



RESEARCH ARTICLE

BOOSTING INDONESIA'S DIGITAL COMPETITIVENESS: INSIGHTS FROM THE 2023 EAST VENTURES INDEX

Hilda*

Tanjungpura University, Pontianak, Indonesia
*Corresponding Author Email: hilda.judiarto@ee.untan.ac.id

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ABSTRACT

This research aims to analyze and provide an understanding of Indonesia's digital competitiveness in an increasingly competitive digital era. This research uses a quantitative descriptive method by utilizing secondary data from the 2023 East Ventures-Digital Competitiveness Index (EV-DCI). The main finding of this research is that Indonesia has experienced an increase in digital competitiveness, marked by an increase in the EV-DCI score from the previous year. However, there are still challenges that need to be overcome, such as limited digital infrastructure, gaps in digital access and skills, and expanding regulations that support digital innovation. The main contribution of this research is to provide insight into the actual situation of Indonesia's digital competitiveness and provide a basis for developing more effective strategies for increasing competitiveness in this digital era.

KEYWORDS

Digital competitiveness, Indonesia, digital era, digital infrastructure, challenges and opportunities

1. INTRODUCTION

In a global context that is increasingly connected and changing rapidly, Indonesia has entered the digital era which has had a significant impact on its economy and society. As a country that has a rapidly growing number of internet users and increasingly widespread technology adoption, Indonesia is in the midst of a digital transformation that is affecting various aspects of life, including business, education, and government. To measure and understand Indonesia's digital progress and increase its competitiveness at the global level, the East Ventures Digital Competitiveness Index 2023 provides an in-depth picture of Indonesia's position in the digital realm. This report not only provides insight into the development of technological infrastructure and the adoption of digital innovation in Indonesia but also provides strategic recommendations that can help the government, companies, and other stakeholders to exploit the full potential of this digital era for sustainability and inclusive economic growth.

The East Ventures Digital Competitiveness Index 2023 report is important in describing Indonesia's position in a global context that is increasingly connected through digital technology. Through an in-depth analysis of key aspects such as internet penetration, technology adoption, startup innovation, and digital investment climate, this report provides a comprehensive understanding of how far Indonesia has advanced in the digital era. In addition, by providing strategic recommendations appropriate to the challenges and opportunities faced, this report becomes a valuable tool for governments, companies, investors, and society to direct their efforts toward achieving sustainable and inclusive economic growth in the future. Thus, this report is not only a guide to increasing Indonesia's competitiveness in an increasingly competitive global digital ecosystem but also a call for collaborative action from all stakeholders to embrace the full potential of this digital era.

The problems facing Indonesia in moving towards a more competitive

digital era, as revealed in the East Ventures Digital Competitiveness Index 2023 report, include several crucial aspects. One of them is uneven digital infrastructure, especially in rural and remote areas, which hinders internet access and adequate connectivity. In addition, there are still challenges in improving digital access and skills for the majority of the population, causing an imbalance in opportunities to utilize technology. Regulations and policies that do not fully support digital innovation are also a concern, as are the innovation capabilities and competitiveness of Indonesian technology companies at the global level. Data protection and cyber security have become important issues amidst the increasing risk of cyber attacks and the need for effective data protection policies. Collaboration between the public and private sectors is also considered essential in creating an inclusive and sustainable digital ecosystem. Awareness of sustainability and inclusivity is also an important consideration in adopting digital technology, ensuring that the resulting economic growth has a positive social, environmental, and economic impact on all levels of society.

The proposed research aims to deepen the East Ventures Digital Competitiveness Index 2023 report regarding Indonesia's position in the current global digital ecosystem and record its developments. Through detailed analysis of key indicators such as internet penetration, technology adoption, startup innovation, and digital investment climate, this research aims to identify the main challenges facing Indonesia in an increasingly competitive digital era. Additionally, the aim is to provide strategic recommendations that can help governments, companies, investors, and other stakeholders to exploit the full potential of this digital transformation. Thus, it is hoped that this research can become the basis for concrete steps to increase Indonesia's competitiveness in the global digital ecosystem and ensure that the economic growth resulting from this digital revolution has an inclusive positive impact on Indonesian society as a whole.

