

Abstract

Purpose – Existing research of modern literature have shown that the phenomenon of digital entrepreneurship is lacking in robust theoretical foundations on several occasions. This article is a comprehensive literature study that focuses on the phenomena of digital entrepreneurship and offers views on the subject to provide insights into recent advancements in the area.

Design/methodology/approach – In order to achieve a conception of the phenomena, using the PRISMA flow chart, the significant findings were organised into themes, contexts, and approaches. A comprehensive evaluation of the relevant previous research was carried out. Both Web of Science and Scopus were utilised to locate, extract, select, and evaluate relevant papers based on the keywords found during the search. In the end, papers from 92 different publications that are indexed by SSCI were chosen for this investigation.

Findings – This comprehensive literature analysis was to identify current research routes on digital entrepreneurship. In conclusion, this study generates outcomes that describes the process by which digital entrepreneurship are recognised and discussed: digital business models; digital entrepreneurship process; platform tactics; technology adoption; entrepreneurship; and digital business.

Originality/value – By setting the framework for additional research development and motivating scholars to pursue this issue, the study contributes to the understanding of the conceptualisation of digital entrepreneurship.

Keywords: Digital entrepreneurship, Emerging technology, Entrepreneurship, Systematic literature review, Technology adoption, Innovation.

Paper type: Literature review

Refocusing Digital Entrepreneurship: An Updated Overview of the Field, Emerging Opportunities and Challenges

1. Introduction

While investigating the impact that digitalisation has had on entrepreneurial activities, it is essential to understand the consequences of digital transition by exploring the opportunities and challenges. The term "digital entrepreneurship", which is defined as the application of digital technologies to achieve large entrepreneurial advances (Kraus et al., 2019; Kraus et al., 2019) and entrepreneurial activities (Anim-Yeboah et al., 2020; Basly and Hammouda, 2020; Beliaeva et al., 2020; Vorbach et al., 2019), highlights the (disruptive) consequences that digital entrepreneurship have on enterprises (Margiono et al., 2018; Martinez Dy et al., 2018; Srinivasan and Venkatraman, 2018). As a consequence of this, digital entrepreneurship is not only regarded to be a new setting, but also the development of new theories regarding entrepreneurship (Li et al., 2018; Nambisan, 2017; Smith et al., 2017; Spiegel et al., 2016). A rethink of what it means to be an entrepreneur is necessitated by the way digital entrepreneurship have altered the nature of the inherent unpredictability in the processes and results of entrepreneurial ventures (Bailetti, 2012; Doganova and Eyquem-Renault, 2009; Ferreira et al., 2016; Florida and Kenney, 1988). On the one hand, the processes involved in entrepreneurship and the results they produce become more flexible and less constrained (Spiegel and Marxt, 2011). The entrepreneurial organisation, on the other hand, is seen to be less prescribed and more diffused (Audretsch and Keilbach, 2004).

Previous concepts such as "e-entrepreneurship" (Matlay, 2004) or "Internet Entrepreneurship" (Batjargal, 2007) have existed in related research areas but have not gained high recognition and are now outdated. Hence, "Digital Entrepreneurship" can be

considered a new phenomenon in entrepreneurship research. This is supported by the identification of current research paths on digital entrepreneurship, which categorize the key findings into themes, contexts, and opportunities for new business models (Baig *et al.*, 2022; Paul *et al.*, 2023). Additionally, the intersection of strategy, entrepreneurship, innovation, and industrial research has been explored to understand what is new in digital entrepreneurship, indicating a shift in focus towards the impacts of digital technology and related opportunities (Steininger *et al.*, 2022). Joint research has also contributed to delineating digital entrepreneurship from related phenomena and conceptualizing the different roles of digital technologies (von Briel *et al.*, 2021).

Thus far, because of the generative nature of digital entrepreneurship, they make it possible for inventions to be scaled up and drive change without being prompted (Carragher *et al.*, 2003). Digitalisation inspires new entrepreneurial opportunities (Schiavone *et al.*, 2020), which in turn drives entrepreneurial activity, competition, and invention (Secundo *et al.*, 2020), all of which enhance digital transformation (Nambisan and Baron, 2021). Entrepreneurs are able to make faster changes to product development and experiment credits to digital technology, which leads in more dynamic entrepreneurial models and continually growing digital entrepreneurial processes (Song, 2019). In addition to this, it is made possible for organisations to be agile (Soluk *et al.*, 2021), and new work structures arise, which are supported by digital infrastructure (Soluk *et al.*, 2021; Sussan and Acs, 2017). In addition to this, the use of digital artefacts and platforms encourages both linear and nonlinear approaches to entrepreneurial engagements (Steininger, 2019). According to Wilk *et al.* (2021), the function of information and communication technology in the processes of digital entrepreneurship is that of a facilitator, mediator, result, and enabler of new business models.

