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Technology Optimization in Generation Z Digital Investment in the Society 5.0 Era

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Abstract

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This study aims to analyze the role of technology optimization in driving digital investment development among Generation Z in the Society 5.0 era. Through a qualitative research method based on literature studies, data was obtained from various scientific sources published in the last five years that are relevant to the themes of technology, digital investment, and youth behavior. The results of the study show that advances in financial technology, such as fintech and online investment platforms, provide great opportunities for Generation Z to actively participate in the digital economy. However, low digital financial literacy remains a major challenge that has the potential to hamper the sustainability of investment. Technology optimization must be balanced with an increased understanding of digital ethics, adaptive regulations, and collaboration between the government, financial institutions, and the education sector. This research emphasizes that the success of Society 5.0 implementation lies in the balance between technological innovation and sustainable human values.

1. Introduction

The digital era has brought a major transformation to the lifestyle of the global community, including in the economic, educational, and social sectors. The rapid development of information and communication technology marks the transition towards Society 5.0, a human-centered intelligent society concept by utilizing the integration of the digital and physical worlds to achieve common prosperity (Kasinathan et al., 2022). In this context, technology is not only seen as a tool of efficiency, but also as a catalyst for social and economic innovation that allows the younger generation to actively participate in sustainable development (Habanik et al., 2019).

The transformation towards Society 5.0 demands the ability of humans to optimize technology ethically and productively. This shift not only changed the industrial system to be more intelligent, but also fostered new forms of digital-based social and economic interaction. One of the concrete forms of these changes is the increase in digital investment activities carried out by the public, especially the younger generation such as Generation Z. This generation was born and grew up in the midst of digital connectivity so that it has the characteristics of quickly adapting to technological innovation and tends to use digital platforms for productive activities, including investing (Liu et al., 2019).

Digital investment has become an economic phenomenon that has grown rapidly in the last five years. The integration between financial technology (fintech) and the digital capital market allows people to transact online more easily and securely (Kamal & Apriani, 2022). However, this convenience also poses challenges

in the form of low financial literacy and the risk of online investment fraud. Therefore, technology optimization needs to be balanced with increasing knowledge and awareness of healthy investment so that the benefits of the digital economy can be felt sustainably (Affifatusholihah & Putri, 2021). In addition to being an investment tool, technological developments also contribute to expanding financial inclusion. Generation Z as a digital native group is able to utilize investment applications, e-wallets, and fintech platforms to manage their finances independently.

This shows a paradigm shift from passive consumption to active participation in digital economy activities (Setyorini & Indriasari, 2020). This activeness is an indicator that the role of the young generation is very important in strengthening the technology-based economic ecosystem in the Society 5.0 era. The concept of Society 5.0 itself is not only an extension of the Industrial Revolution 4.0, but is a refinement that emphasizes the balance between technological progress and human values (Adel, 2022). People in this era are expected to not only be users of technology, but also creators of solutions that are able to answer social challenges through the use of big data, artificial intelligence, and the internet of things. Therefore, understanding how technology can be optimized to support productive economic behavior is an academic urgency that needs to be studied (Goyal & Kumar, 2021).

Various studies show that the integration of technology in economic activities provides great opportunities for sustainable development. For example, the use of financial technology plays a role in improving transaction efficiency, expanding market access, and reducing economic disparities between regions (Stevanus &

Rahadi, 2020). However, the success of the implementation is highly dependent on the readiness of human resources, especially the younger generation, to manage technology wisely. In this context, research on technology optimization through digital investment is relevant because it is able to highlight the synergy between technological advances and human capacity in the Society 5.0 era. The emphasis on the role of Generation Z as digital natives confirms that they are the key to fostering an innovative and inclusive investment ecosystem. With its adaptability to fintech and digital platforms, this generation has great potential to be the main driver of the growth of the technology-based capital market. However, literacy and safety-related risks must be managed through proper education.

