivity economy Because allows creation products new , and improve existing production processes There are . For example , digital technologies such as the internet, computing cloud , big data, intelligence artificial intelligence (AI), and the Internet of Things (IoT) have present transformation big in method business run . The company is now can utilise big data analysis For understand behavior consumer in a way more deep , predictive market trends , and optimize chain supply . In addition , automation AI- based enables company For reduce previous manual work need power humans , so that pressing cost operational and improve efficiency production in a way overall (Zhang et al., 2023).

In the book they *The Second Machine Age* , Brynjolfsson and McAfee (2014) explain How digital technology is driving change big in global economy with creating a business model new and improved efficiency operational . They show that digital technology makes it possible automation Lots previous assignment done by humans , speeding up the production process , and allows emergence opportunity business new previous one No Possible run . For example , e-commerce and fintech platforms allow transaction business done more faster and more wide , across limit geographically , so that open up global markets for business small and medium enterprises that previously limited in scope local . Technology this also increases flexibility organization in adapt self with market dynamics , so that give superiority significant competitiveness .

In addition, innovation technology not only influence productivity and efficiency, but also impacts market structure and patterns consumption society. Digitalization allows creation of an economic model platform-based, such as ride-hailing, streaming services, and online marketplaces, which have change method public access goods and services. Transformation This push growth economy through improvement consumption, creation field Work new in the sector technology, and the emergence industries new based innovation. This also shows that innovation technology own effect double: increase productivity at a time open opportunity economy new sustainable (Isaksen & Rypestøl, 2022).

On the side macroeconomics, adoption digital technology can increase GDP growth of a country with speed up accumulation of human and physical capital. Investment in technology push creation skills new, pushing productivity power work, and improve capacity production national. For example, companies that adopt technology manufacturing intelligent can increase output by the same number of inputs, so create efficiency scale and push growth better economy fast. In addition, digital technology also supports integration global economy through trading cross-border electronics and digital services, which contribute to the growth economy international (Neligan et al., 2023).

However, even though innovation technology give Lots opportunities, challenges also arise, especially for developing countries. The digital divide still become problem main, where access to technology sophisticated and digital infrastructure is still limited in some areas. This is cause inequality productivity between company big capable adopt technology latest and business small ones who are still depends on the method traditional. In addition, the risk security cyber increase along with digitalization, which requires attention special in matter data protection and management risk technology. Policy The right government and business strategies are very much needed For ensure that innovation technology can utilized optimally without cause risk significant social and economic impact (S. J. Fielke et al., 2018).

In a way overall, innovation technology has become driver main growth modern economy. Not only increase productivity and efficiency, digital technology also opens up opportunity new in creation innovative products, services, and business models. With integration appropriate technology and investment sustainable in R&D as well education power work, organizations and countries can reach growth sustainable and competitive economy in the era of digital globalization. Therefore that, innovation technology No just tool operational, but is factor strategic that determines the future modern economy (Sijabat & Hidayati, 2024).

Digital Economy

Emergence digital technology and the internet mark the beginning revolution industry 3.0 with the presence of the internet where space and time the more compressed and increasingly culminating in a revolution stage 3.0, namely The digital revolution . This industry is changing the patterns of collaboration and communication in contemporary society. Consequently, business practices must also change to avoid becoming obsolete. Then, in the digital revolution, industry generation 4.0 humans has find pattern new when disruptive technology present so fast (Schnebelin et al., 2021).

Besides that company big No ensure Can reach success . The digital economy was first introduced by Tapscott (Tapscott, 1997). According to him digital economy is A phenomenon social influences system economy , where phenomenon the have characteristics as A room intelligence , including information , various access to instrument information , capacity information and processing information The digital economy has draft competition and innovation with easy can adopted by the perpetrators business pioneering initiatives that prioritize collaboration and synergy (Klerkx et al., 2019).

So that digital economy can interpreted as “ economics sharing ” which invites businesses small and medium For enter more business wide . Besides That For create a more temperate climate Good For consumers , need existence balance with interests and capacities business especially For company Small and medium enterprises . This is where regulatory balance is needed to ensure that the rights and obligations of consumers and businesses are met (S. Fielke et al., 2020).

