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Entrepreneurship in the era of society 5.0: Navigating digitalization for innovation and growth

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Abstract
Purpose: This study explores the symbiotic relationship between entrepreneurship and digitalization in Society 5.0, emphasizing the pivotal role of entrepreneurs in navigating and leveraging digital technologies to foster innovation and propel economic development.
Research Methodology: This study uses quantitative methods to explore entrepreneurship in the era of Society 5.0, focusing on digitalization for innovation and growth. The population comprises entrepreneurs in Indonesia who use digital technology in their business. The sample comprised of 200 purposively selected entrepreneurs. Data were collected using an online questionnaire on the use of digital technology, innovation, and business growth. Data analysis, including validation, descriptive analysis, and SEM-PLS, was conducted using Smart PLS. The results are expected to provide insights into digital strategies for business innovation and growth.
Results: The results highlight how entrepreneurs can leverage digital technologies, such as AI, IoT, and big data, to develop innovative products, improve operational efficiency, expand markets, and make better decisions. The benefits include global market access, improved customer experience, and better business sustainability. This makes entrepreneurs more competitive and responsive to market change.
Limitations: Today's entrepreneurship faces limitations, such as technology dependence, adaptation difficulties, data security risks, and the digital divide. Entrepreneurs also encounter global competition, changing regulations, a lack of digital skills, poor technology infrastructure, and funding difficulties. Overcoming these challenges requires support from the government, the private sector, and educational institutions.
Contributions: This research helps institutions develop digital policies and training programs, adds to the global literature on entrepreneurship in the Society 5.0, provides digital strategies for management, and improves entrepreneurs' competencies in utilizing digital technologies. It provides practical guidance to support business innovation and growth in the digital age.
Keywords: *Entrepreneurship, Era of Society 5.0, Digitalization, Innovation, Growth*
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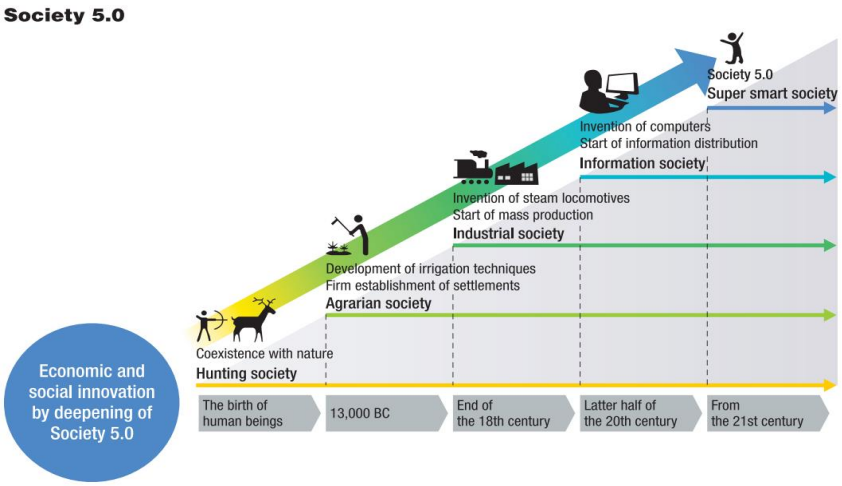
1. Introduction

Entrepreneurship is constantly evolving, and in the era of Society 5.0, it is crucial for entrepreneurs to navigate the challenges and opportunities presented by digitalization to drive innovation and achieve growth. By understanding the digital toolbox employed by pioneering organizations, entrepreneurs can generate novel questions for entrepreneurship, business models, and ecosystems, ultimately leading to new ways of thinking about trust and institutional logics (George, Merrill, & Schillebeeckx, 2021). Furthermore, by embracing digital sustainability activities, entrepreneurial organizations can tackle complex societal challenges and have a positive impact on society. To succeed in the era of Society 5.0, entrepreneurs need to not only adapt their strategies and business models to align with digital technologies, but also develop a deep understanding of the factors that facilitate and constrain them (Elia, Margherita, & Passiante, 2020). This understanding, combined with the formation of durable and adaptive institutions and networks, supports entrepreneurial firm development and sustains technology-based growth (Satalkina & Steiner, 2020). Entrepreneurship in the era of Society 5.0, requires a proactive approach to embracing digitalization and leveraging it for innovation and growth.

Society 5.0, a concept first introduced by the Japanese government as part of a strategy to address social and economic challenges through technological innovations. This concept was introduced in 2016 in Japan's 5th Basic Science and Technology Policy. Society 5.0 aims to create a human-centered society, where advanced technologies such as artificial intelligence (AI), Internet of Things (IoT), big data, and robotics are integrated in daily life to improve quality of life. Society 5.0 is a concept that integrates advanced technologies such as AI and IoT into daily life to improve the quality of human life. Unlike the previous stages of Society 1.0 (hunter and gatherer), Society 2.0 (agrarian), Society 3.0 (industrial), and Society 4.0 (information), Society 5.0 emphasizes the integration of technology for human well-being and sustainability, as well as solutions to societal challenges, such as population aging and climate change (Fukuyama, 2018; Laboratory, 2020). The biggest challenge faced by entrepreneurs in the Society 5.0 era is the business paradigm shift characterized by this era. Technology has become a major force that fundamentally changes the business landscape, creating great opportunities and uncertainties. Digitalization is the key to optimizing these opportunities, especially in marketing micro, small, and medium enterprise (MSMEs) products. However, the readiness of MSMEs in adapting to digitalization has not been fully realized, so they face a significant paradigm shift in facing the Society 5.0 era (Febrianita, Mumpuni, Sholihatin, & Septian, 2023).