Thus, this paper aims to comprehensively examine how the use of technology can be optimized through digital investment practices by the younger generation. The main focus is directed at efforts to understand the role of technology in shaping adaptive, innovative, and sustainable investment behaviors. Through a literature review of various recent researches, it is hoped that the results can make a theoretical contribution to the development of humane-based digital economy concepts as well as practical contributions in improving the digital financial literacy of the global community. This study argues that the synergy between technology and Generation Z's capacity in digital investment is an important capital to realize a society 5.0 that is oriented towards human welfare.

2. Literature Review

2.1. Society 5.0 and Technology Optimization

The concept of Society 5.0 was first introduced in Japan in 2019 as a response to the impact of the technology-oriented Industrial Revolution 4.0 (Pluta-Zaremba & Szelągowska, 2021). At this stage, humans are no longer the object of automation, but play a role as a center of social innovation that utilizes digital technology to solve economic, social, and environmental problems. Technologies such as artificial intelligence, big data, and the internet of things are key components in building a more adaptive, efficient, and inclusive society (Bublitz et al., 2019). In a global context, Society 5.0 emphasizes the importance of a balance between technological advancement and human well-being.

Optimizing technology not only means increasing productivity, but also ensuring that its use has a positive social impact, including on access to education, health, and the economy (Adel, 2022). This approach creates a smart society order that is oriented towards real solutions based on digital innovation. As a result, the integration of technology in the era of Society 5.0 has opened up great opportunities for the birth of new economic models, such as digital entrepreneurship and platform-based investment. This indicates that technological progress cannot be separated from the role of humans who operate and manage it with ethics, literacy, and a clear vision of sustainability. Therefore, the understanding of the concept of Society 5.0 is the main theoretical foundation in reviewing the relevance of technology to the digital investment behavior of today's young generation.

2.2. Digital Investment and Generation Z

The emergence of digital investment is one of the most tangible impacts of financial technology (fintech) transformation. This innovation facilitates people to invest without time and location restrictions through internet-based applications (Moro-Visconti et al., 2020). For young generations like Generation Z, who grew up in an all-digital environment, technology has become part of the lifestyle and a tool to achieve financial independence. This generation is known to be adaptive to the development of online investment platforms such as digital mutual funds, e-wallets, and cryptocurrencies (Wardah, 2022). Research shows that Generation Z has a high tendency to try various investment instruments due to their curiosity and ability to use digital technology (Setyorini & Indriasari, 2020).

However, low digital financial literacy is still a significant challenge. Many young investors do not fully understand the risks and working mechanisms of investment, making them vulnerable to investment scams. Therefore, financial literacy and risk management skills are important aspects that must be developed along with the development of investment technology. In addition, the ease of access to investment information through social media also plays an important role in shaping the financial behavior of Generation Z. They not only invest for personal gain, but also as a form of expression of social identity and participation in the digital economy ecosystem. Thus, digital investment is not just an economic phenomenon, but also a reflection of changes in financial values and culture in the Society 5.0 era (Saniuk et al., 2022).

3. Method

This study uses a qualitative method with a literature study type. This approach was chosen because it is well suited to examine complex social phenomena, such as the use of technology and digital investment behavior, without the need for hands-on experiments in the field. The main focus is to understand how technology optimization contributes to the development of digital investment for the younger generation in the Society 5.0 era. Literature studies provide ample opportunities to explore various theories, concepts, and findings from relevant previous studies, so as to form a comprehensive understanding of the topic being studied.

In its implementation, the author collects data from various reliable scientific sources, including national and international journals, reference books, research reports, and academic articles. The publication time limit used is between the last five years. This time range is set to ensure that all data analyzed is relevant to technological developments and the latest digital investment dynamics. The data collection process is carried out through intensive literature searches using major scientific databases such as Google Scholar, ResearchGate, and Elsevier. All the documents that were successfully obtained were then strictly selected based on their suitability with the theme, originality of the content, and their substantial contribution to the main objectives of the research.

