

LITERATURE REVIEW

Entrepreneurship for Sustainable Development

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ABSTRACT

PURPOSE: This paper aims to examine the inter-relationship between the digital economy, entrepreneurial activities, and sustainable development by highlighting the strategic role of digital innovation in fostering sustainable economic growth.

DESIGN/METHODOLOGY/APPROACH: The study adopts a qualitative methodology through a Systematic Literature Review (SLR), analysing and synthesising academic literature related to digital entrepreneurship and sustainability.

FINDINGS: The findings reveal that, when integrated with digital economy strategies, entrepreneurship serves as a vital driver for sustainable development. Digital platforms not only enable innovation and economic inclusion but also address global challenges by opening access to broader markets and enhancing resource efficiency.

ORIGINALITY/VALUE: This paper contributes original insights by bridging the gap between digital entrepreneurship and sustainability discourse. It highlights how entrepreneurial innovation in the digital realm can be leveraged as a catalyst for long-term prosperity and sustainable societal transformation.

RESEARCH LIMITATIONS/IMPLICATIONS: This study is limited to secondary data and theoretical exploration. Future empirical research is encouraged to validate the findings across different regional and sectoral contexts.

PRACTICAL IMPLICATIONS: The paper provides implications for policy-makers and practitioners, urging the development of inclusive digital policies and institutional frameworks that empower entrepreneurs to drive sustainable development and national economic resilience.

KEYWORDS: *Digital Economy; Digital Entrepreneurship; Sustainable Growth; Business Models, Social Inclusion; Digital Literacy.*

INTRODUCTION

Entrepreneurship has formally changed the global economic landscape and has contributed to the economic growth of a country and has grown rapidly with the support of the digital economy. Digital transformation in entrepreneurship has adopted widespread digital technology. The convergence of the digital economy and entrepreneurship presents a strong synergy that has the potential to encourage sustainable development, in both the economic and social fields (Yoo and Yi, 2022).

If used effectively, entrepreneurship supported by the digital economy can encourage sustainable development. By leveraging digital technologies, entrepreneurs can develop innovative solutions to global challenges, create new economic opportunities, and contribute to a more inclusive and resilient economy (Herman, 2022; Usman *et al.*, 2024). However, realising this potential requires careful management of the risks associated with digitalisation in the field of entrepreneurship.

The digital economy, characterised by the proliferation of digital technologies, online platforms, and data-driven business models, has lowered traditional barriers to entry for entrepreneurs (Cvijić Čović *et al.*, 2023). It has democratised access to markets, resources, and information, allowing new entrepreneurs to emerge and thrive by leveraging digital platforms to start and scale businesses, but it has also opened up opportunities to innovate in the creation of new industries (Rosato *et al.*, 2021).

Entrepreneurs are increasingly leveraging digital tools to develop innovative solutions that address some of the most pressing global challenges, such as climate change, social inequality, and resource scarcity. By integrating sustainability into their business models, these digital entrepreneurs are not only contributing to economic growth but also fostering a more inclusive and resilient economy (Freudenreich *et al.*, 2020; Oláh *et al.*, 2018). By understanding the dynamics of the digital economy and its impact on entrepreneurship, we can better appreciate the potential of these forces to shape a sustainable future, foster economic resilience, social inclusion, and environmental stewardship.

The rapid use of digitalisation in entrepreneurship will also create new problems such as the digital divide in the form of low digital literacy. Cybersecurity risks and the ethical use of data pose a serious threat to the fair distribution of digitalisation benefits (Biloslavo *et al.*, 2018).

Based on the theoretical background, the following research hypotheses will explore the relationship between entrepreneurship, the digital economy, and sustainable development:

Hypothesis 1: Entrepreneurship and the digital economy drive innovation and create new markets for sustainable development.

Hypothesis 2: Entrepreneurship and the digital economy create digital entrepreneurship and social inclusion mediated by digital infrastructure and digital literacy for sustainable development.

LITERATURE REVIEW

Entrepreneurship

Entrepreneurship as a word conveys different meanings depending on the situation. For many, this is related to small businesses, although this has changed with the awareness there is more entrepreneurship (Ratten, 2023). It is widely acknowledged that the field of entrepreneurship does not have a single definition (Davidsson, 2016; Suryana and Bayu, 2014).

The concept of entrepreneurship has been around for centuries and is essential for economic and social life in society. However, research on entrepreneurship has been a challenge due to the lack of a consistent definition of the term across world studies on the topic. From an economic perspective, entrepreneurship is generally conceptualised as the creation of a new business and

assumes the risks associated with the business in exchange for the profits that will be obtained from the exploitation of opportunities in the market, such as consumer demand that is currently unmet (Gutterman, 2021).