Source: Fukuyama (2018)

In an era in which digitalization is rapidly transforming the business landscape, entrepreneurs must delve deeper into understanding the nuances and implications of this digital shift. The digital toolbox utilized by leading organizations serves as a reservoir of inspiration for entrepreneurs, prompting them

to re-evaluate traditional paradigms and envision innovative approaches to entrepreneurship (Nambisan, 2017). This exploration of digital tools not only sparks fresh perspectives on business models and ecosystems, but also fosters a reevaluation of trust and institutional logics in the digital age (George et al., 2021). Furthermore, the concept of digital sustainability presents entrepreneurs with the opportunity to address complex societal issues through their organizational activities. By embracing digital sustainability, entrepreneurial ventures can play a pivotal role in positively impacting society while pursuing growth and innovation (Ablyazov, Asaturova, & Koscheyev, 2018). This requires a comprehensive understanding of the interconnectedness between digital technology and societal challenges, compelling entrepreneurs to adopt a proactive stance in leveraging digitalization for the social good (Antonizzi & Smuts, 2020).

Beyond adapting their strategies to align with digital technologies, entrepreneurs must cultivate a profound comprehension of the multifaceted factors that both enable and hinder their endeavors (Schneider, 2019). This entails not only embracing digitalization in a passive sense but actively engaging with its intricacies and potential constraints (Kraus, Palmer, Kailer, Kallinger, & Spitzer, 2019). In doing so, entrepreneurs can lay the groundwork for durable and adaptive institutions and networks that are essential for fostering sustainable growth and technological advancement in the entrepreneurial realm (Gregori & Holzmann, 2020). In conclusion, navigating digitalization goes beyond the mere adoption of digital tools; it necessitates a holistic comprehension of digital sustainability, societal impact, and the intricate dynamics of digitalization (Bican & Brem, 2020). In the era of Society 5.0, proactive engagement with digitalization is imperative for entrepreneurs seeking to drive innovation and sustainable growth (George et al., 2021).

Although significant research has focused on digital transformation in established companies, there is a gap in understanding how emerging entrepreneurs recognize and leverage opportunities created by the integration of physical and digital systems in Society 5.0. Initial studies, such as those by Nambisan, Wright, and Feldman (2019), have begun to address this, but further research is required to investigate the cognitive processes and decision-making strategies that entrepreneurs employ in highly digitalized contexts. In Society 5.0, the entrepreneurial ecosystem involves intricate interactions between startups, established companies, government bodies, and research institutions. Although Autio et al. (2023) have shed light on digital entrepreneurial ecosystems, further research is needed to understand how these ecosystems develop and how entrepreneurs can effectively navigate and contribute to them within Society 5.0.

2. Literature Review

2.1 Literature review

2.1.1 Entrepreneurship

Entrepreneurship embodies the spirit of innovation, risk taking, and perseverance in the pursuit of creating value. It's not just about starting a business; it's a mindset, a way of thinking and acting that drives individuals to identify opportunities, marshal resources, and bring about change in the world (Faiña, Losada-López, & Montes-Solla, 2016). The heart of entrepreneurship is innovation. Entrepreneurs are often driven by the desire to solve problems or meet new and better needs. This requires creativity — the ability to think outside the box, see possibilities where others see obstacles, and generate novel solutions (Zhao & Zhang, 2021).

Entrepreneurship involves inherent risk. Whether it is investing in personal savings, quitting a stable job, or pursuing a new idea with no guarantee of success, entrepreneurs must be willing to take calculated risks (Choi & Markham, 2019). They understand that failure is a possibility but also recognize that it is often a stepping stone to eventual success. Successful entrepreneurs possess a keen eye to spotting opportunities that others may overlook (Satalkina & Steiner, 2020). They are adept at identifying the market gaps, emerging trends, and unmet needs. Moreover, they have a clear vision of what they want to achieve and the impact they aspire to have.

2.1.2 Era of Society 5.0

Society 5.0 envisions a future in which cutting-edge technologies are fused with human-centered values to tackle global challenges and enhance the quality of life. This concept evolved from earlier societal stages, spanning hunter-gatherer societies (Society 1.0) through industrialization (Society 2.0), the digital era (Society 3.0), and the age of connectivity and information (Society 4.0) (Ellitan, 2020). Society 5.0 emphasizes integrating advanced technologies like AI, robotics, IoT, biotechnology, and big data analytics while prioritizing human needs, values, and well-being over mere technological progress (Apdillah, Panjaitan, Stefanny, & Surbakti, 2022).