Consequently, entrepreneurship is witnessing several transformations because of the rise in digitalisation. These developments range from the creation of new possibilities to the modification of current enterprises and the modification of business models to account for digital environments (Zupic, 2014). Many scholars have come up with several definitions to describe these unique sorts of processes that may be categorised as digital entrepreneurship. A subtype of entrepreneurship in which part or all of what would be physical in a traditional company has been digitised, according to Zupic (2014), is how digital entrepreneurship is defined. The scholars distinguish this idea from the more common kind of entrepreneurship by focusing on the goods, workspaces, and marketing strategies involved (Reuschke and Mason, 2022). The term digital entrepreneurship was coined by (Kraus et al., 2019; Kraus et al., 2019), who defined it as the pursuit of possibilities based on the use of digital media, other information, and communication technology. When compared to focusing solely on the entrepreneur, the scholars place a greater emphasis on the interactions and networks of relationships that exist within the digital context. This serves to highlight the fact that digital entrepreneurship is dependent not only on the abilities of the entrepreneur but also on the resources that are available in the surrounding environment. Nambisan and Baron (2021); Nambisan et al. (2019), both of whom take a community level perspective and assert that a supportive ecosystem is necessary for the success of digital entrepreneurship, have also taken this collective view. Nambisan et al. (2019) emphasises the importance of resources from professional and social networks, and Kraus et al. (2019) asserts that a supportive ecosystem is necessary for the success of digital entrepreneurship.

In a similar vein, Paul et al. (2021) place an emphasis on the role that a pervasively linked environment and saturation technology usage play in supporting the transition of business models. These scholars base their concept on the progression of the research that has been

done on digital entrepreneurship, which has shifted its attention from individuals and teams to technology adoption as the primary concern. Similarly, Vassilakopoulou and Grisot (2020) recommend taking a network-centric approach in order to comprehend digital entrepreneurship. This is due to the fact that the activities of entrepreneurs and their coordination within platforms are essential to the success of digital businesses. In the related body of research on industrial or external platforms (Mariani et al., 2022), two-sided marketplaces (McAdam et al., 2020), and multisided platforms, the significance of network effects is frequently discussed (Mariani et al., 2022). As an umbrella term to describe digital activities in entrepreneurship, politics, and society, the concept of the digital platform economy is used to refer to the dependence of platforms on the digitisation of value creation. This is backed by research arguing that platforms are dependent on the digitisation of value creation (Hemsley-Brown, 2023).

In addition, according to Troxler and Wolf (2017), digital entrepreneurship can be defined as the process of entrepreneurial creation of digital value through the use of various socio-technical digital enablers to support effective acquisition, processing, distribution, and consumption of digital information. Recent research have supported that the role of non-market values in digital entrepreneurship, which occurs when digital technology enable new kinds of collaboration for the purpose of creating economic as well as social value (Zupic, 2014). Given the heterogeneous nature of the research that investigates, the larger environment in which digital entrepreneurship occurs and the impact of digitalisation on the entrepreneurial ventures, it seems timely to conduct a systematic review of the literature with the goal of consolidating existing research (Abubakre et al., 2022; Kang, 2022; Li et al., 2018; Nambisan and Baron, 2021; Upadhyay et al., 2022).

In our comprehensive assessment of the relevant literature, this study found that different scholars ascribe different characteristics to digital entrepreneurship, which increases the

conceptual uncertainty. The aim of this study is to categorise relevant literature by updating existing research using Nested Knowledge platform and offer tangible classification.

In this review paper, our objective is to examine a set of interconnected research questions:

- (1) What is the present level of understanding of digital entrepreneurship within the existing body of literature on entrepreneurship?
- (2) What are the categorisations of digital entrepreneurship as discussed in the existing literature on entrepreneurship?

2. Methods

2.1 PRISMA Framework

A systematic review of the literature was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, utilising the Scopus and Web of Science databases accessed through the Nested Knowledge platform. Before the process of study selection and screening, these studies (Adusumilli et al., 2021; Adusumilli et al., 2022; Boell and Cecez-Kecmanovic, 2015; Kraus et al., 2022; Kraus et al., 2023; Satalkina and Steiner, 2020) formulated a set of guidelines for the research by developing a protocol for the systematic review. This protocol outlined the acceptable study designs, intervention arms, and the specific characteristics to be collected as baseline and outcome variables (Liberati et al., 2009; Moher et al., 1999). These details are visually represented in the Nested Knowledge sunburst diagram, as shown in Figure 1.