From a variety of different concepts and definitions of entrepreneurship, the author defines entrepreneurship as a person's ability to create, manage, and develop a business with the aim of generating added value and profits. Entrepreneurship involves the process of identifying business opportunities, taking risks, innovation, and creativity in managing existing resources. An entrepreneur plays a key role in starting a business, overcoming challenges, and directing business growth. Entrepreneurship not only focuses on economic benefits, but also includes the ability to bring about positive change in society through job creation, product or service innovation, and social contribution.

Digital Economy

The rise of the digital economy has been one of the most significant developments of the 21st century, reshaping industries, markets, and societies on a global scale. This new economic paradigm is characterised by the extensive use of digital technologies, such as the Internet, mobile devices, cloud computing, artificial intelligence, and big data; these have revolutionised the way businesses operate and interact with consumers (Dijkstra *et al.*, 2020; Hofmann, 2019).

The digital economy is defined as part of the economic output that comes solely or mainly from digital technology with a business model based on digital goods or services, consisting of a digital sector plus digital services and emerging platforms (Bukht and Heeks, 2017). The digital economy is an economic activity that uses digital technology as the main foundation (Schmid, 2001; Limna *et al.*, 2023). It includes all economic activities driven by the use of information and communication technologies, especially the Internet and digital devices. The digital economy provides many new opportunities for businesses and individuals, expanding global markets, improving efficiency, and accelerating innovation (Chen *et al.*, 2023; Kozub *et al.*, 2024). However, it also brings challenges such as data privacy, cybersecurity, and the digital divide among people. The digital economy presents opportunities to drive sustainable development and more efficient use of resources, reduce waste, and encourage the development of green technologies (Dembek *et al.*, 2018).

Sustainable Development

Sustainable development has become a major concern in today's global economic agenda, as well as promoting social equality. Sustainable development is a concept that refers to increasing the economic capacity and welfare of people without sacrificing natural resources or the environment for future generations (Liedtke *et al.*, 2013). The main goal of sustainable development is to create a balance between economic, social, and environmental needs so that economic growth can continue without causing irreparable damage.

From the results of this literature review study, the main principles of sustainable development include: (i) wise management of natural resources so that current utilisation does not reduce the capacity of future generations to meet their needs, and (ii) social inclusion, ensuring that the benefits of economic growth are felt by all levels of society. This concept is often associated with sustainable development that has a broader focus on social, economic, and environmental aspects simultaneously.

RESEARCH METHODOLOGY

Research Design

This study uses a theoretical study method called Systematic Literature Review (SLR) based on the background described earlier. The design of this study is the latest approach adopted by researchers/experts to analyse research results in various well-known journals together with different themes (Lame, 2019). SLR aims to collect and analyse various data sources that are then synthesised to get a comprehensive picture of entrepreneurship for Sustainable Development. This synthesis process in SLR research also allows researchers to look at the effectiveness of interventions, identify knowledge gaps that require further study, and pay attention to consistency and variation in the field (Acton, 2019; Tan *et al.*, 2016).

A systematic literature review aims to gather relevant cutting-edge research on a research question; this method is systematically aimed at producing varied and reliable results. In this way, systematic review reduces bias in other approaches by reviewing theories and research evidence from several journals relevant to the research question (Rauf *et al.*, 2021)

Search Methods

The data collection technique is sourced from Scopus indexed journals that can be accessed on Google Scholar. The authors limit the publication year between 2021 and 2024; the research period is limited to five years because the research is dynamic and changes rapidly.

The keywords used are “Entrepreneurship for Sustainable Development”. Journal publishers consist of Elsevier, Emerald Insight, Wiley, Springer, and Multidisciplinary Digital Publishing Institute (MDPI). Two journals related to the theme were selected for each research question. This resulted in ten journals that are relevant to the idea of this paper (Sirelkhatim and Gangi, 2015).

Screening Criteria

Using a screening process based on predetermined criteria, titles and abstracts were first collected based on the keywords “Entrepreneurship for Sustainable Development”. Further screening was carried out by sorting the quality of journal publishers and the year of publication 2021-2024.

The researcher then read the entire text carefully before deciding whether the journal should be considered as a reference in writing this article.