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2. THEORETICAL BASIS AND PRIOR RESEARCH

Consumer behavior theory is a framework or approach used to understand why people buy goods or services, how they make purchasing decisions, and what factors influence consumer behavior (Kalman, 1968; Scitovsky, 1973). This theory tries to explain consumer behavior from various points of view, such as psychological, economic, social, and cultural. It is important to consider consumer behavior theory as a relevant framework. Along with the development of digital technology in Indonesia, understanding consumer behavior in a digital context is the key to increasing competitiveness. This theory helps in understanding how consumers respond to digital technology, choose online shopping platforms, and how they perceive digital products and services. By using the concept of market segmentation, marketers can target the right consumer segments with appropriate strategies, while purchasing decision-making theory helps in understanding the factors that influence online purchasing decisions. Thus, by considering consumer behavior theory, stakeholders in Indonesia can take more targeted and effective steps to increase competitiveness in an increasingly competitive digital era.

In the literature section of this review, we will begin with a (systematic) literature study that seeks to reveal the impact of digital transformation on a company's competitive advantage, especially on innovation, efficiency, cost reduction, and influence on global value chains in terms of specialization, geographic coverage, governance, and enhancement (Leão and da Silva, 2021). According to the literature, the impact of digital transformation on a company's competitive advantage, although more pronounced than classical advantage, tends to have a generally positive direction, providing benefits to companies implementing the transformation. The digitalization of industrial processes links the four main dimensions of the global value chain by increasing a company's focus on more specific value chain activities (specialization) and international expansion opportunities (geographical coverage). Correspondingly, industrial digital transformation also drives companies to expand upstream activities across value chains (upgrading) and has a significant impact on global value chain strategies (governance) due to the emergence of digital platforms, disrupting previous competitive configurations into new networked business ecosystems.

Then it continues with research that reviews research themes and collaboration possibilities in the field of digital transformation (Talaifidaryani et al., 2021). By analyzing keywords, co-authors, and networks in 2820 research articles using the Web of Science database, this research highlights three main aspects of digital transformation, namely Technological and Industrial, Organizational and Management, and Global and Social Views. Key findings include research focus on Technology, Sustainability, Big Data, Information Technology, Innovation, Industry 4.0, Artificial Intelligence, Business Models, Social Media, and Digitalization. In addition, the research identified Five Main Themes in the form of Small and Medium Enterprises, Blockchain, Machine Learning, Knowledge Management, and Sustainable Development. Research shows that European countries, especially in northern Europe, perform well in research collaboration on digital transformation. These findings provide an overview of current research directions and encourage opportunities for further research and collaboration in this dynamic field.

The next review is about digital technologies that have significantly shaped the way the entrepreneurial process is carried out, how ideas are generated, and how innovations are developed, exploited, and marketed (Omorede, 2022). To better understand research on digital entrepreneurial processes, cross-disciplinary studies of innovation and entrepreneurship are needed. This research responds to this call by examining the role of founder experience in starting a venture and the price of venture acquisition on digital innovation outcomes and entrepreneurial exit. A total of 742 businesses were analyzed to answer two research questions. The research results show that the experience of starting a business by an entrepreneur and how much acquisition value the acquiring party is willing to offer can influence whether an entrepreneur will exit his business or not. These findings have important implications for entrepreneurs and large organizations planning to acquire small, innovative companies, by providing an indication of which companies and entrepreneurs need to pay attention to when contemplating acquiring rapidly growing small businesses.