Society 5.0 envisions a world where the boundaries between the physical and digital realms blur, creating interconnected ecosystems that enhance efficiency, productivity, and convenience (Sudibjo, Idawati, & Harsanti, 2019). This convergence facilitates the creation of smart cities, intelligent infrastructure, and interconnected networks that optimize resource utilization and enhance the quality of life for citizens (Rahmawati, Ruslan, & Bandarsyah, 2021). Society 5.0 envisions a world in which the boundaries between the physical and digital realms blur, creating interconnected ecosystems that enhance efficiency, productivity, and convenience. This convergence facilitates the creation of smart cities, intelligent infrastructure, and interconnected networks that optimize resource utilization and enhance citizens' quality of life (Fukuyama, 2018).

2.1.3 Digitalization

Digitalization involves fundamentally changing processes, systems, and societies by integrating digital technologies. This includes adopting digital tools, platforms, and strategies to simplify operations, improve efficiency, and foster innovation across various sectors (Bernini, Ferretti, & Angelini, 2021). This article delves into the principles, effects, and consequences of digitalization. At its core, digitalization converts analog processes and systems into digital ones. This implies digitizing data, workflows, and communication channels to enable quicker, more precise, and more economical operations (Bernini et al., 2021). Digital transformation typically includes automating manual tasks, using cloud-based solutions, and incorporating data analytics to enhance the decision-making processes. Digitalization enables constant connectivity, allowing smooth communication and collaboration, regardless of location. With the rise of connected devices like smartphones, wearables, and smart appliances, an interconnected environment emerges, facilitating instant information exchange, remote resource access, and innovative forms of interaction (Almeida, Santos, & Monteiro, 2020). A key aspect of digitalization is the management of large volumes of data. Through data analytics, machine learning, and AI, organizations can extract valuable insights, recognize patterns, and make informed, data-driven choices to enhance efficiency, predict customer preferences, and seize emerging prospects (Sjödin, Parida, Leksell, & Petrovic, 2018).

2.1.4 Innovation

Innovation propels progress and society by turning concepts into practical solutions that tackle crucial issues, enhance living standards, and open up new avenues (Akram & Abrar Ul Haq, 2022). Essentially, innovation is more than just inventing; it involves questioning existing norms, pushing limits, and instigating beneficial transformations. This study explores the principles, methodologies, and consequences of innovation. Innovation starts with imaginative thinking, envisioning fresh perspectives, challenging assumptions, and producing original concepts (Khan et al., 2022). This requires redefining problems, considering unconventional answers, and embracing ambiguity and unpredictability as opportunities for exploration and advancement (Le & Lei, 2019).

Innovation is a continuous process that includes experimenting, receiving feedback, and making improvements (Z. Song, Zhu, & Shi, 2023). Through methods like rapid prototyping, design thinking, or lean startup practices, innovators test their ideas, collect data, and refine their approaches to achieve ongoing progress and innovation (Knudsen, Von Zedtwitz, Griffin, & Barczak, 2023). Significant innovation often arises when ideas from various fields come together, leading to new insights and discoveries (Ma & Zhang, 2021). Collaboration across disciplines, whether in science, technology, the

arts, or the humanities, encourages the exchange of ideas, boosts creativity, and drives innovation by combining different expertise and viewpoints (Handayani, Wahyudi, & Suharnomo, 2017).

2.1.5 Growth

Growth is the innate desire for advancement and expansion, evident in various aspects of life, including personal development, organizational success, and societal progress. It represents a journey toward improvement, evolution, and fulfilment of potential. Here, we delve deeply into the concept of growth (Stoica, Roman, & Rusu, 2020). At the individual level, growth refers to ongoing processes of self-enhancement, learning, and personal maturation. It entails broadening one's knowledge, honing skills, and developing capabilities, along with fostering self-awareness, resilience, and emotional intelligence (Hopenhayn, Neira, & Singhania, 2022). Personal growth is driven by curiosity, self-reflection, and dedication to lifelong learning, as individuals aspire to achieve their utmost potential and evolve into their optimal selves.

Growth involves the pursuit of advancement, mastery, and satisfaction in the realm of career and professional life. It includes setting ambitious objectives, refining specialized skills, and actively seeking opportunities for career advancement and progression (Polunin, Kourenkov, & Polunina, 1998). Professional growth is motivated by ambition, diligence, and commitment to excellence, as individuals aim for success and strive to make significant contributions in their respective fields. In the context of businesses and organizations, growth signifies the expansion, advancement, and prosperity of an entity (Doepke & Zilibotti, 2014). This encompasses boosting revenue, market share, profitability, expanding operations, entering new markets, and diversifying product lines. Organizational growth necessitates strategic planning, innovation, and efficient implementation along with a strong organizational culture that encourages collaboration, flexibility, and adaptability (Hau et al., 2021).