Data Analysis

In analysing the data from each article, the researchers extracted all selected articles using an extraction form that was created, starting from identification, research design/methodological approach, theoretical/conceptual framework, and main findings. The researchers analysed ten journals with both theoretical and conceptual approaches and developed ideas to build Entrepreneurship for Sustainable Development. The results of the ten research journals were summarised to build an entrepreneurial theory for sustainable development

RESULTS AND DISCUSSION

Articles were Classified Based on Article Title, Author and Year of Publication, Journal Name, Publisher

After selecting articles based on entrepreneurial indicators for sustainable development, the authors determined ten articles representing this theme and Scopus indexed publishers.

Table 1: Journal Identity Analysed

Article title	Author and year of publication	Journal name	Publisher
Digital innovation and entrepreneurship: a review of challenges in competitive markets (A1)	Kreiterling (2023)	<i>Journal of Innovation and Entrepreneurship</i>	Springer
The interplay between digital entrepreneurship and sustainable development in the context of the EU digital economy: A multivariate analysis. (A2)	Herman (2022)	<i>Mathematics</i>	Multidisciplinary Digital Publishing Institute (MDPI)
Greening the future: analysing green entrepreneurial orientation, green knowledge management and digital transformation for sustainable innovation and circular economy. (A3)	Al Halbusi <i>et al.</i> (2024)	<i>European Journal of Innovation Management</i>	Emerald
Digital sustainable business models: Using digital technology to integrate ecological sustainability into the core of business models. (A4)	Böttcher <i>et al.</i> (2024)	<i>Information Systems Journal</i>	Wiley
Assessing the impact of digital payment infrastructure accessibility on the social impact of microenterprises in Barranquilla, Colombia: An experimental study. (A5)	Marcelo and Ortega (2024)	<i>Journal of Infrastructure, Policy and Development</i>	EnPress



Article title	Author and year of publication	Journal name	Publisher
Social capital and household economic welfare: Do entrepreneurship, Financial and digital literacy matter (A6)	Prayitno <i>et al.</i> (2022)	<i>Sustainability</i>	Multidisciplinary Digital Publishing Institute (MDPI)
Digital entrepreneurship in developing countries: The role of institutional voids (A7)	Soluk <i>et al.</i> (2021)	<i>Technological Forecasting & Social Change</i>	Elsevier
How the digital environment moderates disruptive technology and digital entrepreneurship relationship in emerging markets (A8)	Singh (2024)	<i>European Journal of Innovation Management</i>	Emerald
Digital Transformation and Cybersecurity Challenges for Businesses Resilience: Issues and Recommendations (A9)	Saeed <i>et al.</i> (2023)	<i>Sensors</i>	Multidisciplinary Digital Publishing Institute (MDPI)
E-Commerce Calls for Cyber-Security and Sustainability: How European Citizens Look for a Trusted Online Environment (A10)	D'Adamo <i>et al.</i> (2021)	<i>Sustainability</i>	Multidisciplinary Digital Publishing Institute (MDPI)

Source: Constructed by authors

The summary of ten journals in Table 1 illustrates the positive impact of entrepreneurship on sustainable development in encouraging innovation and creating new markets, especially in the economic sector. This paper explains how entrepreneurship and the digital economy support sustainable development in creating a competitive market in a country (A1, A2).

The increase in digital transformation in the field of entrepreneurship has become a major focus in recent years due to its significant impact on organisations (A3). The digital economy allows organisations to take advantage of advanced technologies such as the Internet of Things (IoT), cloud computing, and data analytics to improve operational efficiency, increase customer reach and drive innovation from all aspects of marketing. By integrating digital technologies and entrepreneurship, organisations can optimise their business processes, increase competitiveness, and meet the needs of a market that is increasingly aware of changing environments. The combination of these trends can also create innovative solutions, for example, the digital economy can help organisations use resources efficiently and become more accurate, or use data to manage resources more efficiently.

The digital economy creates an organisation's business model that is ecologically and economically sustainable so that businesses that are already running can be maintained and sustainable (A4). The digital economy plays an important role in creating ecologically and economically sustainable business models. By leveraging the digital economy, organisations can optimise their operations, minimise waste, and increase efficiency, all of which support business sustainability. By combining the digital economy and entrepreneurship, organisations can create resilient and sustainable business models over the long term. This not only supports the survival of the company but also meets the increasingly complex demands of consumers due to changes in the external environment, especially in the field of communication technology.

The digital economy proves a strong influence on the accessibility of the digital payment infrastructure to micro-business social relations (A5). With a digital payment infrastructure, micro-businesses can build better trust, expand their social networks, and optimise their operations, ultimately leading to sustainable development in the digital economy era.