The notion of digital entrepreneurship takes one step of advancement, it is necessary to first investigate the existing state of research and then summarise the findings of the many

studies that have been conducted. In order to achieve this goal, a comprehensive analysis of the existing research will be carried out. In order to arrange our research and to coherently organise the information that is already known about digital entrepreneurship, this study adopted the methodology that was proposed by Paul et al. (2021); Paul et al. (2021); Zupic and Čater (2015). The review was broken down into three stages: (1) planning, (2) performing the review, and (3) reporting and spreading the findings. At the beginning, the notion of digital entrepreneurship was broken down into its component parts, which are search phrases and keywords. At first, we separated the concept into three distinct categories: "digital entrepreneurship," "digitalisation in entrepreneurship," and "digital technology." After that, we adjusted the search keywords by going through an iterative process depending on the outcomes of the initial search (Mariani et al., 2022). Because the research on digital ecosystems is quite extensive and goes beyond the applicability of entrepreneurship studies, we narrowed the scope of our systematic literature review and conducted two searches using the terms TITLE-ABS-KEY ("Digital Entrepreneurship") AND ("Digital technolog*" OR "Digital entrepreneurship opportunit*" OR "Digital entrepreneurship challeng*" OR "Digitalization in entrepreneurship*" OR "Digital platform*") and TITLE-ABS-KEY ("Digital Entrepreneurship") AND ("Digital technolog*" OR "Digital entrepreneurship opportunit*" OR "Digital entrepreneurship challeng*" OR "Digitalization in entrepreneurship*" OR "Digital platform*") AND (LIMIT-TO (SUBJAREA , "ECON") OR LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "COMP") OR LIMIT-TO (SUBJAREA , "DECI") OR LIMIT-TO (SUBJAREA , "ENGI")) respectively. The results of these searches revealed many relevant information.

We recognise earlier literature reviews (Kraus et al., 2019; Paul et al., 2023; Sauer and Seuring, 2023) and construct our study upon past research that have previously defined and thoroughly assessed the published literature of the selected concepts. It is not necessary for this review to substitute this term because, for instance, the literature on digital technology has already differentiated the concept of digital technology from similar concepts such as clusters, digital business, networks, and environments (Baig et al., 2022; Nambisan, 2017; Palmer et al., 2021; Tranfield et al., 2003). In a similar vein, the concept of "digital" has been carefully investigated on its own and distinguished from other descriptors such as "technology," "virtual," or "internet-based," to mention just a few (Arvidsson and Mønsted, 2018; Beckman et al., 2012; Mariani et al., 2022). In order to guarantee that the search was exhaustive, we next looked for the phrases we had chosen in the Web of Science database as well as the Scopus database. The search was limited to only return results that had the phrases that were present in the topic (title, abstract, and keywords), documents that were only of the article type, publications that were only in the English language, and publication years that only extended until the February of 2023. The limitations of the journals served as an evaluation of the study's overall quality, which is incorporated into systematic reviews performed in the management sector (Tranfield et al., 2003). The search results obtained from the Web of Science and the Scopus database were merged, and duplicates were taken out of the equation see Figure 1.

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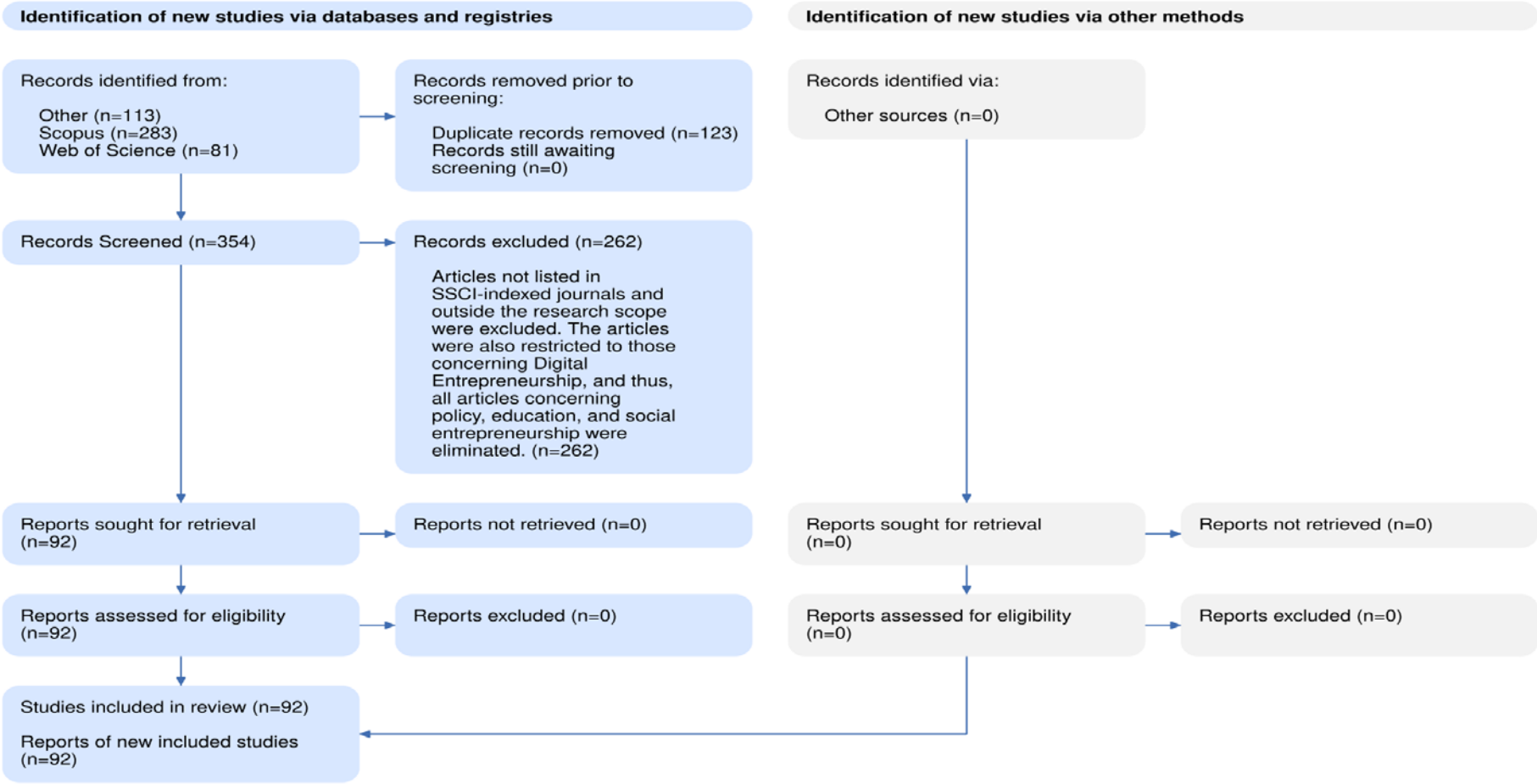