2.2. Hypothesis Development

2.2.1 Digitalisation and Innovation

The study of Jing, Xia, Li, Fan, and Ming (2024) on Wuhan's new display industry discovered that digital industrialization promotes itself, whereas industrial digitization operates independently and is influenced by external factors. Technological innovation in enterprises involves complex, dynamic reactions. The research recommends that the government support the integration of digital technology into traditional industries and encourage internal digitization to strengthen technological innovation platforms. In line with Wang's (2022) study, it Wang (2022)Wang (2022)explores how a strategic focus on digitalization affects organizational performance. They find that a strategic orientation towards digitalization is positively linked to digital capabilities, such as digital knowledge and innovation. Additionally, this study highlights that resistance to innovation negatively moderates the relationship between these capabilities and innovative organizational performance. The results indicate that digital knowledge and innovation capabilities significantly influence innovation performance within organizations. Based on the empirical research above, we propose the following hypothesis:

H1: Digitalization has a positive contribution on Innovation

2.2.2 Digitalisation and Entrepreneur Growth

Singh, Singh, and Dhir (2023) investigated how a strategic focus on digitalization impacts organizational performance. This reveals that a strategic emphasis on digitalization is positively linked to digital capabilities, such as digital knowledge and innovation. Additionally, the research underscores that resistance to innovation negatively moderates the relationship between these capabilities and organizational performance**.** explored how enterprise digitization influences green innovation. They find that digital transformation significantly boosts green innovation by easing financing constraints and increasing risk-taking. The positive impact is more pronounced in areas with stringent environmental regulations and robust intellectual property protection as well as in state-owned and heavily polluting companies. The proposed hypotheses are as follows:

H2: Digitalization has a positive and significant contribution on Growth in Entrepreneurship

2.2.3 Innovation and Entrepreneur Growth

Innovation has a significant effect on entrepreneurship. The research conducted by Al-Qudah, Al-Okaily, and Alqudah (2022) examine how social entrepreneurship relates to sustainable development, with a focus on economic growth. Using structural equation modelling and bidirectional causality models, this study analyzed data from 15 RCEP countries. It finds a positive link between social entrepreneurship and sustainable development and growth, suggesting that social entrepreneurship can drive economic growth and sustainability by generating value and creating a social impact. Singh et al. (2023) provides a comprehensive review of the interplay between entrepreneurship, technology, and innovation (ETI). It outlines eight key research themes: type of innovation, performance of small ventures, gender roles in digital entrepreneurship, entrepreneurial ecosystems, technological ventures, venture sustainability and growth, technology transfer, and government policies. This study underscores the crucial role of innovation in enhancing competitiveness and ensuring the long-term survival of firms, highlighting the need for ongoing innovation to foster entrepreneurial growth.

H3: Innovation has a positive and significant contribution on Growth in Entrepreneurship

2.3 Framework Model and Hypothesis

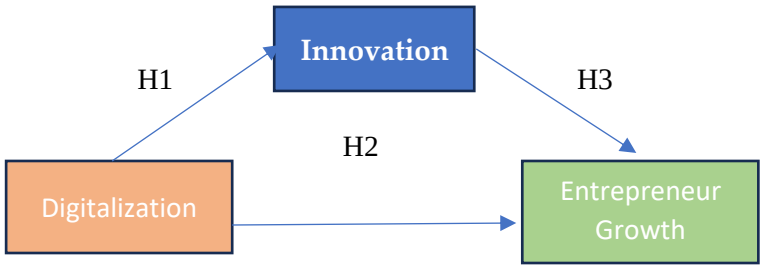


Figure 1: Framework Model

Hypotheses:

H1: Digitalization has a positive contribution on Innovation in Entrepreneurship in the Era of Society 5.0

H2: Digitalization has a positive and significant contribution on Growth in Entrepreneurship in the Era of Society 5.0

H3: Innovation has a positive and significant contribution on Growth in Entrepreneurship in the Era of Society 5.0

3. Research Methodology

This study employs a quantitative research method to explore entrepreneurship in the era of Society 5.0, focusing on how digitalization can support innovation and growth. This method was chosen because it allows researchers to collect numerical data and analyze the relationships between variables relevant to digital entrepreneurship. The population for this study consists of 200 entrepreneurs in Indonesia who have implemented digital technology in their businesses, covering various sectors, such as trade, services, manufacturing, and information technology. The sample was determined using purposive sampling with the following criteria: having operated their business for at least two years, actively using digital technology in business operations, and being willing to participate in the study. Data were collected using a specially designed questionnaire to measure the various aspects of digital entrepreneurship, innovation, and business growth. The questionnaire included questions on the use of digital technology in business (e.g., e-commerce, social media, and business applications), product and process innovation, business growth (e.g., sales increase and market expansion), and factors supporting and hindering digital technology adoption. The collected data were analyzed using statistical techniques with the aid of Smart Partial Least Squares (PLS) software.