The Role of Technology in Driving Growth Economy in the Digital Age

Rapidly development the digital economy has bring change significant to method business implemented and the existing economic model . The digital era brings opportunity new for growth economy through innovation technology , which allows creation of a business model new and transformation of existing business models there is . In Indonesia, there is a number of sector the main estimated experience innovation and change big consequence digitalization , namely sector finance , sector culture , sector tourism and economy creative , and sector agriculture . Fourth sector This own huge potential For utilise digital technology for increase productivity , efficiency , and power compete at the level national both local and global (Isaksen et al., 2021).

One of contribution main digital economy is transformation sector finance . Digitalization transaction finance , including payment electronics , mobile banking, and fintech services , have increase efficiency money circulation and speed up the transaction process . Convenience access to service digital finance makes it possible public do transaction with fast and safe , even in remote areas isolated , so that expand inclusion finance in a way significant . The growth of e-commerce and electronic money transactions

show change behavior consumers , who are now more prioritize practicality , speed , and security in transactions . Phenomenon This No only strengthen sector trade , but also push growth economy national through increased transaction volume and power buy society (S. J. Fielke et al., 2019).

Apart from the sector finance , the digital economy also provides impact big in the sector culture and economy creative . Digital platforms enable actors art , music , film, and industry creative other For market work they globally . Digital content can accessible to a wider audience wide , so that increase potential revenue and expand the market. Innovation in technology creative also encourages collaboration cross sector , creating products and services new and innovative , as well as increase mark plus economy . This is important for development sustainable economy Because push diversification economy and create field Work new .

In the sector tourism , digital technology brings convenience for traveler in plan travel , booking services , as well as access information in real-time. The use of digital platforms for promotion destination tourism , hotel reservations , and services transportation has increase efficiency operational and experience tourists . Impact positive seen from increasing visit traveler domestic and abroad , which in the end contribute to growth economy local and national . Digitalization in the sector this also supports sustainability tourist through monitoring of visit data and management source Power in a way more efficient .

Sector agriculture also gets benefit big from innovation technology . Utilization digital technologies such as IoT sensors, data analytics , and systems information geospatial allows farmer For optimize production , minimizing risk fail harvest , and increase efficiency distribution product agriculture . Digital technology also opens up opportunity for modern agriculture for accessing global markets through agricultural e-commerce , so that give mark plus economy for farmers and actors business agribusiness . Innovation this is very important for sector agriculture that becomes bone back economy Lots regions in Indonesia.

For maximize impact positive digital economy , support from government and actors industry is very necessary . The government need create regulations that encourage creation an inclusive , safe , and sustainable digital ecosystem . This covers development equitable digital infrastructure , provision fast and affordable internet access , as well as strengthening digital literacy of the community . Meanwhile that , the perpetrator industry need innovate in a way sustainable , utilizing digital technology for increase efficiency operations , expanding markets, and creating product or service new relevant with need consumers (Zeng, 2022).

economy also plays a role in strengthen MSME sector , which is bone back the Indonesian economy . With By utilizing digital platforms, MSMEs can reach consumer more wide , reduce cost distribution , and increase Power

competition product . Support in the form of training , mentoring technology and convenience access digital financing becomes the key to enabling MSMEs to adapt and grow in the midst increasingly digital market competition .

Technology and innovation has become driver main growth economy in the digital era. Digital transformation is not only increase efficiency and productivity , but also opens up opportunity economy new , expanding inclusion finance , and encourage growth sector creative , tourism , and agriculture . With support appropriate policies and collaboration between government , perpetrators industry , and society , the digital economy can become a driving force growth a stronger Indonesian economy inclusive , sustainable and competitive in the era of globalization This .

CONCLUSIONS

Based on research findings, it can be concluded that digitalization and information systems innovation play a significant role in driving modern economic growth. In addition to increasing productivity and efficiency, digital transformation opens up new economic opportunities through technology-based innovations such as *e-commerce*, *fintech*, *big data*, and artificial intelligence. Digitalization encourages the creation of a data-driven economic ecosystem that enables faster, more accurate, and more strategic decision-making in business development. Digitalization has benefited MSMEs, the financial sector, and the creative industry, as they can now reach a wider market through digital platforms. It is hoped that the government can create regulations that support innovation, improve digital infrastructure, and increase technological literacy throughout society. With the right planning, digitalization and information systems innovation will be the main drivers for increasing national economic competitiveness and accelerating the formation of a modern, advanced, inclusive, and sustainable economy.

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