Figure 1. Digital entrepreneurship PRISMA diagram. (Author's own creation/work)

2.2 Analysis

The current body of scholarly study has allocated a limited amount of attention to the intersection of entrepreneurship, digital entrepreneurship, and digitalisation (Kraus et al., 2020). The proliferation of scholarly works across several domains is challenging the notion of a linear progression in research (Aldrich, 2004). Thus, offering a shared understanding and performing a comprehensive analysis of the relevant literature, our systematic literature review contributes to the process of mapping the field of digital entrepreneurship. When we take a closer look at the final articles' selection, we find out that most of the articles were published between the years 2018 and 2022, with the earliest item dating back to the year 2011, followed by articles from the years 2015 and 2016. Among them, 37 of the discovered papers are conceptual, 31 of the papers use a qualitative research design, nine of the papers use a quantitative research design, and two of the papers use a mixed-methods approach. There are 92 publications identified, while further 24 publications are excluded.

Furthermore, the assortment of articles presented indicates that a wide range of multidisciplinary perspectives have been duly acknowledged in relation to the field of digital entrepreneurship (Sauer and Seuring, 2023). As soon as we start looking at the previous research, the first step we do is go over the abstracts that were presented by the scholars. The co-occurrence of keywords found in the abstracts and titles of the chosen publications is represented graphically. A minimum of five instances of the specified terms can be found within the abstracts or titles of all the articles. We have excluded phrases that serve as mere fillers, such as "study," "research," and "books," as they do not contribute to the relevance of our examination. Every individual concept is represented by a circular shape, wherein the magnitude of the circle signifies the frequency at which the respective thought occurs. The terms have been categorised into clusters, and the

proximity of these clusters indicates the frequency at which the terms co-occur. The term "entrepreneurship" exhibits the highest frequency of occurrence and is prominently positioned near the central region of the diagram, as depicted. The given statement indicates that the phrase in question is of a broad nature, allowing for generalisation and application across diverse contexts. Furthermore, it is worth noting that there exists a notable prevalence in the utilisation of the term "digitalisation," which exhibits a robust correlation with both "digital entrepreneurship" and "digital business." The term "digital business" is a significant concept to bear in consideration. Additionally, the term "platform" is employed with notable frequency. The entity in question is situated within a unique cluster and exhibits a clear association with the notions of "digital platform" and "business model," albeit with a less pronounced connection to the concept of "digital entrepreneurship." The phrase "technology entrepreneurship," denoting the practise of digital entrepreneurship, is comparatively less prevalent in usage and is situated at a greater distance. This provides evidence that the phrase is not yet widely utilised throughout the field of scholarly work. Similarly, the apparent connection to 'digitalisation' and 'digital entrepreneurship' is evidence that this literature has its roots elsewhere.