4. Results and discussions

4.1 Result

Table 1. Instrument Test For Digitalization

	Estimate	Validity Test		GFI	Reliability
		P-Value	Validity		
X1.1	1	0	Valid	0,961 (Valid	0,739
X1.2	1,094	0,458	Valid	Unidimensional)	(Reliable)
X1.3	1,361	0,516	Valid		
X1.4	8,402	0,305	Valid		

The data in the table show that all indicators (X1.1, X1.2, X1.3, X1.4) are valid based on the given p-value. X1.2 is also reliable, while information on the reliability of the other indicators is incomplete. The GFI for X1.1 shows good validity, but GFI values were not available for the other indicators. The data in the table show that all the tested indicators are valid, with X1.2 also declared reliable. The GFI for X1.1 indicates good validity. This is important in the context of entrepreneurial growth supported by digitalization and innovation, as the validity and reliability of indicators ensure that the measurement tools used can be trusted to evaluate how digital technology and innovation contribute to business development. With valid and reliable tools, this analysis can more accurately identify the factors that influence entrepreneurial growth in the digital era.

Table 2. Instrument Test for Innovation

Indicator	Estimate	Validity Test		GFI	Reliability
		P-Value	Validity		
X2.1	1	0	Valid	0,974 (Valid	0,807
X2.2	3,539	0,263	Valid	Unidimensional)	(Reliable)
X2.3	6,106	0,095	Valid		
X2.4	2,524	0,171	Valid		
X2.5	0,347	0,426	Valid		

All indicators (X2.1 to X2.5) were valid based on the p-values provided. X2.1 shows good validity with a GFI of 0.807, although information on reliability is not mentioned. X2.2 is also valid, reliable, and unidimensional, but GFI is not available. Indicators X2.3, X2.4, and X2.5 were valid, with p-values indicating good validity; however, information on reliability and GFI was not provided for these indicators. All indicators (X2.1 to X2.5) are valid, indicating that the data obtained can be trusted. In particular, X2.1 shows good validity with a GFI of 0.807, supporting a solid analysis. The validity of these indicators, especially X2.2, which is also reliable, allows for the effective evaluation of the relationship between innovation and entrepreneurial growth. The positive correlation between aspects of innovation, as measured by these indicators, and entrepreneurial growth can be identified more clearly. The validity and reliability of measurement tools support the understanding that good innovation contributes positively to business development and expansion, reflecting the importance of innovation in driving entrepreneurial growth.

Table 3. Instrument Test For Entrepreneur Growth

Indicator	Estimate	Validity Test		GFI	Reliability
		P-Value	Validity		
Y1.1	1	0	Valid	0,941 (Valid	0,742
Y1.2	0,753	0,476	Valid	Unidimensional)	(Reliable)
Y1.3	0,316	0,501	Valid		

All indicators (Y1.1, Y1.2, Y1.3) are valid based on the given p-value. Y1.1 has good validity with a GFI of 0.742, although its reliability is not mentioned. Y1.2 is also valid, reliable, and unidimensional, but the GFI is not available. Y1.3 is valid with a p-value of 0.501, but information on reliability and GFI is not provided. The results show that all indicators (Y1.1, Y1.2, Y1.3) are valid, with Y1.1, Y1.2, and reliability. The good validity of these indicators supports an accurate analysis of the relationship between the measured aspects and entrepreneurial growth. For example, valid indicators, such as Y1.1 and Y1.2, can provide solid insights into the factors affecting

entrepreneurial growth. With valid and reliable data, we can better understand how certain elements contribute to business development and expansion and identify areas that may require attention to promote further entrepreneurial growth.

4.1.1 Final Stage SEM Analysis Results

Table 4. Final Test of Goodnes Of Fit Overall Model

Goodness of Fit	Calculation Results	Cut-off	Information
Khi	159,779	small	Good
KuadratP-	0,449	> 0,05	Fit
Value	0,006	≤ 0,08	Good
RMSEA	0,948	≥ 0,90	Fit
GFI	0,913	≥ 0,90	Good
AGFI	1,038	≤ 2	Fit
Khi Kuadrat/df			Good
			Fit
			Good
			Fit
			Good
			Fit

The analysis results showed that the model had a very good fit with the data. A p-value of 0.449 indicates no significant mismatch. Low RMSEA (0.006), high GFI (0.948), and AGFI (0.913) indicated a good model fit. In addition, the ratio of chi-square to degrees of freedom (1.038) indicated a good model fit. Overall, all indicators show that the model fits the data and meets the standard of a good fit.

The results of the model fit analysis show that all indicators are valid and reliable, with a high p-value, low RMSEA, and high GFI and AGFI, indicating an excellent model. This means that the model used can be used to evaluate the relationship between the relevant variables. The good validity and reliability of the indicators, together with the strong model fit, support an accurate understanding of the factors that affect entrepreneurial growth. With these data, we can be confident that the analysis of the contribution of digitalization and innovation to entrepreneurship is conducted using a well-fitting and reliable model.

