



Digital Entrepreneurship as a Driver of Economic Transformation: Opportunities, Challenges, Capabilities, and Ecosystem Development in the Platform Era

Loso Judijanto

IPOSS Jakarta

Corresponding Author: Loso Judijanto losojudijantobumn@gmail.com

ARTICLE INFO

Keywords: Digital Entrepreneurship, Digital Transformation, Smes; Platform Ecosystem, Digital Literacy, Dynamic Capabilities, Business Model Innovation, Fintech, Artificial Intelligence, Digital Economy

Received : 4 May

Revised : 20 June

Accepted: 20 July

©2026 Judijanto: This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This article analyzes digital entrepreneurship as a multidimensional phenomenon that changes how business opportunities are identified, value is created, markets are reached, and competitive advantages are maintained. Based on a qualitative literature review method, the article synthesizes reputable journal literature since 2020 on the definition of digital entrepreneurship, platform ecosystems, dynamic capabilities, digital literacy, digital business models, digital financing, artificial intelligence, data security, as well as socio-economic implications for SMEs and startups. The review shows that digital entrepreneurship cannot be understood merely as moving sales activities online, but as a value creation process that relies on the orchestration of technology, data, networks, business model innovation, and adaptive capabilities. The main findings show that the biggest opportunities come from market expansion, lower business experimentation costs, the use of real-time data, the creator economy, fintech, and technologies based on AI, IoT, cloud, and blockchain. However, these opportunities come with challenges such as digital gaps, limited literacy and talent, cyber risks, dependence on dominant platforms, regulatory uncertainty, and pressure for continuous innovation. The article concludes that strengthening digital entrepreneurship requires an integrated strategy connecting digital entrepreneurship education, policy support, infrastructure, data governance, funding, incubation, and ecosystem collaboration. The research agenda moving forward needs to look into the impact of generative AI, digital sustainability, regional inclusion, and platform governance for small and medium enterprises

INTRODUCTION

The development of digital technology has shifted entrepreneurship from activities that mainly rely on physical assets, market location, and conventional networks to a value creation process that increasingly depends on data, connectivity, platforms, and the ability to orchestrate resources quickly. In this context, digital entrepreneurship doesn't just refer to using the internet to sell products, but also includes creating opportunities, designing business models, market experimentation, marketing, customer service, and managing operations mediated by digital technology. This shift is important because digital technology blurs the lines between producers and consumers, companies and communities, products and services, as well as local and global markets. Thus, this article positions digital entrepreneurship as a strategic phenomenon directly related to economic competitiveness, innovation, inclusion, and organizational transformation in the platform era [1], [2], [3].

The urgency of this study is growing because digitalization opens up huge economic opportunities while also creating new forms of vulnerability. On one hand, digital technology lowers market entry costs, speeds up product validation, expands customer access, and allows small businesses to tap into financing, marketing, and value chain networks that were previously hard to reach. On the other hand, the digital ecosystem brings risks like algorithmic competition, dependence on platforms, cybersecurity issues, literacy gaps, regulatory fragmentation, and continuous innovation pressure. That's why studies on digital entrepreneurship need to balance opportunities and challenges so they don't get stuck in excessive tech optimism or digital risk pessimism [4], [5], [6], [7].

For developing countries and economies based on MSMEs, digital entrepreneurship has a wider significance because it can be an instrument for boosting productivity, creating jobs, empowering the younger generation, and integrating local business players into both national and global markets. However, these benefits don't automatically appear just because the technology is available. Recent literature shows that digital adoption in SMEs is heavily influenced by the capabilities of business owners, organizational readiness, the quality of infrastructure, access to financing, digital literacy, policy support, and the density of innovation ecosystem networks. So, digital entrepreneurial transformation needs an approach that emphasizes capabilities, not just using apps or marketplaces [8], [9], [10].

Based on this background, this article aims to answer two research questions. First, how is digital entrepreneurship conceptualized in contemporary literature, and what factors drive its development in the platform economy era? Second, what are the opportunities, challenges, and directions for strengthening the ecosystem needed so that digital entrepreneurship can support innovation, inclusion, and business sustainability? These questions were chosen because the literature on digital entrepreneurship is still evolving and needs a conceptual synthesis that can connect perspectives from technology, strategic management, entrepreneurship education, public policy, and economic development [3], [11], [12].

Based on this background, this article aims to answer two research questions. First, how is digital entrepreneurship conceptualized in contemporary literature, and what factors drive its development in the platform economy era? Second, what are the opportunities, challenges, and directions for strengthening the ecosystem needed so that digital entrepreneurship can support innovation, inclusion, and business sustainability? These questions were chosen because the literature on digital entrepreneurship is still evolving and needs a conceptual synthesis that can connect perspectives from technology, strategic management, entrepreneurship education, public policy, and economic development [3], [11], [12].

The special contribution of this article lies in its effort to connect discussions that are still often separate in many studies. Digital entrepreneurship literature often emphasizes technology, business models, ecosystems, or capabilities individually, even though business outcomes are shaped through a chain of relationships between digital enabler conditions, entrepreneurs' internal capabilities, choices of value creation models, and the quality of ecosystem governance. Therefore, this article uses an analytical flow that moves from driving factors to capabilities, from capabilities to opportunity utilization, and then to economic and social impact.