After the data collection stage, the author continues with a content analysis process that uses a descriptive and interpretive approach. This analysis aims to identify patterns, relationships, as well as important findings that stand out from the

body of literature that has been reviewed. The author also conducts a comparative review looking for similarities and differences from the results of previous research as a basis for building logical and solid arguments in the results and discussions. The validity of information and the reliability of literature sources are always evaluated to ensure the quality of the data.

The final stage of this research method is the preparation of conclusions. The conclusions are built on the basis of an in-depth interpretation of the entire literature that has been analyzed. The process of drawing conclusions is carried out in a deductive manner, starting from the description of the general phenomenon regarding technology optimization, then moving towards specific aspects related to the digital investment behavior of the younger generation. This methodological approach allows the author to produce an integrative synthesis of knowledge and offers a fresh perspective in understanding the dynamics of digital investment in the era of Society 5.0. With this robust literature study framework, this research is expected to make a significant conceptual contribution, as well as be a valid foundation for future empirical research.

4. Results

The results of the literature review show that the development of digital technology in the last five years has significantly changed the way humans interact with the economic, social, and cultural worlds. The concept of Society 5.0 is an important point in these changes, where technology is not only seen as a means of production, but also as part of a social system capable of improving human welfare

(Grabowska et al., 2022). The integration between the real world and the virtual world presents new opportunities for people to create economic value through technology, such as intelligent automation, artificial intelligence, big data, and the Internet of Things (IoT). This has accelerated the emergence of a more open and collaborative digital economy model (Bublitz et al., 2019). This transformation marks a fundamental shift in the global socio-economic structure, where interactions between individuals, business transactions, and access to information are all facilitated by increasingly sophisticated and equitable digital infrastructure.

Technological transformation also has a major impact on the financial and investment sectors. The development of financial technology or fintech is clear evidence that technology is able to streamline economic activities while increasing public participation in the financial market. Digital investment platforms such as peer-to-peer lending, robo-advisor, digital gold, and cryptocurrency exchanges are now widely used as alternative investment means (Affifatusholihah & Putri, 2021). In the context of Society 5.0, the integration of this technology allows individuals to easily access investment products through their mobile devices. This ease of access directly encourages the birth of a new generation of investors who are more independent and digitally educated, especially among Generation Z (Liu et al., 2019). The ability to invest with relatively small capital and a simple process has democratized access to capital markets, which were previously dominated by large institutions and high-income individuals.

Generation Z is a group that is growing in the midst of the digital technology revolution. They consider technology as part of daily life and have a high level of

adaptation to internet-based innovation (Szymkowiak et al., 2021). In the research of Jarrahi and Eshraghi (2019), this generation is categorized as digital natives who are able to multitask and prefer digital interaction over face-to-face. These characteristics have implications for the way they make economic decisions, including the decision to invest. Generation Z tends to use digital investment applications as a means of learning as well as a means of obtaining financial benefits. They leverage a variety of digital information sources, from social media to online education platforms, to shape their investment strategies. However, most of these young investors still face obstacles in the aspect of financial literacy, which can affect the success rate and sustainability of their investments (Setyorini & Indriasari, 2020). The risks that arise from this lack of literacy include decision-making based on fear of missing out (FOMO) or unverified information (hoaxes).

Furthermore, technology optimization in digital investment provides various significant benefits. First, time and cost efficiency, because the entire transaction process from account opening to buying and selling can be done online without physical presence. Second, increased accessibility, where anyone with an internet connection, regardless of geographical location or economic background, can become an investor. Third, there is data transparency and risk analysis features supported by algorithms and big data, which ultimately help investors make more rational and measurable decisions (Stevanus & Rahadi, 2020). However, these technological developments also present new risks such as cybersecurity threats, personal data vulnerabilities, and the potential for increasingly sophisticated online-based investment fraud. Therefore, improving system security through advanced

encryption and comprehensive digital literacy is a crucial step to maintain public trust in the rapidly growing digital investment ecosystem (Kamal & Apriani, 2022).