4.2 Discussion

4.2.1 The Impact of Digitalization on Entrepreneur Innovation

The results show that all indicators (X1.1, X1.2, X1.3, and X1.4) are valid based on their p-values. X1.2 is also reliable, although the reliability data for the other indicators are incomplete. X1.1 has a good GFI, but GFI values are missing for the other indicators. Valid and reliable measurement tools are crucial for assessing how digitalization and innovation drive entrepreneurial growth. Accurate tools help identify the factors that impact business development in the digital era. Digitalization has notably democratized innovation by reducing entry barriers. Technologies such as cloud computing have made advanced computing resources accessible at lower costs, allowing start-ups to rival established companies. This shift has spurred an increase in entrepreneurial activity, especially in technology-driven fields. The rise of digital technologies has also generated vast amounts of data, offering entrepreneurs valuable insights into market trends, consumer behavior, and operational efficiencies. Big data analytics and machine learning now play crucial roles, helping entrepreneurs pinpoint needs, refine products and services, and make better decisions. This data-centric approach has sped up innovation and has enhanced the accuracy with which market opportunities are targeted. Digitalization democratizes entrepreneurs' access to information and resources. The Internet provides entrepreneurs with extensive knowledge, market data, and networking possibilities, enabling them to make well-informed decisions and identify new innovation opportunities (Berger, Von Briel, Davidsson, & Kuckertz, 2021). In many industries, digitalization reduces barriers to entry into entrepreneurship. Cloud computing, software-as-a-service (SaaS) platforms, and open-source software have made it more economical for entrepreneurs to create and introduce new products and services, cultivating a culture of innovation and entrepreneurship (Ivanović-Đukić, Stevanović, & Rađenović, 2019). Digital tools and

technologies enable entrepreneurs to quickly prototype and refine their ideas. For instance, 3D printing, virtual reality simulations, and computer-aided design (CAD) software enable entrepreneurs to swiftly materialize their concepts, test them with users, and enhance them based on feedback, hastening the innovation process. Additionally, digitalization has broadened entrepreneurs' reach and market access (Avelar, Borges-Tiago, Almeida, & Tiago, 2024). Through e-commerce platforms, social media, and digital marketing channels, entrepreneurs can connect with customers worldwide, surpassing traditional geographical limitations, and accessing new markets for innovative offerings.

Digitalization empowers entrepreneurs to utilize data analytics for informed decision-making. By gathering and analyzing data on customer behavior, market trends, and competitor activities, entrepreneurs can recognize patterns, reveal insights, validate hypotheses, guide their innovation efforts, and enhance their chances of success (Dabbous, Barakat, & Kraus, 2023). Moreover, digitalization has enabled the establishment of collaborative innovation ecosystems. Online platforms, incubators, accelerators, and crowdfunding websites connect entrepreneurs with mentors, investors, and other stakeholders, promoting collaboration, knowledge exchange, and the co-creation of innovative solutions to complex challenges (Fossen & Sorgner, 2021). Digitalization has also disrupted traditional industries and business models, creating opportunities for entrepreneurial innovation (Rosin, Proksch, Stubner, & Pinkwart, 2020). Startups that leverage emerging technologies such as artificial intelligence, blockchain, and the Internet of Things (IoT) are challenging established players and propelling innovation across various sectors, including finance, healthcare, transportation, and education (Kraus, Roig-Tierno, & Bouncken, 2019).

In summary, digitalization has dramatically transformed the innovation landscape for entrepreneurs by offering new tools, platforms, and methods that have accelerated the pace of innovation and created new opportunities. However, this has also brought about additional complexities and ethical concerns. Looking ahead, the most successful entrepreneurs will probably be those who can effectively leverage digital technologies while managing accompanying challenges in a responsible and ethical manner.

4.2.2 The Impact of Digitalization on Entrepreneur Growth

The findings show that all indicators (X2.1 to X2.5) are valid based on their p-values. X2.1 has good validity with a GFI of 0.807, though reliability information is missing. X2.2 is also valid, reliable, and unidimensional, but its GFI is not provided. Indicators X2.3, X2.4, and X2.5 are valid, but their reliability and GFI have not been reported. The validity of these indicators suggests that the data are reliable. Specifically, X2.1's good GFI supports strong analysis, and its validity of X2.2 enables effective evaluation of the link between innovation and entrepreneurial growth. Reliable measurement tools highlight how innovation positively affects business development and expansion. Digital platforms have transformed entrepreneurs’securing of funding for expansion. Crowdfunding, peer-to-peer lending, and digital investment platforms have facilitated entrepreneurs’ access to global investor bases. Moreover, digital systems provide transparency and real-time updates, simplifying the process of attracting venture capital and negotiating better terms. Automation through digital tools, such as customer service chatbots and AI-driven supply chain management, allows businesses to grow without a corresponding rise in operational costs, thereby enhancing scalability and profitability. Additionally, cloud-based ERP systems have made advanced management tools available to small and medium-sized enterprises to support their growth.