That flow helps distinguish cosmetic digitalization from transformation that truly changes learning processes, decision-making, and value creation in business [11], [15], [16].

LITERATURE REVIEW

1. Definition and Basic Concepts of Digital Entrepreneurship

Digital entrepreneurship can be defined as the entrepreneurial process that uses digital technology to identify opportunities, create value, develop products or services, access markets, and build new business models. This definition emphasizes that digital technology is not just a tool, but part of the conditions that shape opportunities, cost structures, interaction patterns, and value creation mechanisms. Therefore, digital entrepreneurs need to be able to understand technological changes and translate them into value propositions that are relevant to customers [1], [2], [3].

The fundamental difference between traditional entrepreneurship and digital entrepreneurship lies in the nature of resources and scaling mechanisms. In conventional businesses, growth is often limited by location, physical capital, and production capacity, whereas in digital businesses, growth can be accelerated through platforms, user networks, data, automation, and the ability to replicate services widely. These characteristics make digital entrepreneurship more flexible, experimental, and based on fast learning compared to traditional entrepreneurship [5], [17].

Digital entrepreneurship is also closely related to business model transformation. Technologies like cloud computing, artificial intelligence, the Internet of Things, blockchain, mobile applications, and data analytics allow companies to create new ways to earn revenue, deliver services, manage customer relationships, and personalize user experiences. Business model

innovation is at the core because digital economic value often comes from a combination of intangible assets, data, networks, and speed of iteration [2], [4], [18].

From an ecosystem perspective, digital entrepreneurship happens through the relationships between startups, SMEs, customers, communities, investors, platform providers, educational institutions, the government, and technology infrastructure. This ecosystem provides resources, legitimacy, knowledge, and market access that individual entrepreneurs don't have on their own. So, the success of digital entrepreneurs isn't just about having a great idea, but also about being able to build networks and make the most of ecosystem support [11], [14], [19].

2. Theoretical Foundation: Dynamic Capabilities, Ecosystems, and Digital Opportunities

The dynamic capabilities theory is relevant for explaining digital entrepreneurship because the digital environment is marked by rapid changes in technology, consumer preferences, regulations, and competitive configurations. Dynamic capabilities emphasize the ability of entrepreneurs to sense opportunities, capture value, and reconfigure resources to stay aligned with environmental changes. In digital entrepreneurship, this ability shows up in practices like trend monitoring, product experimentation, data utilization, partnership development, and iterative business model changes [4], [8], [20], [21]. The theory of entrepreneurial opportunities has also expanded in the digital context. Digital technology not only helps entrepreneurs find existing opportunities, but also helps create new opportunities through a combination of data, user communities, algorithms, and platform infrastructure. Digital opportunities are often open, ambiguous, and can be developed together with customers through real-time feedback. Because of that, identifying digital opportunities requires market interpretation skills, data literacy, and flexibility in designing value propositions.

The ecosystem approach helps explain why digital entrepreneurs often rely on other players to gain access to technology, funding, mentors, data, customers, and market trust. In platform ecosystems, value isn't just created by a single company, but also through interactions between platform owners, developers, sellers, consumers, logistics providers, fintech, and regulators. This interdependence boosts collaboration opportunities, but it also creates the risk of dependence on the rules of dominant platforms. [22], [23], [24].

These three foundations can be combined into a layered framework. At the micro level, the dynamic capabilities theory explains how entrepreneurs sense changes, experiment, and reallocate resources. At the meso level, ecosystem theory describes how access to platforms, partners, financing, knowledge, and customers expands or limits business options. At the macro level, institutions, regulations, infrastructure, and the degree of economic openness determine whether digital opportunities can grow broadly and inclusively.

Integration at the micro, meso, and macro levels is important because failure at one level can reduce the benefits of the others; competent actors still struggle to grow without infrastructure and governance, while an advanced ecosystem isn't productive if the business players don't have adaptive capabilities [1], [14], [20].

3. Driving Factors Behind the Growth of Digital Entrepreneurship

The first driving factor is the increasingly widespread availability of digital infrastructure, including high-speed internet, cloud computing, mobile devices, digital payment systems, and app-based logistics services. This infrastructure lowers market entry barriers and allows small businesses to do things that were previously only possible for big companies, like customer analytics, cross-region promotions, and payment integration. However, the benefits of infrastructure are only optimal if supported by organizational capabilities and sufficient digital literacy [10], [15], [25].

The second factor is the change in consumer behavior as people are getting more used to digital transactions, instant services, personalization, online reviews, and omnichannel experiences. These changes push businesses to adjust their marketing strategies, customer service, and product development more responsively. Digital consumers don't just buy products—they also evaluate transparency, reputation, response speed, transaction security, and the quality of the user experience [26], [27], [28].

The third factor is the growth of digital entrepreneurship education and technology literacy. Entrepreneurship education that combines creativity, business, data, technology, and problem-solving can boost an individual's intention and readiness to start a digital business. Digital literacy is important because it helps aspiring entrepreneurs understand information security, digital marketing, data analysis, platform usage, and online interaction ethics [6], [29], [30].