In the framework of Society 5.0, technology plays a role not only for economic efficiency, but also as a means of human empowerment. Research by Adel (2022) shows that the optimization of digital resources in a smart society is able to improve economic and social sustainability. The use of technologies such as artificial intelligence and big data allows for more precise, efficient, and predictive economic decision-making processes. Similarly, Pluta-Zaremba and Szelągowska (2021) emphasized that the digital economy of the 5.0 era demands humans not only as passive users of technology, but also as innovators who actively create social added value through digital solutions. In the context of investment, this means that the younger generation is not only using existing applications, but also contributing to the development of a more ethical and sustainable investment business model.

A similar phenomenon can be seen in the context of digital investment of the younger generation. Generation Z uses social media, online forums, and virtual communities as the main space to share knowledge, insights, and investment experiences. According to Affifatusholihah and Putri (2021), digital social interaction has an important role in shaping the perception of trust in investment applications and fintech providers. The trust factor driven by user testimonials and reviews, as well as the ease of access factor offered by technology, is now a key determinant in digital investment decisions, even replacing traditional factors such as physical proximity to the offices of financial institutions. Thus, technology optimization occurs not only in the technical aspects of the platform, but also in the social and

psychological dimensions of users, where investment decisions are increasingly internalized in their digital social networks.

In addition to these advantages, Wardah's (2022) research found that the use of technology for digital investment also poses serious ethical and security challenges. Although the younger generation has easy access to various investment platforms, not all have a deep understanding of the market mechanisms and the risks they face. Lack of literacy about risk management and digital security often leads to significant cases of fraud and financial losses, especially in high-risk or illegal investment products. Therefore, there is a need for continuous education and firm policy interventions so that technology is not misused and digital investment can provide sustainable and safe economic benefits for all users.

Furthermore, technological advances also have implications for the formation of new investment patterns that are more dynamic and inclusive. Digital platforms now function not only as a medium for transactions, but also as a means of personalized financial education. For example, robo-advisor applications provide automated portfolio analysis based on the user's risk profile, while blockchain systems guarantee data security and transaction transparency without intermediaries (Jung et al., 2018). These technological capabilities significantly encourage young investors' confidence in digital systems and expand the reach of public participation, even from previously untouched layers, in both domestic and global financial markets (Mourtzis et al., 2022). This inclusivity is key to realizing the well-being of Society 5.0.

However, various literature also confirms that the success of digital investment and the vision of Society 5.0 is highly dependent on the readiness of human resources in managing technology wisely. According to Kasinathan et al. (2022), society in Society 5.0 is required to be able to innovate and utilize technology without sacrificing human values. Technology should be a tool that functions to improve the quality of life, facilitate decision-making, and solve social problems, not the other way around, i.e. dominating or replacing the role of human beings completely. Therefore, an approach that emphasizes the critical balance between technological aspects and ethical, moral, and humanitarian aspects in every economic digitalization process is needed. In the context of digital investment, the younger generation plays a central role as agents of change as they are not only active users of technology, but also shapers of the development and ethics of the digital economy in the future.

From the results of the analysis of various studies, it can be strongly concluded that technology optimization through digital investment is a concrete form of applying the principles of Society 5.0 in daily economic life. Technology allows for equitable access to investment and expands the participation of the younger generation in economic development in an inclusive manner. However, on the other hand, the successful implementation of this concept requires solid support in the form of improving digital and financial literacy, the creation of adaptive consumer protection policies, and strict supervision of online investment practices, especially those that are potentially illegal or high-risk. Increased cooperation between governments, traditional financial institutions, and technology providers

(fintech) is a key determining factor for the success of the transition to an inclusive and ethical digital society (Goyal & Kumar, 2021).

Overall, the results of this study show that the relationship between technology, digital investment, and the younger generation is not linear and simple, but is a dynamic that reinforces and influences each other. Technology optimization not only results in economic efficiency and convenience, but also triggers profound changes in people's social behavior and financial culture. With Generation Z becoming increasingly adaptable and digitally savvy towards technology, the opportunity to create a fairer, more transparent, and more sustainable economic system is increasingly wide open. However, the biggest challenge remains how technology can be used responsibly and ethically to support human well-being, rather than widening gaps or triggering financial losses. Therefore, strategies to strengthen digital literacy, public policy innovation, and digital ethics education need to continue to be developed and implemented massively so that the vision of Society 5.0 is truly realized in inclusive and equitable digital investment practices. This success will greatly determine the future of the human-centric digital economy.