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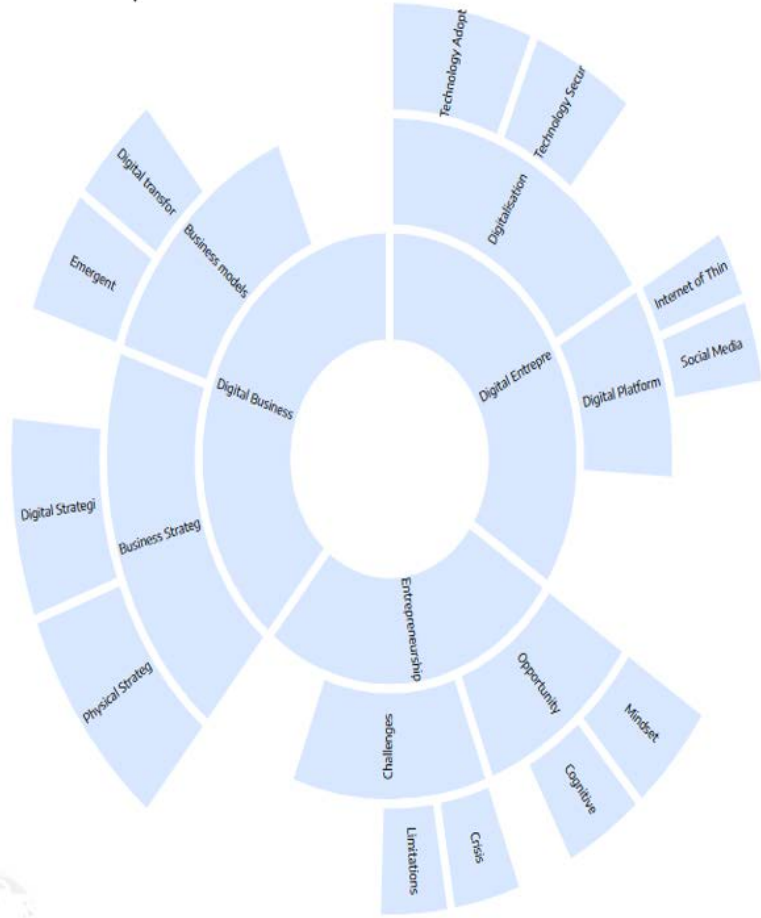


Figure 2. Articles included in tagging nodes. (Author's own creation/work)

3. Literature Review

3.1 Digital Entrepreneurship Characteristics

According to our evaluation of the relevant research, academics have examined the connection between entrepreneurship and digital entrepreneurs from a variety of points of view. In terms of how the literature relates to our analysis of digital entrepreneurs, this study further categorises studies on digital entrepreneurship as shown in Figure 2 into three (digital entrepreneurship, digital business, and entrepreneurship) distinct research streams.

3.1.1 Digital Entrepreneurship

The first line of investigation looks at the existing research on digital entrepreneurship and does preliminary study on their nomenclature. A digital entrepreneurship is composed of Schumpeterian entrepreneurs creating digital companies and innovative products and services for many users and agents in the global economy (Lin and Maruping, 2022). Following the tagging analysis in Figure 2, further two sub-nodes with branches digitalisation (technology adoption and technology security) and digital platform (internet of things and social media) were developed. The scholars construct a framework that includes two biotic entities (users and agents) and two abiotic components by merging the literature on digitalisation and entrepreneurial environment (Abubakre et al., 2022; Novandari and Puspasari, 2021). Table 1 delineates the association between the digital platforms and social media, sets conditions for a sustainable digital entrepreneurship. These conditions include the protection of digitalisation data privacy, the encouragement of competition on platforms, the protection of digital infrastructure, and the increase in platform efficiency that is provided by third-party agents. The researcher highlights the role of digital platforms in enabling entrepreneurial endeavours and argues that the concept of digital entrepreneurship initiates a discourse on the impact of digital

entrepreneurial activities on entrepreneurial environments (Cornet et al., 2023; Kraus et al., 2022; Kraus et al., 2023; Kraus et al., 2019; Kreuzer et al., 2022; Martinez Dy et al., 2018; Richter et al., 2017; Satalkina and Steiner, 2020).

S.No.	List of Author (s)	Title
1	Lin and Maruping, 2022	Open Source Collaboration in Digital Entrepreneurship. https://doi.org/10.1287/orsc.2021.1538
2	Novandari and Puspasari, 2021	Antecedents And Consequences of User Satisfaction in Startup Application as Digital Entrepreneurship in Indonesia. https://doi.org/10.47750/QAS/22.185.06
3	Abubakre et al., 2022	The impact of information technology culture and personal innovativeness in information technology on digital entrepreneurship success. https://doi.org/10.1108/ITP-01-2020-0002
4	Nambisan and Baron, 2021	On the costs of digital entrepreneurship: Role conflict, stress, and venture performance in digital platform-based ecosystems. https://doi.org/10.1016/j.jbusres.2019.06.037
5	Wilk et al., 2021	The state of #digitalentrepreneurship: a big data Leximancer analysis of social media activity. https://doi.org/10.1007/s11365-020-00729-z
6	Martinez Dy et al., 2018	Emancipation through digital entrepreneurship? A critical realist analysis. https://doi.org/10.1177/1350508418777891