The fourth factor is access to digital financing through fintech, crowdfunding, peer-to-peer lending, venture capital, and incubation schemes. Digital financing expands funding options for startups and SMEs, which often face limitations in collateral and formal credit history. Even so, access to financing should come with financial literacy, risk management, and the ability to create a credible business model [31], [32], [33].

4. Conceptual and Practical Challenges in Digital Entrepreneurship

The main challenge of digital entrepreneurship is the gap between technology adoption and strategic transformation. Many entrepreneurs use social media or marketplaces, but they haven't built data systems, product differentiation, customer governance, or sustainable innovation capabilities. As a result, digitalization only becomes an extra sales channel, not a source of competitive advantage [4], [8], [21], [34].

The second challenge is the risk to data security, privacy, and trust. Digital transactions involve exchanging customer data, identities, payments, and consumption preferences, so businesses need to understand data protection, cybersecurity, transparency in how information is used, and ethical

responsibility. Failing to manage these risks can damage a company's reputation and lower customer loyalty [35], [36], [37].

The third challenge is the dependence on dominant digital platforms. Marketplaces and social media do provide market access, but changes in algorithms, promotion costs, service terms, and visibility rules can significantly affect sales. That's why a digital entrepreneurship strategy needs to combine leveraging external platforms with building your own digital assets, like a website, customer database, brand community, and direct communication channels [22], [23], [24].

Another challenge that needs to be discussed is the social and environmental quality of digital growth. Digital scale can boost efficiency, but it can also drive energy consumption, fast device obsolescence, precarious platform-based jobs, and the pressure to always be present and productive online. For entrepreneurs, digital sustainability means not just maintaining revenue, but also choosing proportional technologies, reducing resource waste, building healthy work practices, and making sure value creation doesn't unfairly shift risks onto workers, partners, or consumers. This perspective expands the measure of success from user growth and transactions to business resilience, job quality, trust, and contributions to sustainable development goals [2], [38], [39].

METHODOLOGY

This article uses a qualitative literature review method, which is a literature study approach aimed at synthesizing, interpreting, and organizing conceptual findings from academic literature in a narrative way. This method was chosen because the purpose of the article is not to calculate statistical effects or create a systematic protocol like a systematic literature review, but rather to build a coherent conceptual understanding of digital entrepreneurship, its driving factors, challenges, opportunities, and ecosystem implications. This approach is suitable for topics that are still developing, multidisciplinary, and require the integration of theories from entrepreneurship, digital transformation, innovation management, information systems, and public policy [2], [40], [41], [42].

Literature sources are prioritized from reputable journal articles published since 2020 in the fields of entrepreneurship, innovation, digital transformation, information systems, small business, platform economy, and management. Literature is selected based on relevance to keywords such as digital entrepreneurship, digital transformation, SME digitalisation, digital capabilities, entrepreneurial ecosystems, platform business model, fintech, AI entrepreneurship, cybersecurity, and digital literacy. Articles published before 2020 are only used very sparingly if they are foundational, while the final reference list is updated to be dominated by recent literature and supplemented with access links and DOIs if available [10], [15], [43].

The analysis process was carried out by thematically reading relevant literature, then grouping it into themes like definitions, theories, driving factors, challenges, opportunities, capabilities, ecosystems, and policy directions. The synthesis was done interpretatively by comparing consensus, differences, and research gaps in the literature, and then connecting them to the research

questions in the introduction. In this way, the study results are not treated as just a summary list of articles, but as an argumentative construction that explains how digital entrepreneurship can be understood and developed in a more inclusive, adaptive, and sustainable way [41], [42].

To strengthen the credibility of the synthesis, the literature was selected by considering topic relevance, clarity of concepts, empirical or theoretical contributions, the reputation of the sources, and their connection to the research questions. Findings that align were used to identify general patterns, while differing findings helped to pinpoint contextual conditions and the limits of an argument's application. That said, this qualitative literature review is not intended as a comprehensive bibliometric mapping and does not guarantee coverage of all available publications. As a result, the study's findings are more accurately read as an argumentative conceptual synthesis rather than a quantitative estimate of the size of each factor's effect. Being clear about this nature is important so that the conclusions don't go beyond what the method used can actually support [41], [42], [44].

RESULTS AND DISCUSSION

The results and discussion section is arranged following the logic of digital entrepreneurship transformation. The discussion starts with the obstacles that reduce entrepreneurs' ability to turn technology into value, then moves on to opportunities that can be leveraged, and ends with a synthesis and directions for ecosystem development. This order emphasizes that technology doesn't automatically create impact. Impact emerges when digital access is combined with capabilities, viable business models, market trust, and institutional support. With this framework, opportunities and challenges aren't treated as two separate lists but as conditions that influence each other in the business growth process [4], [10], [15], [21], [45].

1. Challenges in Entrepreneurship in the Digital Era

The first challenge is the digital capability gap. The availability of apps, marketplaces, and social media doesn't automatically make entrepreneurs able to manage digital businesses effectively. Many small businesses can open online stores, but they don't yet have the skills to read data, measure campaign effectiveness, manage digital reputation, or turn customer feedback into product innovation. This gap answers the second research question by showing that the main barrier to digital entrepreneurship isn't just access to technology, but the ability to turn technology into business capability [8], [9], [10].