Digitalization enables entrepreneurs to expand their businesses rapidly and access global markets with relative ease. Through online platforms, e-commerce sites, and digital marketing channels, entrepreneurs can showcase their offerings to a vast audience, overcoming geographical and traditional physical store limitations (Tóth-Pajor, Bedő, & Csapi, 2023). Digitalization provides cost-effective solutions for entrepreneurs to grow their ventures. Cloud computing services, Software as a Service (SaaS) platforms, and digital advertising tools allow entrepreneurs to access advanced technology and marketing capabilities without significant initial investments, reducing barriers to growth and enabling efficient resource allocation (D. Song & Wu, 2021). Additionally, digitalization equips entrepreneurs with valuable data insights that inform strategic decision making and drive growth. By utilizing

analytics tools, entrepreneurs can collect real-time data on customer preferences, market trends, and competitor performance, enabling them to tailor their products, services, and marketing strategies to meet evolving demands and stay competitive (Panshin, Solovieva, Kornilova, & Eronin, 2021).

Digitalization enables entrepreneurs to engage with customers on a deeper, more personalized level, fostering loyalty and encouraging repeat business (Lee, Falahat, & Sia, 2019). Using social media, email marketing, and customer relationship management (CRM) systems, entrepreneurs can build meaningful connections with their audiences, gather feedback, and provide tailored experiences that improve customer satisfaction and retention (Panshin et al., 2021). Digitalization also promotes a culture of innovation and adaptability in entrepreneurial ventures. By leveraging emerging technologies, online collaboration tools, and agile methodologies, entrepreneurs can experiment, iterate, and adjust their business models and strategies to meet changing market conditions, customer preferences, and technological advancements, thereby promoting continuous growth and evolution (Ungureanu, 2021). Furthermore, digitalization has made funding and investment opportunities more accessible to entrepreneurs (Sahut, Iandoli, & Teulon, 2021). Through crowdfunding platforms, online marketplaces, and digital investor networks, entrepreneurs can connect with a diverse range of investors, including venture capitalists, angel investors, and crowdfunding backers, facilitating the infusion of capital and supporting growth-focused initiatives (Kreiterling, 2023).

In conclusion, digitalization has significantly changed growth opportunities for entrepreneurs. It offers tools and platforms that facilitate rapid scaling, global expansion, and data-driven decision making. Nevertheless, it also brings new challenges related to managing the digital infrastructure, complying with regulations, and ensuring sustainable growth. Entrepreneurs who thrive in the digital era are those who can effectively use these digital tools while tackling the distinct challenges they pose.

4.2.3 The Impact of Innovation on Entrepreneur Growth

The results indicate that all indicators (Y1.1, Y1.2, Y1.3) are valid, according to their p-values. Y1.1 has good validity with a GFI of 0.742; however, its reliability is not mentioned. Y1.2 is valid, reliable, and unidimensional, although its GFI is missing. Y1.3 is valid with a p-value of 0.501, but lacks information on reliability and GFI. Overall, Y1.1 and Y1.2 are especially strong in validity and reliability, aiding in the accurate analysis of factors influencing entrepreneurial growth. These valid indicators help us understand how different elements impact business development and highlight areas for further attention to boost entrepreneurial growth. Innovation enables entrepreneurs to distinguish their products or services from competitors and gain market share (Roberts, Murray, & Kim, 2019). By introducing unique features, functionalities, or value propositions, entrepreneurs can attract customers, command premium prices, and establish distinct brand identities that support growth and customer loyalty. Innovation also allows entrepreneurs to explore new markets, segments, or industries, and expand their customer base and revenue streams (Al Qudah, 2018). Through product line extensions, market diversification strategies, or strategic partnerships, entrepreneurs can use innovation to enter new markets, reduce risks, and achieve sustainable growth. Additionally, innovation improves operational efficiency and cost-effectiveness, helping entrepreneurs maximize profitability and reinvest savings in growth initiatives (Mueller, 2007). By implementing process improvements, automation technologies, or supply chain optimization, entrepreneurs can streamline workflows, reduce costs, and achieve economies of scale that support expansion and competitiveness (Gerguri & Ramadani, 2010). Innovation nurtures a culture of agility and adaptability within entrepreneurial ventures, enabling rapid responses to changing market conditions, customer preferences, and technological advancements. Entrepreneurs who embrace innovation are better prepared to adjust their strategies, refine their products or services, and seize emerging opportunities, driving sustainable growth and resilience in uncertain environments (Farinha, Ferreira, & Nunes, 2018).

Innovation empowers entrepreneurs to create solutions that cater to customers' needs, challenges, or aspirations, fostering loyalty and advocacy. By seeking feedback, conducting market research, and using new technologies, entrepreneurs can collaborate with customers to deliver personalized experiences and build lasting relationships. This approach drives organic growth and word-of-mouth

referrals. Innovation also boosts brand reputation and establishes thought leadership, positioning entrepreneurs as pioneers and trusted advisors in their industry (Galindo & Méndez, 2014). Through consistent delivery of innovative solutions and insightful content, entrepreneurs can build credibility, authority, and influence, attracting new customers, partners, and talent to accelerate growth and market penetration (Kreiterling, 2023). Furthermore, innovation provides a sustainable competitive advantage and instigates disruptive changes within industries, positioning entrepreneurs for long-term success and industry leadership. Entrepreneurs who continuously innovate are better equipped to outperform competitors, predict market trends, and shape industry dynamics, creating barriers to entry and securing market share for sustained growth and profitability (Del Monte, Moccia, & Pennacchio, 2020). Innovation also promotes collaboration and ecosystem development, enabling entrepreneurs to leverage complementary expertise, resources, and networks that drive growth and innovation. By collaborating with startups, corporations, academia, or government agencies, entrepreneurs can access new markets, technologies, and funding sources, fostering mutually beneficial relationships that drive exponential growth and value creation (Juliana, Hui, Clement, Solomon, & Elvis, 2021).