The next review seeks to examine how competitive advantage mediates the influence of digital transformation and innovation on the performance of MSMEs owned by women (Susanti et al., 2023). The sample used in this research includes 246 MSMEs in Indonesia which are run by women. To analyze the data, structural equation modeling (SEM) was used. The research results show that the performance of MSMEs owned by women

is not directly influenced by digital transformation. Digital transformation has an impact on innovation and competitive advantage. Innovation and competitive advantage can improve the performance of women-owned MSMEs and play a mediating role in the digital transformation of women's MSMEs in Indonesia. The research findings also strengthen and expand the RBV (Resource-Based View) assumption regarding the importance of innovation in determining the competitive advantage of female MSMEs. This empirical evidence can be the basis for government efforts to encourage digitalization and innovation of women's MSMEs. In the context of limited research regarding the competitive advantages of female MSMEs in terms of performance, digital transformation, and innovation, this research offers a model of the performance of female MSMEs in developing countries.

Research on digital innovation tools in public affairs management is still not well organized in the current literature (Bitonti, 2023). Despite a large body of research on digital transformation, research on the effects of digital innovation in public affairs practice remains sparse, especially highlighting interest groups' social media strategies. However, digital innovation has begun to change the way public affairs management is conducted, particularly through the use of data, artificial intelligence analysis, and cloud-based knowledge management platforms. In this research, we look at three software platforms that are increasingly popular in public affairs management, namely FiscalNote, Quorum, and KMIND. This article presents a practical analysis of the various digital tools available to public affairs practitioners, filling a gap in research that has not demonstrated the impact of digital innovations on the management of various activities in public affairs campaigns (monitoring and analysis, strategy design, action, and assessment). This article highlights that digital innovation is not only about the use of social media in communications but also changes the way public affairs practitioners work in more profound and strategic ways.

The research study further highlights the challenges faced by small and medium-sized companies in adopting digital technologies for their transformation (Schildt et al., 2023). A pilot study was conducted on manufacturing companies to understand the barriers they face in engaging and implementing digital transformation. The study results show that many companies face internal confidentiality problems that hinder knowledge sharing between units, making it difficult to identify and develop customer-oriented digital data-based innovations. Based on preliminary findings, this research develops and tests hypotheses linking organizational secrecy, competitive pressures, and the range of digital technologies used with top management's shift in focus toward digital innovation. This research finds that organizational secrecy hinders changes in top management's focus on digital innovation which requires complex cross-unit coordination. These findings also suggest that external pressures from competition are associated with increased top management focus on digital innovation. This study contributes to the literature on digital transformation and strategy processes by explaining how organizational secrecy can hinder strategic rejuvenation. The findings suggest that a culture of openness and transparency can facilitate strategic rejuvenation in established companies.

Finally, a research study aimed to investigate young people's views on new technology and health systems research in the adolescent health community of practice (Swist et al., 2023). This research was conducted at the Wellbeing Health & Youth Center of Research Excellence in Adolescent Health. Through a theoretical review that builds concepts in a non-systematic manner, this research examines the relationship between new technology, digital innovation, and health systems. As a result, a typology of digital innovation was found that helps understand the concepts and relationships of new technologies that can be applied in the context of the health system. Based on this typology, youth views on digital health challenges and opportunities are identified to support future research, policy, and practice. Integrated findings from this research can aid navigation through the complexities of new technologies and the negotiation of equitable health systems research between youth and adult stakeholders. By using these typology-related resources, the collective learning and public engagement of youth in health systems research and priority setting can be supported.

3. RESEARCH METHODS

The research method used is quantitative descriptive, using secondary data from the 2023 East Ventures-Digital Competitiveness Index (EV-DCI). This data provides scores from 0 to 100 for various aspects of Indonesia's digital competitiveness. This research analyzes data to describe the current situation, using descriptive statistics and graphs to visualize the information. The aim is to understand and describe Indonesia's position in the digital realm and provide a basis for strategic

recommendations to increase competitiveness in an increasingly competitive digital era.