The second challenge is the increasingly open and algorithm-based competition. Digital platforms allow small businesses to reach a wide range of customers, but at the same time, they also put them in direct competition with big brands, cross-border players, and sellers who can afford higher promotion costs. Digital visibility isn't just determined by product quality, but also by search algorithms, customer reviews, advertising costs, service speed, and content consistency. This situation calls for stronger differentiation strategies and brand management.

The third challenge is related to cybersecurity, data protection, and consumer trust. In digital entrepreneurship, reputation can be built quickly but can also be damaged fast due to data leaks, transaction fraud, poor service, or lack of transparent communication. Therefore, digital entrepreneurs need to understand that customer trust is a strategic asset shaped by secure transactions, information transparency, quality responses, and consistent experiences [35], [36], [37].

The fourth challenge is the unequal access between regions, social groups, and business sizes. Entrepreneurs in city centers find it easier to get stable internet, digital talent, training, startup communities, investors, and logistics services compared to business players in remote areas. This gap risks making digital entrepreneurship widen economic inequality if not balanced with digital inclusion policies. So, strengthening the ecosystem should focus not only on big tech startups but also on SMEs, women, youth, and local business players.

The fifth challenge is the pressure of continuous innovation. Digital businesses face very fast cycles of product changes, consumer preferences, marketing channels, and technology. Entrepreneurs who just follow trends without building organizational learning are vulnerable to market saturation and declining customer loyalty. That's why sustainable digital entrepreneurship requires a routine of innovation, measured experiments, data evaluation, and the ability to change the business model before the market forces more costly changes.

The sixth challenge is the limitation of talent and organizational readiness. Digital transformation is often held back not because the technology isn't available, but because roles, workflows, leadership, and a learning culture haven't supported its use. In small businesses, a high dependence on the owner can slow down delegation and the establishment of data-driven routines. Meanwhile, the lack of talent who can combine business understanding with analytics, digital marketing, user experience design, and cybersecurity has led to technology being used only partially. That's why investing in tools needs to go hand in hand with developing people, organizing processes, documenting knowledge, and leadership that allows room for experimentation and learning from failures [4], [9], [21], [26].

2. Opportunities and Future Potential of Digital Entrepreneurship

The biggest opportunity in digital entrepreneurship lies in the ability to expand the market without having to build large physical infrastructure. Through marketplaces, social media, mobile apps, and digital payment systems, entrepreneurs can reach customers across regions, test market responses, and build a brand community at a relatively lower cost. This answers the first research question that digital entrepreneurship is growing because technology is changing the structure of opportunities and speeding up the market exploitation process [1], [2], [15].

Artificial intelligence provides a great opportunity to improve the quality of entrepreneurial decisions. AI can be used to analyze consumer behavior, personalize recommendations, automate customer service, predict demand, detect transaction anomalies, and support marketing content production.

However, the use of AI should be understood as a strategic capability that requires quality data, ethics, interpretation skills, and human oversight [47], [48]. Fintech and digital payments open up financial inclusion opportunities for entrepreneurs who have had trouble accessing formal banking. Digital wallets, peer-to-peer lending, crowdfunding, and app-based transaction tracking help business owners build a financial history, speed up payments, and expand their customer base. However, these opportunities need to be paired with digital financial literacy so that business owners don't get caught up in high-risk financing [31], [32], [33].

The creator economy is also becoming a new space for digital entrepreneurship. Individuals can create economic value through content, communities, personal reputation, online courses, consulting, affiliates, and digital products. This phenomenon shows that entrepreneurial assets aren't always physical products – they can be expertise, stories, follower networks, and the ability to drive engagement. For young people, the creator economy expands the meaning of entrepreneurship into activities based on identity, community, and digital creativity.

IoT, blockchain, and cloud technologies also expand entrepreneurial opportunities in the production, logistics, agribusiness, healthcare, education, and professional services sectors. IoT allows real-time process monitoring, blockchain enhances transparency and transaction tracking, while the cloud reduces technology infrastructure costs. The combination of these technologies can help entrepreneurs build services that are more efficient, reliable, and easy to scale [50], [51], [52].

The next opportunity comes through digital internationalization. Creative products, professional services, software, online education, and various niche products can be marketed to cross-country segments without having to set up a full physical presence in each market. However, global access isn't just about digital marketing; businesses also need to understand the language, local preferences, payment standards, taxes, consumer protection, logistics, and intellectual property rights. So, platforms can be an entry point for internationalization, but sustaining an advantage still requires local adaptation, a good reputation, the ability to meet standards, and channel diversification so the business isn't reliant on a single market or intermediary.

Digital entrepreneurship also has the potential to strengthen sustainability-oriented innovation. Technology can be used to reduce excess inventory, optimize distribution routes, extend product life through after-sales services, support sharing models, and increase transparency of material origins. For small businesses, this approach can create differentiation while lowering costs if environmental indicators are integrated from the business model design stage. However, sustainability claims must be backed by verifiable data so they don't just become marketing talk. The biggest opportunities, therefore, lie in combining digital efficiency, business model innovation, and accountability for social and environmental impacts.