5. Conclusion

In summary, Society 5.0 era presents a dynamic environment for entrepreneurship, offering exciting opportunities and significant challenges due to rapid digitalization. Entrepreneurs are tasked with navigating the evolving digital landscape to drive innovation and growth. This era requires entrepreneurs to extend beyond traditional business practices by leveraging digital tools to address complex problems, meet shifting consumer needs, and create value in a rapidly changing world.

Digitalization fuels entrepreneurial ventures by providing access to global markets, enabling rapid prototyping, and facilitating international collaborations. However, it also brings challenges, such as cybersecurity threats, data privacy concerns, and the need to continually adapt to new technologies. To succeed, entrepreneurs must be creative, resilient, and adaptable, embracing innovation and ethical practices while maintaining flexibility in uncertain environments. They should also focus on social responsibility and sustainability to ensure that their ventures positively impact the society and environment. By effectively leveraging digitalization, entrepreneurs can unlock new opportunities, make a significant impact, and shape a more inclusive, equitable, and sustainable future.

For entrepreneurship to thrive in Society 5.0, employers should invest in digital technologies, encourage innovation, provide ongoing digital skill training, and support flexible work models. They should also partner with startups, adopt ethical AI practices, and integrate sustainability into business strategies. Policymakers must create adaptable regulations, invest in digital infrastructure, enhance digital literacy, and support key technologies. They should also foster innovation hubs, create startup-friendly policies, and promote international collaboration, while ensuring robust data privacy protection. Educators should update curricula to include digital skills and entrepreneurship, promote interdisciplinary and practical learning, teach digital ethics, and support lifelong learning and data literacy. Implementing these strategies will help to create a strong environment for entrepreneurial growth in the digital age.

5.1 Originality

Entrepreneurship in the Era of Society 5.0: Navigating Digitalization for Innovation and Growth is original for several reasons. It combines the Society 5.0 concept with entrepreneurship, offering new insights into how entrepreneurs can succeed in a tech-driven, human-centered society. This theme integrates the impacts of digitalization and innovation on entrepreneurial growth, providing a comprehensive view of modern business. It also explores how entrepreneurs can balance economic and societal goals, address evolving skills needed for success, and emphasize ethical considerations in a data-driven world. By examining global adaptations of Society 5.0, principles, and offering new perspectives on policy, resilience, and impact measurement, this theme provides a fresh and interdisciplinary approach to entrepreneurship. This originality lies in its integration and specific applications, which can inspire new research and methodologies.

5.2 Limitation

One limitation of the study "Entrepreneurship in the Era of Society 5.0: Navigating Digitalization for Innovation and Growth" is its reliance on self-reported data, which may introduce response bias or inaccuracies. Additionally, the study's focus on a specific geographic region or industry sector could limit the generalizability of the findings. Future research could enhance the study by including a more diverse sample and exploring additional variables to gain a more comprehensive understanding of entrepreneurship in the context of Society 5.0 and digitalization. Moreover, the study's dependence on existing literature and theoretical frameworks might hinder the exploration of emerging trends and unique challenges in the rapidly evolving landscape of Society 5.0. Additionally, this study's emphasis on innovation and growth might overlook other significant aspects of entrepreneurship, such as its social or environmental impact. Future research could overcome these limitations by incorporating longitudinal data, conducting cross-sectoral or cross-cultural comparisons, and investigating a broader range of entrepreneurial outcomes and experiences in Society 5.0.

5.3 Suggestion

Stay updated with the latest digital tools and technologies to boost entrepreneurial efforts. Technologies such as AI, blockchain, IoT, and data analytics can unlock new avenues of innovation and growth. Create a culture of innovation within an organization by encouraging creativity, experimentation, and unconventional ideas. Support employees in exploring new concepts and solutions, and view both successes and failures as learning opportunities. Invest continuous learning and skill development to ensure that you and your team are digitally literate and technically proficient. This may involve training programs, workshops, or collaborations with educational institutions.

Enhance customer experiences by leveraging digital channels for engagement, feedback, and personalized interactions, ensuring that your offerings align with evolving needs and preferences. Protect digital assets and customer data through robust cybersecurity measures and adherence to data privacy regulations. Prioritize data security to build trust with customers. Remain adaptable to changes in market conditions, technology, and competition by continuously refining strategies based on feedback and trends.

Integrate social responsibility and sustainability into business practices, considering the environmental and social impacts of operations to benefit all stakeholders. Foster diversity and inclusion within your organization, valuing diverse perspectives and contributions. Stay ahead of future trends and disruptions by monitoring emerging technologies and market opportunities and be prepared to adapt and innovate as necessary.

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