Table 1. Articles included in tagging digital entrepreneurship attributes. (Author's own creation/work)

In a separate study, Mariani et al. (2023) investigate the construction of a digital entrepreneurship and compare it to the process of the formation of a meta-organisation. In a digital entrepreneurship, according to a case study conducted in Zhongguancun, China, labour is segmented into institutional supporters, co-working space operators, and specialised players, and efforts are coordinated to establish both a standard infrastructure and an entrepreneurial culture (Li et al., 2017). According to He (2019), interpretation of the digital entrepreneurship concept as a collective intelligence system, the digital entrepreneurial ventures is discussed in terms of four dimensions: digital players, digital activities, digital motives, and digital organisation. In addition, Davidsson and Wiklund (2007) investigate the degree to which each of the entrepreneurial components is required,

and they conclude that digitally enabled unicorns are the most appropriate output and metric of digital entrepreneurship performance.

3.1.2 Digital Business

Table 2 encompasses research that draws upon the existing body of literature on entrepreneurial related studies centred on digital business and examines the impact of digital entrepreneurship across diverse contexts. However, it fails to acknowledge the technological adoption processes that are being investigated within the realm of digital entrepreneurship (Baranauskas and Raišienė, 2022; Bican and Brem, 2020; Jawad et al., 2021). Following the tagging analysis in Figure 2, while exploring the concept digital business, two sub-nodes with branches business models (digital transfer and emergent) and business strategies (digital and physical strategies) were developed. According to Yao and Li (2023) regard digital business as a tool that promotes the digitisation of the economy by utilising digital affordances in order to foster entrepreneurship. This perspective is based on the scholars' principle that entrepreneurial environments have the potential to encourage more people to become entrepreneurs. Souza et al. (2022) explains how a traditional market can be transformed into an entrepreneurial environment with the assistance of digitalisation and an e-commerce strategy, respectively. Beliaeva et al. (2020); Manjon et al. (2022) investigate the role that digital entrepreneurship plays in enabling coupling within entrepreneurial environments.

S.No.	List of Author (s)	Title
1	Jawad et al., 2021	Era of digital revolution: Digital entrepreneurship and digital transformation in emerging economies. https://doi.org/10.1002/bsd2.145
2	Baranauskas and Raišienė, 2022	Transition to Digital Entrepreneurship with a Quest of Sustainability: Development of a New Conceptual Framework. https://doi.org/10.3390/su14031104
3	Bican and Brem, 2020	Digital Business Model, Digital Transformation, Digital Entrepreneurship: Is There A Sustainable “Digital”? https://doi.org/10.3390/su12135239

4	Yao and Li, 2023	The causal exploration of digital entrepreneurial psychological capital configurations based on fsQCA. https://doi.org/10.1016/j.jik.2022.100291
5	De Souza et al., 2022	Agile Roadmapping: A management Tool for Digital Entrepreneurship. http://doi.org/10.1109/TEM.2020.3027918
6	Manjon et al., 2022	Green and digital entrepreneurship in smart cities. https://doi.org/10.1007/s00168-021-01080-z
7	Beliaeva et al., 2020	Dynamics of digital entrepreneurship and the innovation ecosystem: A multilevel perspective. https://doi.org/10.1108/IJEBR-06-2019-0397
8	Gabrielsson., 2022	Accelerated Internationalization Among Inexperienced Digital Entrepreneurs: Toward a Holistic Entrepreneurial Decision-Making Model. https://doi.org/10.1007/s11575-022-00469-y
9	Basly and Hammouda, 2020	Family Businesses and Digital Entrepreneurship Adoption: A Conceptual Model. https://doi.org/10.1177/0971355720930573

Table 2. Articles included in tagging digital business attributes. (Author's own creation/work)

The interaction between digitalisation and digital platforms by determining the technologies and technology adoption through the use of a variety of distinct terminology. The following are some of the terms that have been used: 'technology entrepreneurship' (Bailetti, 2012; Ferreira et al., 2016; Mosey et al., 2017), 'digital platform' (Helfat and Raubitschek, 2018; Mishra and Tripathi, 2020; O'Farrell and Montagnier, 2020), 'technology adoption' (Karahanna et al., 1999; Lai, 2017; Lee et al., 2013). In some other articles, the phrase "digital" or "platform" is used in a more generic sense. In certain contexts, each phrase has a specific meaning, while in others they are used interchangeably. One conclusion is that there is a lack of clarity in the research on a general understanding of entrepreneurial environments in relation to digital settings, and this is one of those implications (Basly and Hammouda, 2020; Gabrielsson et al., 2022). One further way of looking at it is that diverse digitals have commonalities in terms of structure, actors, and processes, among other things. It is thus of the utmost importance to develop a complete set of traits that may be used to characterise digital

entrepreneurship, while also considering the heterogeneity between these digital entrepreneurship ventures and the many possible paths they could follow.