4. DISCUSSION

In 2023, the East Ventures-Digital Competitiveness Index (EV-DCI) will again provide an overview of digital competitiveness in all Indonesian provinces. Interestingly, the average score reached 38.5 points, a significant increase from the previous year which recorded 35.2 points in 2022. This index consists of three main sub-indices: input, output, and support, which together provide a complete picture of digital progress in Indonesia. All of these sub-indices experienced an increase, pushing up the overall EV-DCI score. The input sub-index, which assesses human resource readiness and use of technology, increased to 40.1 points, while the output sub-index which measures digitalization developments reached 31.2 points. On the other hand, the supporting sub-index which highlights government support for infrastructure and regulations reached 50.8 points, the highest among other sub-indices. To provide a comprehensive picture, this research also involved a survey of digital companies, startups, and consumers using digital applications to gather their perceptions of the dynamics of digital competitiveness in Indonesia (Santika, 2023).

4.1 Challenges

The main challenges faced in the digital era can include several things such:

- **Limitations of Digital Infrastructure:** There are still areas in Indonesia that do not have adequate internet access, as well as other digital infrastructure such as stable electricity and even availability of telecommunications networks.
- **Digital Divide:** There is a digital divide between those who have digital access and skills and those who do not. This can deepen economic and social disparities between regions and population groups.
- **Cyber Security:** Increasing reliance on digital technology also increases cyber security risks, including cyber attacks on critical infrastructure and leaks of personal data.
- **Regulations and Policies:** A complex and inconsistent regulatory environment can be an obstacle to digital innovation and business growth, and affect a country's competitiveness on a global scale.
- **Lack of Digital Skills:** Not all of the workforce has enough digital skills to keep up with changes in an increasingly digitally connected job market. Underinvestment in digital education and training can exacerbate this problem.
- **Personal Data Protection:** The wide availability of personal data in the digital era raises concerns about privacy and personal data protection. Inadequate protection can reduce consumer trust in digital services.
- **Changes in Traditional Business Models:** Developments in digital technology can change traditional business models and create new challenges for companies that are not ready to adapt to these changes.
- **Financial Access Gap:** Despite many fintech innovations that provide digital financial services, there is still a large portion of the population that does not have access to formal financial services or does not have sufficient financial access to adopt digital technology.
- **Social and Cultural Change:** Digital transformation can influence social and cultural behavior patterns, both positively and negatively. These changes can pose challenges in maintaining traditional values and ensuring inclusivity in the use of digital technology.

In response to these challenges, comprehensive strategic steps are needed from various stakeholders, including the government, the private sector, educational institutions, and civil society. Efforts to improve digital infrastructure, such as building a wider internet network and better accessibility, can help overcome the digital access gap. Investment in digital education and training is also important to improve workforce skills to meet the demands of an increasingly digital job market. The government also needs to update regulations and policies that support digital innovation, while maintaining data privacy and security. Collaboration between the private sector and government can also accelerate the development of an inclusive and sustainable digital ecosystem. In addition, it is important to strengthen awareness of the importance of personal data protection and digital literacy in society to ensure responsible and sustainable technology adoption. By addressing these challenges together, Indonesia can harness the potential of the digital era to achieve inclusive economic growth and empower society as

a whole.

So, by taking these steps, it is hoped that Indonesia can overcome the challenges faced in facing the digital era. Through cooperation between various parties and the implementation of appropriate policies, countries can strengthen digital infrastructure, improve workforce skills, and ensure a regulatory environment that supports innovation and business growth. In this way, Indonesia can utilize the full potential of digital technology to achieve inclusive economic growth, improve societal welfare, and maintain security and privacy in an increasingly complex digital era.