3. Discussion and Comprehensive Synthesis to Answer Research Questions

The synthesis of the first research question shows that digital entrepreneurship is a transformation of entrepreneurship that happens when digital technology becomes part of the opportunity-creation process, not just an operational tool. Digital opportunities arise because technology opens up new combinations of data, networks, communities, platforms, and revenue models. Therefore, the concept of digital entrepreneurship needs to be understood as the interaction between the entrepreneur's agency and the broader technological ecosystem.

The synthesis of the second research question shows that digital entrepreneurship opportunities can only be converted into performance if supported by digital capabilities, organizational learning, data governance, and ecosystem networks. Entrepreneurs who rely solely on digital trends without building capabilities can easily stagnate when algorithms change, ad costs rise, or customer preferences shift. On the other hand, entrepreneurs who develop dynamic capabilities can adjust their business models, integrate new technologies, and maintain the relevance of the value they offer [4], [8], [20], [21]. From a policy perspective, the study shows that the digital entrepreneurship agenda needs to go beyond just training on how to use platforms. Effective policies should include improving infrastructure, digital literacy education, data protection, access to financing, innovation incentives, business incubation, logistics connectivity, and protection mechanisms for SMEs within the platform ecosystem. This integrated approach is important so that digital transformation not only benefits established businesses but also creates opportunities for economic mobility for small and local players.

From an education and research perspective, digital entrepreneurship should be seen as a multidisciplinary field that connects business, technology, creativity, ethics, law, and social development. Teaching digital entrepreneurship isn't just about learning how to make a business plan; it also needs to train students in market experiments, data understanding, user experience design, digital security, sustainability, and critical thinking about technology. That way, graduates and aspiring entrepreneurs can become creative yet responsible users of technology.

Conceptually, the study's findings can be summarized as an input-process-output chain. Inputs include infrastructure, access to financing, talent, regulations, and networks. Processes involve sensing market changes, experimenting, data-driven learning, reconfiguring resources, and collaborating. Intermediate outputs are product innovations, business models, customer experiences, and operational efficiency, while the final outputs include performance, resilience, inclusion, and sustainability. This chain helps explain why two actors using the same platform can achieve different results: the difference lies in the quality of the transformation process and the ability to maintain strategic assets, not just in access to the app itself [8], [15], [20].

Overall, this article emphasizes that digital entrepreneurship is both a strategic opportunity and a complex competitive arena. Its success isn't determined just by the level of technology adoption, but by the alignment

between strategy, capabilities, ecosystem, ethics, and policy. Therefore, the most solid direction for developing digital entrepreneurship is to build an ecosystem that allows entrepreneurs to experiment, learn, collaborate, be protected by regulations, and create both economic and social value [14], [15], [38].

4. Direction of Digital Entrepreneurship Ecosystem Development

The direction of ecosystem development needs to be built as a layered architecture. The foundational layer consists of connectivity, cloud computing, payment systems, digital identity, and logistics. The institutional layer includes regulatory certainty, data protection, dispute resolution mechanisms, interoperability standards, and competition protection. The capability layer covers education, training, mentors, incubators, and support services. The market layer connects players with customers, supply chain partners, investors, communities, and international opportunities. Policies that only strengthen one layer will have limited impact because constraints in other layers still hinder the conversion of technology into business performance. [1], [19], [25], [53].

Strengthening capabilities should be done gradually according to the maturity level of the business. In the early stage, the focus is on digital identity, transaction recording, basic security, and market presence. The next stage emphasizes payment integration, customer management, simple analytics, and operational standardization. At a more advanced stage, businesses can develop automation, personalization, supply chain integration, artificial intelligence, and business model innovation. A gradual approach prevents digitalization from becoming an expensive project that doesn't match needs, while also providing progress indicators that can be used by business owners, mentors, and funders [8], [10], [20].

Platform governance should be an important part of ecosystem development. SMEs need transparent information about fees, rankings, advertising, data usage, account termination, and algorithm changes that affect visibility. Besides that, data portability and interoperability can help business players legally transfer customer or transaction information so that switching costs aren't too high. The government and business associations can encourage fairer contract guidelines, effective complaint channels, and oversight of practices that might abuse dominant positions. The goal isn't to stifle platform innovation, but to balance network efficiency with the independence and bargaining power of business players [22], [23], [54].

Funding and business support also need to be connected with learning, not just capital distribution. Financing schemes will be more productive if accompanied by needs assessment, sectoral mentors, governance strengthening, market access, and evaluation of fund usage. The success of programs should be measured through a combination of indicators, such as increased productivity, customer retention, cash flow generation capability, resilience to disruptions, work quality, involvement of underrepresented groups, and reduced environmental impact. With more balanced measures, the ecosystem not only chases the number of startups or transaction volume but also encourages businesses that are viable, responsible, and capable of long-term growth [31], [32], [38], [46].