3.1.3 Entrepreneurship

An array of research (as shown in Table 3) embed ownership in entrepreneurship and many definitions additionally mandate new venture formation as the way by which entrepreneurs get their ownership (Kraus et al., 2020; Kraus et al., 2019). Following the tagging analysis in Figure 2, while exploring the concept entrepreneurship, two sub-nodes with branches, challenges (crisis and limitations) and opportunities (mindset and cognitive) were developed. Categorising entrepreneurship based on the establishment of new business ventures offers a straightforward and unambiguous definition. Thus, Table 3 which is the largest cross-national assessment of entrepreneurship worldwide, measures entrepreneurship activity by evaluating the rate at which new ventures are formed and the level of ownership involved (Constantin and Kavoura, 2022; Lall et al., 2023). The risk theory of profit gives rise to essential entrepreneurial principles such as the level of risk, the occurrence of new venture creation, and the involvement of ownership. Potential sub-domain words include new venture entrepreneurship, owner/manager entrepreneurship, and high-risk entrepreneurship.

S.No.	List of Author (s)	Title
1	Constantin and Kavoura, 2022	Digital Entrepreneurship via Sustainable Online Communication of Dentistry Profession, Oradea, Romania: A Longitudinal Analysis. https://doi.org/10.3390/su14020802
2	Lall et al., 2022	Digital platforms and entrepreneurial support: a field experiment in online mentoring. https://doi.org/10.1007/s11187-022-00704-8
3	Modgil et al., 2022	Has Covid-19 accelerated opportunities for digital entrepreneurship? An Indian perspective. https://doi.org/10.1016/j.techfore.2021.121415
4	Cornet et al., 2022	Digital entrepreneurship indicator (DEI): an analysis of the case of the greater Paris metropolitan area. https://doi.org/10.1007/s00168-022-01175-1
5	Zaheer et al., 2019	Digital entrepreneurship: An interdisciplinary structured literature review and research agenda. https://doi.org/10.1016/j.techfore.2019.119735

6	Martinez Dy et al., 2018	Emancipation through digital entrepreneurship? A critical realist analysis. https://doi.org/10.1177/1350508418777891
7	He, 2019	Digital entrepreneurship solution to rural poverty: Theory, practice and policy implications. https://doi.org/10.1142/S1084946719500043
8	Kraus et al., 2019	Digital entrepreneurship: A research agenda on new business models for the twenty-first century. https://doi.org/10.1108/IJEBR-06-2018-0425

Table 3. Articles included in tagging entrepreneurship attributes. (Author's own creation/work)

According to Modgil et al. (2022), entrepreneurship is the act of chasing opportunities without considering the resources one presently possesses. In other words, entrepreneurs rely on accessing resources belonging to others. They perceived entrepreneurship as a continuum of endeavours that occur during the entire process of establishing and expanding an organisation, as well as throughout an individual's lifespan, encompassing both conventional entrepreneurship and corporate entrepreneurship (Zaheer et al., 2019). The term "corporate entrepreneurship" has been coined to embrace both the creation of new ventures within firms and the revitalization of organisations through strategic transformation (He, 2019).

4. Discussion and Contributions

The singularity and one-of-a-kind qualities that are specific to each digital entrepreneurship ventures are qualities that are relevant not only to digital entrepreneurship but also to digital entrepreneurship ventures as a whole (Cavallo et al., 2019; Sahut et al., 2021; Steininger, 2019). Digital entrepreneurships are analogous to entrepreneurial environments in that there are variations in their forms, governance, actors, and norms (Berger et al., 2021; Nambisan and Baron, 2021).

The amplification of this variety, however, is facilitated by the emergence of novel opportunities, forms of collaboration, and procedures enabled by digitalisation.

(Fernandes et al., 2022; Martinez Dy et al., 2018). Because of this, there is neither a method that is applicable to all digital entrepreneurship ventures nor a predetermined list of qualities that all digital entrepreneurship ventures must possess. Because entrepreneurial activities are inherently dynamic (Abubakre et al., 2021; McAdam et al., 2019; Standing and Mattsson, 2018), it is only logical to use a flexible viewpoint when characterising them. This is consistent with the fact that ecosystems are inherently dynamic. To achieve our goal of providing a comprehensive knowledge of digital entrepreneurship, we have developed a PRISMA framework that presents a collection of characterisations that correlate to major digital entrepreneurship aspects. These characterisations are helpful in gaining an understanding of digital entrepreneurship (see Figure 1). The investigation of the characteristics of the environment, rather than only providing a peripheral description of the idea (Srinivasan and Venkatraman, 2018; Upadhyay et al., 2023), acts as an essential stage in the process of explaining digital entrepreneurship.