4.2 Strategic Recommendations

Here are some strategic recommendations that can help governments, companies, investors and other stakeholders harness the full potential of digital transformation:

- **Investment in Digital Infrastructure:** The government needs to increase investment in digital infrastructure, including a broad and quality internet network, to ensure equitable access to digital technology across the country.
- **Digital Skills Development:** Digital education and training need to be improved to improve workforce skills to face the demands of an increasingly digital job market.
- **Regulatory Updates:** Governments must update regulations and policies that support digital innovation while safeguarding data security and individual privacy rights.
- **Encouraging Public-Private Collaboration:** Collaboration between governments, companies, and other institutions can accelerate the development of an inclusive and sustainable digital ecosystem.
- **Increasing Digital Literacy:** Programs to increase digital literacy in society need to be strengthened to ensure responsible and sustainable adoption of technology.
- **Startup Ecosystem Development:** Governments and investors need to support the development of innovative startup ecosystems by providing access to capital, mentorship, and the necessary infrastructure.
- **Innovation Stimulation:** Innovation incentives and stimulation programs, such as research and development grants, can encourage the development of better and more efficient digital solutions.
- **Enhanced Cyber Security:** Efforts to improve cyber security need to be prioritized, with investments in technology and policies that strengthen the protection of personal data and digital infrastructure.

By implementing these strategic recommendations holistically, governments, companies, investors, and other stakeholders can create a conducive environment for inclusive and sustainable economic growth in this digital era.

4.3 Author's Argumentation

In facing an increasingly competitive digital era, Indonesia needs to implement a series of strategies aimed at increasing competitiveness in the digital realm. First of all, investment in digital infrastructure is key. By expanding the internet network and increasing the accessibility of digital technology throughout the region, Indonesia can ensure that all levels of society can benefit from this digital transformation. Furthermore, improving digital skills is also an important focus. By strengthening the education and training system to equip its workforce with the necessary digital skills, Indonesia can produce a workforce that is ready to compete in the global digital economy.

Apart from that, updating regulations and policies is very important. The government needs to ensure that the regulatory environment supports innovation and business growth in the digital era while maintaining data security and individual privacy rights. Collaboration between the public and private sectors would also be very beneficial. Through strong partnerships, governments, companies, and other institutions can create an inclusive and sustainable digital ecosystem, and accelerate the development of digital infrastructure and services.

Next, it is important to stimulate innovation. Support from the government and investors in the form of incentives and innovation stimulation programs can encourage the development of better and more efficient digital solutions. Lastly, awareness of cyber security must be increased. Investments in technology and policies that strengthen the

protection of personal data and digital infrastructure will be crucial steps to maintain security and trust in the digital ecosystem.

By implementing these strategies holistically and sustainably, Indonesia can strengthen its competitiveness in an increasingly competitive digital era. Digital transformation is not just about adopting technology, but also about ensuring that its benefits are felt by everyone and that Indonesia remains a major player in the global digital economy.

4.4 Consumer behavior theory

In an increasingly advanced digital era, technological changes play a key role in shaping consumer preferences and behavior. This research provides an overview of how Indonesia is responding to the adoption of digital technology, which is reflected in the increase in Indonesia's competitiveness according to the East Ventures Digital Competitiveness Index 2023. This increase shows that business actors in Indonesia have responded to changes in consumer behavior by adopting innovation and strengthening their business fundamentals. Apart from just user growth, companies are now paying more attention to other factors that can increase their competitiveness in the long term. Thus, understanding consumer behavior theory provides important insights into how technological changes influence consumer preferences and behavior, as well as how business actors can respond with the right strategies to remain competitive in an increasingly competitive digital era.

It is important for stakeholders, especially governments and business people, to continue to pay attention to trends and consumer behavior patterns in facing this dynamic digital era. By understanding consumer preferences and needs in-depth, they can design more effective marketing and product development strategies. Apart from that, investment in technology and innovation also needs to be increased to ensure that Indonesia remains competitive in a global market that is increasingly digitally connected. Through collaborative efforts between the public and private sectors, as well as the application of the principles of consumer behavior theory, Indonesia can harness the full potential of the digital era to achieve inclusive and sustainable economic growth.

5. CONCLUSION

In facing an increasingly competitive digital era, the conclusion that can be drawn is that Indonesia has great potential to increase its competitiveness through the right strategies. Through investment in digital infrastructure, improving digital skills, updating regulations and policies, and collaboration between various stakeholders, Indonesia can create a conducive environment for inclusive and sustainable digital economic growth.