5. Discussion

The findings of this study reinforce the view that technology optimization is the main key in creating an inclusive and sustainable digital economy ecosystem. In the context of Society 5.0, technology is no longer only seen as a tool of automation, but rather as a means of human empowerment oriented towards social welfare (Grabowska et al., 2022). The integration between humans and machines is

becoming a new form of symbiosis that allows increased productivity without neglecting human values. The main principle of Society 5.0 emphasizes that innovation should be directed at solving social problems, not just the pursuit of economic efficiency (Habanik et al., 2019).

In the context of digital investment, technological transformation has changed people's paradigm towards financial activities. Generation Z, who grew up with the development of digitalization, shows high adaptability to financial technology (fintech) and has a great interest in various forms of online application-based investment (Wardah, 2022). Their ability to leverage digital platforms not only expands participation in the capital market, but also strengthens economic literacy among young people. However, a low understanding of investment risks and digital security remains a significant challenge. Therefore, increasing digital financial literacy needs to be carried out systematically through formal education, training, and collaboration between financial institutions and the government.

In addition to the literacy aspect, it is also important to highlight the dimensions of ethics and trust in digital investment. Rapidly developing technology carries the risk of the emergence of unhealthy financial practices such as online fraud or investment scams that can harm society (Saniuk et al., 2022). Therefore, consumer protection policies and fintech regulations are needed that are firm and adaptive to technological developments. The government has a strategic role in creating a safe investment climate through digital supervision systems, platform certifications, and increased transparency in fund management.

From a social perspective, digital investment also reflects changes in the behavior of the younger generation towards the value of ownership and welfare. If the previous generation tended to rely on physical assets such as land or gold, then Generation Z prefers digital assets that are easily accessible and managed online (Moro-Visconti et al., 2020). This shows a shift in economic value towards a digital paradigm, where knowledge and access to information become a new form of capital. In this context, technology is not only a means of transaction, but also a symbol of social status and a form of participation in modern economic development.

Furthermore, the success of technology optimization in digital investment requires collaboration between public and private actors. Educational institutions can act as literacy agents that instill financial awareness from an early age, while fintech companies must ensure the security and transparency of their systems. Research by Stevanus and Rahadi (2020) confirms that the involvement of the younger generation in digital investment not only increases economic efficiency, but also forms a productive mindset oriented towards innovation and sustainability. Therefore, the synergy between regulation, education, and technological innovation is the main foundation for the realization of an intelligent society that is in line with the values of Society 5.0. This discussion emphasized that the successful implementation of the Society 5.0 concept in the context of digital investment is determined by the balance between technological capabilities, human literacy, and adaptive regulation. With targeted collaboration, technology can become a medium

of socio-economic transformation that is not only financially profitable, but also creates sustainable human value for the global community.

6. Conclusion

This research shows that technology optimization plays an important role in strengthening economic activities and digital investment in the *Society 5.0* era. The integration of information technology, artificial intelligence, and big data has driven economic transformation towards a more open, efficient, and inclusive system. In this context, technology not only functions as a means of production, but also as a means of human empowerment that allows people to actively participate in digital-based economic activities. Generation Z emerged as a major actor in this dynamic due to their high adaptability to technological innovation and preference for online investments.

They leverage various digital platforms to achieve financial independence, while also creating new economic value through app-based investments. However, low financial literacy and awareness of digital risks are still obstacles that must be overcome through more comprehensive education, policies, and technological supervision. This study confirms that the successful implementation of *Society 5.0* depends on the synergy between technology, people, and regulations. Technology optimization must be balanced with strengthening digital literacy and use ethics so that the transformation of the digital economy not only generates financial benefits, but also supports social welfare and sustainable development for all levels of society.

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