CONCLUSIONS AND RECOMMENDATIONS

This article concludes that digital entrepreneurship is an important evolution of contemporary entrepreneurship because digital technology has changed the way business opportunities are created, tested, developed, and scaled. Digital entrepreneurship isn't just about selling things online; it should be understood as a process of creating value based on technology, data, networks, and business model innovation. In this sense, digital entrepreneurs act as a bridge between technological change and constantly shifting market needs. The study shows that the driving factors of digital entrepreneurship include advancements in technology infrastructure, changes in consumer behavior, platform growth, digital education and literacy, access to fintech, and support from startup and SME ecosystems. These factors expand the space for entrepreneurial participation, especially for small business owners and the younger generation. However, these opportunities don't automatically lead to success if they aren't accompanied by digital capabilities, differentiation strategies, organizational learning, and risk management.

The main challenges of digital entrepreneurship include gaps in literacy and infrastructure, algorithmic competition, data security risks, dependence on dominant platforms, pressure for continuous innovation, and regulatory uncertainty. These challenges show that digital transformation needs to be managed as a strategic agenda, not just a technical decision. Entrepreneurs who can build trust, use data ethically, and develop direct relationships with customers will have a better chance of surviving in the competitive digital market.

The practical implication of this study is the need for an ecosystem approach in developing digital entrepreneurship. The government needs to strengthen infrastructure, data protection regulations, access to financing, and incubation programs that reach different regions. Educational institutions need to integrate digital entrepreneurship, data literacy, business model design, and technology ethics into the curriculum. Entrepreneurs need to build dynamic capabilities so they can spot opportunities, capture value, and reconfigure resources when the environment changes.

Future research agendas need to delve deeper into the impact of generative AI on entrepreneurship processes, changes in work relationships in the platform economy, data governance in SMEs, the effectiveness of digital entrepreneurship education, and the contribution of digital entrepreneurship to sustainable development. Research also needs to be carried out more in the context of developing countries, rural areas, and underrepresented business actors so that digital entrepreneurship theories don't just reflect the experiences of startups in global tech hubs. With this direction, digital entrepreneurship can be understood not just as an engine of economic growth, but also as a tool for inclusion, social innovation, and development transformation.

FURTHER STUDY

This study still has its limitations, so more research on the topic of Digital Entrepreneurship as a Driver of Economic Transformation: Opportunities, Challenges, Capabilities, and Ecosystem Development in the Platform Era is needed to refine this research and give more insights to both the author and the readers.

REFERENCES

- A. F. Rosin, D. Proksch, S. Stubner, and A. Pinkwart, "Digital new ventures: Assessing the benefits of digitalization in entrepreneurship," *JSBS J. Small Bus. Strateg.*, vol. 30, no. 2, 2020, [Online]. Available: <https://libjournals.mtsu.edu/index.php/jsbs/article/view/1543>
- A. Ghezzi and A. Cavallo, "Agile business model innovation in digital entrepreneurship: Lean startup approaches," *J. Bus. Res.*, vol. 110, pp. 519–537, 2020.
- A. Hanelt, R. Bohnsack, D. Marz, and C. Antunes Marante, "A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change," *J. Manag. Stud.*, vol. 58, no. 5, pp. 1159–1197, Jul. 2021, doi: 10.1111/joms.12639.
- A. Hanelt, S. Firk, B. Hildebrandt, and L. M. Kolbe, "Digital M&A, digital innovation, and firm performance: an empirical investigation," *Eur. J. Inf. Syst.*, vol. 30, no. 1, pp. 3–26, Jan. 2021, doi: 10.1080/0960085X.2020.1747365.
- A. Kuckertz, L. Brändle, A. Gaudig, S. Hinderer, and C. A. M. Reyes, "Startups in times of crisis—A rapid response to the COVID-19 pandemic," *J. Bus. Ventur. Insights*, vol. 13, p. 169, 2020.
- A. Srinivasan and N. Venkatraman, "Entrepreneurship in digital platforms: A network-centric view," *Strateg. Entrep. J.*, vol. 12, no. 1, pp. 54–71, Mar. 2018, doi: 10.1002/sej.1272.
- B. E. Duffy, A. Pinch, S. Sannon, and M. Sawey, "The Nested Precarities of Creative Labor on Social Media," *Soc. Media + Soc.*, vol. 7, no. 2, Apr. 2021, doi: 10.1177/20563051211021368.
- B. S. Rêgo, S. Jayantilal, J. J. Ferreira, and E. G. Carayannis, "Digital Transformation and Strategic Management: a Systematic Review of the Literature," *J. Knowl. Econ.*, vol. 13, no. 4, pp. 3195–3222, Dec. 2022, doi: 10.1007/s13132-021-00853-3.
- B. Sanga and M. Aziakpono, "FinTech and SMEs financing: A systematic literature review and bibliometric analysis," *Digit. Bus.*, vol. 3, no. 2, p. 100067, Dec. 2023, doi: 10.1016/j.digbus.2023.100067.
- C. Fernandes, J. J. Ferreira, P. M. Veiga, S. Kraus, and M. Dabić, "Digital entrepreneurship platforms: Mapping the field and looking towards a holistic approach," *Technol. Soc.*, vol. 70, p. 101979, Aug. 2022, doi: 10.1016/j.techsoc.2022.101979.
- D. Cumming, M. Meoli, and S. Vismara, "Does equity crowdfunding democratize entrepreneurial finance?," *Small Bus. Econ.*, vol. 56, no. 2, pp. 533–552, Feb. 2021, doi: 10.1007/s11187-019-00188-z.