Apart from that, stimulating innovation and increasing awareness of cyber security is also an important key in facing challenges and exploiting opportunities in this digital era. In this way, Indonesia can strengthen its position as a major player in the global digital economy, and ensure that the benefits of this digital transformation can be felt by all levels of society.

Therefore, governments, companies, investors, and other stakeholders need to work together in a collaborative and coordinated manner in implementing these strategies. Only with joint efforts, Indonesia can move towards a more competitive digital era and ensure that this country remains a center of innovation and growth on the global digital economic map.

LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Although this research provides valuable insight into Indonesia's digital competitiveness, several limitations need to be noted. First, the use of

secondary data from the 2023 East Ventures-Digital Competitiveness Index (EV-DCI) may not cover all relevant aspects or provide a complete picture of the situation at hand. In addition, the focus of this research is mainly at the provincial and city/district levels, so it does not provide a comprehensive picture of digital competitiveness at the national level. The quantitative descriptive methodology used in this research may also have limitations in capturing the nuances and complexity of the situation at hand. Therefore, for further research, it is recommended to conduct in-depth case studies, field surveys, and interviews, as well as comparative analysis with other countries to gain a deeper and more comprehensive understanding of the challenges and opportunities in facing this digital era. By taking these limitations into account and adopting a more holistic approach, future research can make a greater contribution to the development of effective strategies to increase Indonesia's digital competitiveness.

REFERENCES

- Bitonti, A. 2023. Tools of digital innovation in public affairs management: A practice-oriented analysis. *Journal of Public Affairs*, 24 (1). <https://doi.org/10.1002/pa.2888>
- Kalman, P.J. 1968. Theory of Consumer Behavior When Prices Enter the Utility Function. *Econometrica*, 36 (3/4), Pp. 497-510.
- Leão, P., and da Silva, M. M. 2021. Impacts of digital transformation on firms' competitive advantages: A systematic literature review. *Strategic Change*, 30 (5), Pp. 421-441. <https://doi.org/10.1002/jsc.2459>
- Omorede, A. 2022. Business in the digital age: Digital innovation outcomes, exit and the founder's start-up experience role. *Journal of the International Council for Small Business*, 4 (1), Pp. 68-78. <https://doi.org/10.1080/26437015.2022.2125355>
- Santika, E.F. 2023. Indonesia's Digital Competitiveness Will Increase in 2023, Driven by Human Resource Readiness and the Role of the Government. Retrieved from <https://databoks.katadata.co.id/datapublish/2023/04/06/daya-saing-digital-indonesia-naik-pada-2023-di-bangun-kesipan-sdm-besar-peran-Pemorang>
- Schildt, H., Lahdenranta, K., Demir, R., and Turunen, T. 2023. Waking up to digital innovation: how organizational secrecy hampers top management focus on strategic renewal. *Innovation*, Pp. 1-27. <https://doi.org/10.1080/14479338.2022.2162530>
- Scitovsky, T. 1973. A New Approach to the Theory of Consumer Behavior. *The American Economist*, 17 (2), Pp. 29-32.
- Susanti, E., Mulyanti, R.Y., and Wati, L.N., 2023. MSMEs performance and competitive advantage: Evidence from women's MSMEs in Indonesia. *Cogent Business and Management*, 10 (2). <https://doi.org/10.1080/23311975.2023.2239423>
- Swist, T., Collin, P., Lewis, J., Medlow, S., Williams, I., Davies, C., and Steinbeck, K. 2023. A digital innovation typology: Navigating the complexity of emerging technologies to negotiate health systems research with young people. *Digit Health*, 9, 20552076231212286. <https://doi.org/10.1177/20552076231212286>
- Talafidaryani, M., Jalali, S.M.J., and Moro, S. 2021. Digital transformation: Toward new research themes and collaborations yet to be explored. *Business Information Review*, 38 (2), Pp. 79-88. <https://doi.org/10.1177/0266382120986035>