The use of the digital economy has an effect on social capital and household economic welfare. The mediation role of digital infrastructure and digital literacy is indispensable in the digital economy and entrepreneurship in encouraging sustainable growth, especially in improving the household economy (A6). The digital economy expands access to economic opportunities and improves social connections through digital networks, improving the economic well-being of households in the long run.

Entrepreneurship could be seen as a solution to overcome ongoing poverty in developing countries. The support of various stakeholders, especially families, communities, and business partners, helps to address institutional gaps and encourage entrepreneurship in micro-enterprises. The digital economy, especially the adoption of digital technologies (for example in the form of smartphone applications), can strengthen these relationships (A7). Through the digital economy and entrepreneurship, especially micro-enterprises, people can find ways to build a stronger and more independent economic foundation. Thus, entrepreneurship is not only a means to overcome poverty, but also a tool to create long-term economic sustainability.

The digital economy has an impact on the digital environment on the success of products in developed countries through the direct effects of disruptive technologies (quality, efficiency, and suitability) on digital entrepreneurship (new product development, cost-effectiveness, and internationalisation). At the same time, the effects of moderation or indirect influence on the digital environment (data security, customer privacy, and search engine optimisation algorithms) are between disruptive technologies and digital entrepreneurship (A8). The digital economy in developed countries offers a very supportive environment for product innovation. The availability of digital infrastructure, consumer acceptance of new technologies, adequate regulation and the ability to leverage data, all contribute to higher product success rates.

Digital transformation involves transitioning organisational processes that can result in significant changes in various aspects of the organisation. There are cybersecurity risks for businesses using the digital economy, such as disruption due to malicious activity or unauthorised access by attackers aiming to alter, destroy, or extort sensitive information from users (A9).

Different countries, especially European countries, have different sensitivities to cybersecurity issues with different levels of attention to critical e-commerce issues (A10). There is a broader digital economy transition towards sustainable development, namely a digital environment supported by its infrastructure.

Entrepreneurship and the Digital Economy Drive Innovation and Create New Markets for Sustainable Development

The use of digital technology in the field of entrepreneurship encourages economic growth by introducing innovative products, services, and business models that open up new economic opportunities in various business fields. Research conducted by Kreiterling (2023), investigating the impact of digital innovation on entrepreneurship, resulted in diverse socio-political contexts. The results of his research showed an increase in innovation output scores and the ability to absorb new innovative business models associated with higher GDP growth. Technological changes, especially in the field of digital economy, account for 35-40% of the dynamics, while regional factors account for 40%. The use of the Internet has lowered operational costs, significantly increased sales and resulted in better customer interaction for 88% of companies, allowing 83% to expand their market and 78% to engage more effectively with suppliers. The digitalisation of entrepreneurship drives entrepreneurial expansion into new markets and creates a positive feedback loop between the two variables. In addition, this study found that the role of the government has a significant influence on the sustainability of entrepreneurship compared to electronic readiness. Digital technology has been shown to increase the productivity of companies, especially in the manufacturing industry.

In European Union (EU) countries, the real challenge for economies is to achieve a green and digital transition in addressing economic, social, and environmental issues (Herman, 2022). In this context, digital entrepreneurship, being at the intersection of digital technology and entrepreneurship, has benefited from its increased use. This is supported by studies carried out by experts, both theoretically and empirically, as well as in strategic policies. Digital entrepreneurship produces productive and innovative entrepreneurship and has an impact on the achievement of the Sustainable Development Goals (SDGs) in EU countries. Digital entrepreneurship has contributed to more productive and innovative entrepreneurial activities. Digitalisation in the field of entrepreneurship has positively supported the level of digitalisation of a country and, in turn, has a positive impact on the achievement of SDGs. However, there are differences and similarities in EU countries in terms of the linkages between digital entrepreneurship, digitalisation, economic development, national competitiveness and the achievement of sustainable development. Therefore, specific measures must be implemented to boost digital entrepreneurship (especially in some central and eastern EU countries) so that it will become a key driver of sustainable development.

Joseph Schumpeter's theory of innovation argues that economic development is driven by the innovative activities of entrepreneurs, who introduce new products, processes, and business models. In the digital economy, this theory is particularly relevant because digital entrepreneurs are leveraging cutting-edge technology to leave traditional industries behind, creating new markets and opportunities. Schumpeter's concept of "creative destruction" of digitalisation is proven to transform the industry, replacing obsolete practices with more efficient, scalable and sustainable solutions (Arena and Dangel-Hagnauer, 2002; Kunkel and Matthess, 2020).