- D. J. Teece, "Fundamental Issues in Strategy: Time to Reassess?," *Strateg. Manag. Rev.*, vol. 1, no. 1, pp. 103–144, Mar. 2020, doi: 10.1561/111.000000005.
- D. Trabucchi and T. Buganza, "Landlords with no lands: a systematic literature review on hybrid multi-sided platforms and platform thinking," *Eur. J. Innov. Manag.*, vol. 25, no. 6, pp. 64–96, Dec. 2022, doi: 10.1108/EJIM-11-2020-0467.
- D. Vrontis, M. Christofi, V. Pereira, S. Tarba, A. Makrides, and E. Trichina, "Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review," *Int. J. Hum. Resour. Manag.*, vol. 33, no. 6, pp. 1237–1266, Mar. 2022, doi: 10.1080/09585192.2020.1871398.
- E. Autio, R. Mudambi, and Y. Yoo, "Digitalization and globalization in a turbulent world: Centrifugal and centripetal forces," *Glob. Strateg. J.*, vol. 11, no. 1, pp. 3–16, Feb. 2021, doi: 10.1002/gsj.1396.
- E. Pantano, G. Pizzi, D. Scarpi, and C. Dennis, "Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak," *J. Bus. Res.*, vol. 116, pp. 209–213, Aug. 2020, doi: 10.1016/j.jbusres.2020.05.036.
- E. S. C. Berger, F. von Briel, P. Davidsson, and A. Kuckertz, "Digital or not – The future of entrepreneurship and innovation: Introduction to the special issue," *J. Bus. Res.*, vol. 125, pp. 436–442, 2021, doi: <https://doi.org/10.1016/j.jbusres.2019.12.020>.
- F. Casino, T. K. Dasaklis, and C. Patsakis, "A systematic literature review of blockchain-based applications: Current status, classification, and open issues," *Telemat. Informatics*, vol. 36, pp. 55–81, 2019.
- F. Sussan and Z. Acs, "The digital entrepreneurial ecosystem," *Small Bus. Econ.*, vol. 55, no. 1, pp. 55–73, 2020.
- F. von Briel, P. Davidsson, and J. Recker, "Digital Technologies as External Enablers of New Venture Creation in the IT Hardware Sector," *Entrep. Theory Pract.*, vol. 42, no. 1, pp. 47–69, Jan. 2018, doi: 10.1177/1042258717732779.
- G. Elia, A. Margherita, and G. Passiante, "Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process," *Technol. Forecast. Soc. Change*, vol. 150, p. 119791, 2020.
- G. George, R. K. Merrill, and S. J. D. Schillebeeckx, "Digital sustainability and entrepreneurship: How digital innovations are helping tackle climate change and sustainable development," *Entrep. Theory Pract.*, vol. 44, no. 5, pp. 1045–1060, 2020.
- G. Secundo, P. Rippa, and R. Cerchione, "Digital Academic Entrepreneurship: A structured literature review and avenue for a research agenda," *Technol. Forecast. Soc. Change*, vol. 157, p. 120118, Aug. 2020, doi: 10.1016/j.techfore.2020.120118.
- H. Bouwman, S. Nikou, and M. de Reuver, "Digitalization, business models, and SMEs: How do business model innovation practices improve performance of digitalizing SMEs?," *Telecomm. Policy*, vol. 43, no. 9, p. 101828, Oct. 2019, doi: 10.1016/j.telpol.2019.101828.