Based on the results of previous research and expert opinions, the synergy between entrepreneurship and the digital economy can be the main driver of sustainable development in the following ways:

- innovation in developing new products and services faster and more efficiently;
- creating new markets;
- optimising resources;
- expanding access to financial services;
- increasing business operational efficiency.

Entrepreneurship and the Digital Economy Create Digital Entrepreneurship and Social Inclusion Mediated by Digital Infrastructure and Digital Literacy for Sustainable Development

The benefits of digital entrepreneurship in promoting social inclusion depend on the level of access to digital infrastructure in a country and the digital literacy of its population (Rauf *et al.*, 2024b; Rauf *et al.*, 2024a). In areas with high digital access and literacy, digital entrepreneurship is able to reduce social inequality in a country's society. Various studies have been conducted on the impact of digital payment infrastructure accessibility on the social impact of micro-enterprises, proving that entrepreneurship and the digital economy must be supported by infrastructure. In the case of Barranquilla, Colombia, Marcelo and Ortega (2024) discussed the mediation role of financial inclusion, digital literacy, social support networks, and collaboration with social innovation initiatives. Using a mixed method approach, their study analysed data from a sample of 25 micro-enterprises operating in various economic sectors. These findings, based on statistical techniques such as multiple regression, path analysis, and structural equation modelling (SEM), provide evidence that there is a positive influence on the accessibility of digital payment infrastructure on micro-enterprises. The results also highlight the important role that financial inclusion and social support networks play in mediating these relationships. The study contributes to the growing literature on the factors driving the social effects of micro-enterprises and offers valuable insights for policy-makers and practitioners aiming to drive inclusive economic development in the region. The findings suggest that investing in the development and expansion of digital payment systems, including efforts to promote financial inclusion and strengthen social support networks, can have many benefits for micro-enterprises and their communities.

Alleviating the fragility of the household economy and poverty is a global challenge in achieving the welfare of a country's people. Research in Indonesia conducted by Prayitno *et al.* (2022) examines the impact of social capital and household economic welfare, as well as understanding the role of entrepreneurship, digital, and financial literacy mediation. Survey data collected from households in East Java, Indonesia, using a simple random sampling approach, showed that social capital had a significant effect on several households in Indonesia, including digital literacy, financial literacy, and entrepreneurial literacy. However, this study failed to confirm

the link between social capital and household economic well-being. In addition, financial literacy, digital literacy, and entrepreneurial literacy all play an important role in mediating the relationship between social capital and household economic well-being in Indonesia.

Entrepreneurship is an important driver for a country's economic growth due to the impact of the digital economy, such as the use of digital platforms in expanding business reach (Rauf *et al.*, 2022). The reduction of traditional business barriers to entry into businesses using digital platforms, requiring significant capital investment and physical infrastructure, has enabled a more diverse and dynamic entrepreneurial ecosystem. Digital tools and platforms, such as social media, online marketplaces, and crowdfunding, have given access to new consumers or previous markets for easy access. This environment has led to the emergence of a new business environment in the form of “digital entrepreneur” start-ups that use digital technology to create innovative products, services, and business models (Ajmal *et al.*, 2018).

The Triple Bottom Line (TBL) framework, developed by John Elkington, expands the traditional economic view of how a business succeeds because it is supported by social and environmental dimensions, in addition to financial performance. This approach is relevant for digital entrepreneurship in the context of sustainable development. Digital entrepreneurs who adhere to the TBL framework strive to strike a balance between generating profits, social equity, and the environment, and have contributed to business sustainability (Bresciani *et al.*, 2021).

From the results of several studies and theories from several experts, the digital economy has a significant influence, especially in strengthening social relations for micro-businesses. The importance of accessibility to digital payment infrastructure such as e-wallets, QR codes, and online payment platforms has provided great benefits to micro-businesses in several aspects:

- ease of access to markets;
- increased customer trust;
- collaboration between entrepreneurs;
- increased operational efficiency;
- socio-economic empowerment.

CONCLUSIONS

Entrepreneurship has brought about major changes in various aspects of economic activities from business operations to work culture, business models to the way companies or business actors serve customers; this is because it is supported by the digital economy. With the rapid and precise adoption of digital technology, companies or business actors can increase their efficiency, innovation, and competitiveness in an increasingly global and connected market. However, the success of this transformation is highly dependent on the readiness of organisations or business people in facing these changes, such as digital literacy and infrastructure to support sustainable development.

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