- H. Snyder, "Designing the literature review for a strong contribution," *J. Decis. Syst.*, vol. 33, no. 4, pp. 551-558, Oct. 2024, doi: 10.1080/12460125.2023.2197704.
- H. Snyder, "Literature review as a research methodology: An overview and guidelines," *J. Bus. Res.*, vol. 104, pp. 333-339, 2019, doi: 10.1016/j.jbusres.2019.07.039.
- J. Maradiaga-López, O. Álvarez, and H. Osorto, "Entrepreneurship Education and Entrepreneurial Intention Among University Students: The Mediating Roles of Entrepreneurial Self-Efficacy and Motivation," *Sustainability*, vol. 18, no. 8, p. 3985, Apr. 2026, doi: 10.3390/su18083985.
- J. Paul and A. R. Criado, "The art of writing literature review: What do we know and what do we need to know?," *Int. Bus. Rev.*, vol. 29, no. 4, p. 101717, Aug. 2020, doi: 10.1016/j.ibusrev.2020.101717.
- J. Paul, W. M. Lim, A. O'Cass, A. W. Hao, and S. Bresciani, "Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR)," *Int. J. Consum. Stud.*, vol. 45, no. 4, Jul. 2021, doi: 10.1111/ijcs.12695.
- K. D. Martin, A. Borah, and R. W. Palmatier, "Data privacy: Effects on customer and firm performance," *J. Mark.*, vol. 84, no. 1, pp. 42-59, 2020.
- L. Li, F. Su, W. Zhang, and J. Mao, "Digital transformation by SME entrepreneurs: A capability perspective," *Inf. Syst. J.*, vol. 28, no. 6, pp. 1129-1157, Nov. 2018, doi: 10.1111/isj.12153.
- L. W. Wardana et al., "The impact of entrepreneurship education and students' entrepreneurial mindset: the mediating role of attitude and self-efficacy," *Heliyon*, vol. 6, no. 9, p. e04922, Sep. 2020, doi: 10.1016/j.heliyon.2020.e04922.
- M. A. Cusumano, A. Gawer, and D. B. Yoffie, *The business of platforms: Strategy in the age of digital competition, innovation, and power*. Harper Business, 2019.
- M. G. Jacobides, C. Cennamo, and A. Gawer, "Towards a theory of ecosystems," *Strateg. Manag. J.*, vol. 41, no. 13, pp. 2255-2276, 2020.
- M. M. Queiroz, R. Telles, and S. H. Bonilla, "Blockchain and supply chain management integration: a systematic review of the literature," *Supply Chain Manag. An Int. J.*, vol. 25, no. 2, pp. 241-254, Aug. 2019, doi: 10.1108/SCM-03-2018-0143.
- M. Rachinger, R. Rauter, C. Müller, W. Vorraber, and E. Schirgi, "Digitalization and its influence on business model innovation," *J. Manuf. Technol. Manag.*, vol. 31, no. 5, pp. 1145-1160, 2020.
- O. Turel et al., "Panel report: the dark side of the digitization of the individual," *Internet Res.*, vol. 29, no. 2, pp. 274-288, Apr. 2019, doi: 10.1108/INTR-04-2019-541.
- OECD, "The Digital Transformation of SMEs," OECD Publishing, Feb. 2021. doi: 10.1787/dbd9256a-en.
- P. C. Verhoef, T. Broekhuizen, and Y. Bart, "Digital transformation: A multidisciplinary reflection," *J. Bus. Res.*, vol. 122, pp. 889-901, 2021.

- P. K. Ozili, "Financial inclusion research around the world: A review," *Forum Soc. Econ.*, vol. 50, no. 4, pp. 457–479, Oct. 2021, doi: 10.1080/07360932.2020.1715238.
- P. M. Bican and A. Brem, "Digital business model innovation: Toward sustainable and profitable business models," *Int. J. Innov. Manag.*, vol. 24, no. 06, p. 2050042, 2020.
- R. J. Torraco, "Writing Integrative Literature Reviews," *Hum. Resour. Dev. Rev.*, vol. 15, no. 4, pp. 404–428, Dec. 2016, doi: 10.1177/1534484316671606.
- R. Syed, C. Blome, and S. Papagiannidis, "Consumer Engagement in Digital Platforms: A Review and Future Research Directions," *J. Bus. Res.*, vol. 134, pp. 641–659, 2021.
- S. A. Zahra, M. Wright, and S. G. Abdelgawad, "Contextualization and the Advancement of Entrepreneurship Research," *Int. Small Bus. J.*, vol. 39, no. 1, pp. 3–10, 2021.
- S. Cunningham and D. Craig, *Creator Culture: An Introduction to Global Social Media Entertainment*. NYU Press, 2020.
- S. Kraus, C. Palmer, N. Kailer, F. L. Kallinger, and J. Spitzer, "Digital entrepreneurship: A research agenda on new business models for the twenty-first century," *Int. J. Entrep. Behav. Res.*, vol. 26, no. 5, pp. 1043–1066, 2020.
- S. Lokuge, D. Sedera, V. Grover, and X. Dongming, "Organizational readiness for digital innovation: Development and empirical calibration of a construct," *Inf. Manag.*, vol. 56, no. 3, pp. 445–461, Apr. 2019, doi: 10.1016/j.im.2018.09.001.
- S. M. Lee and S. Trimi, "Innovation for creating a smart future: Artificial intelligence and digital transformation," *J. Innov. Knowl.*, vol. 6, no. 1, pp. 1–10, 2021.
- S. Nambisan, M. Wright, and M. Feldman, "The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes," *Res. Policy*, vol. 50, no. 1, p. 104123, 2021.
- S. Quach, P. Thaichon, K. D. Martin, S. Weaven, and R. W. Palmatier, "Digital technologies: tensions in privacy and data," *J. Acad. Mark. Sci.*, vol. 50, no. 6, pp. 1299–1323, Nov. 2022, doi: 10.1007/s11747-022-00845-y.
- S. Raisch and S. Krakowski, "Artificial intelligence and management: The automation–augmentation paradox," *Acad. Manag. Rev.*, vol. 46, no. 1, pp. 192–210, 2021.
- V. Della Corte, M. Aria, and G. Del Gaudio, "The Metaverse in Business and Management: A Systematic Review," *Technol. Forecast. Soc. Change*, vol. 180, p. 121703, 2022.
- Y. K. Dwivedi, "Artificial Intelligence (AI): Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice, and Policy," *Int. J. Inf. Manage.*, vol. 57, p. 102262, 2021.
- Y. Zhao, S. von Delft, A. Morgan-Thomas, and T. Buck, "The evolution of platform business models: Exploring competitive battles in the world of platforms," *Long Range Plann.*, vol. 53, no. 4, p. 101892, Aug. 2020, doi: 10.1016/j.lrp.2019.101892.