The framework was constructed through the utilisation of inductive reasoning following an extensive review of the existing literature. The published research examined and assessed the elements of the environment in relation to their relevance and significance to digital entrepreneurship. The various heterogeneous descriptions were subsequently organised into several categories, facilitating the differentiation and aggregation of digital entrepreneurship. Subsequently, the utilisation of characterisations aided in distinguishing among various forms of digital entrepreneurship endeavours and illustrating the inherent qualities that define each of them. In the subsequent subsections, we delve deeper into the examination and characterisation of each digital entrepreneurial property. The amplification of this variation, however, is facilitated by the advent of

digitalisation, which has brought about new chances, forms of collaboration, and procedures.

4.1 Digital Entrepreneurship Opinions

According to Nzembayie et al. (2019), the governance structures of digital entrepreneurship play a significant part in the performance of the digital entrepreneurship themselves; as a result, it is essential to investigate the many control mechanisms that digital entrepreneurship ventures may have. digital entrepreneurship ventures have the potential to be self-organised given that they do not have an overarching governing organisation (Chae and Goh, 2020). In this instance, rather than the bureaucracy directing the activities, the digital infrastructure is what enables and facilitates their collective interaction and emergence (Jha et al., 2022). Despite this, digital entrepreneurship are nevertheless able to provide shared and dispersed agency, in addition to procedures and results (Modgil et al., 2022). The complementarities and dispersed governance that exist within such digital entrepreneurship ventures are associated with the many entrepreneurs (Rosin et al., 2020). Alternatively, as a direct result of digitisation, the consequences of innovative and entrepreneurial ventures have gotten less constrained, and the agencies involved have become less predetermined (Abubakre et al., 2022). This is replicated in a similar manner in the governance of digital entrepreneurship, which, due to the volatility of the digital context, might stay less prescribed than other aspects of digital entrepreneurship venture administration. On the other hand, digital entrepreneurship ventures may be held by the platform when, inside the entrepreneurial environment, the platform functions as a private regulator (Ammirato et al., 2020). Platforms, having assumed the role of owners, are able to exert control over unfavourable conditions to get greater value from the system (Geissinger et al., 2019; Soluk et al., 2021). As it is a core actor, the leader of the platform is in a position to coordinate the many activities and

members of the venture (Zahra et al., 2023), the final sample for the review of the literature.

Another crucial aspect of digital entrepreneurship is the position taken on the available resources. The nature of ownership and governance is reimagined as a result of the shared pool of resources (Drouillard, 2017; Ferreira et al., 2016; Florida and Kenney, 1988; Geissinger et al., 2019). digital entrepreneurship enables the growth of entrepreneurial activity by contributing to the creation of a general common knowledge base (O'Farrell and Montagnier, 2020). digital entrepreneurship ventures, which are supported by governance mechanisms, make use of advances to digital platforms to encourage entrepreneurial activity. This is done despite the fact that digital entrepreneurship ventures serve as a resource allocation system. In addition, resource integration, which acts as a driver of value co-creation, makes it easier for digital entrepreneurship ventures to compete with one another and work together. Integration of resources is essential in entrepreneurial environment that contain resources that are dispersed in different ways and networks of several actors.

One of the primary support structures that underpin a digital entrepreneurship venture is its digital infrastructure. Nevertheless, the design could be different depending on what the entrepreneurial environment is mostly concerned with. On the one hand, digital entrepreneurship ventures have the ability to converge around a modular design, which makes it possible to reuse resources and drives economies of scope (Mishra and Tripathi, 2020). Moreover, modularity implies changeable resource configurations, which improve entrepreneurial processes and provide flexibility in value generation. These benefits are brought about as a result of the modular approach (Nambisan and Baron, 2021). On the other side, digital entrepreneurship ventures have the potential to highlight a

fundamentally open design, which makes it possible for a greater number of players to contribute their discoveries (Arrow et al., 2000).

Lastly, the identity of a digital entrepreneurship venture is an important quality that supports both the governance mechanism and the interaction between the players. This is because the identity of a digital entrepreneurship venture is a digital entrepreneurship. A digital entrepreneurship venture may gain a system-level aim paired with an intangible culture that fosters collaboration if it has an ecological identity (Arrow et al., 2000). However, entrepreneurs could keep their own identities based on their roles as founders, which, with time and the development of deeper relationships, could evolve into shared identities. In addition, the digital entrepreneurship venture is able to absorb the identity of the platform's owner, which includes the rules, structures, and visions that govern the platform. Yet, value co-creation might occur within an entrepreneurial environment that does not have a fixed identity, where resources serve as the basis for actor exchange.

4.2 Contributions

We perform a systematic literature review exploring the intersection of digital entrepreneurship and entrepreneurial environments in order to provide a comprehensive understanding of the concept. This is done in recognition of the need to consolidate the literature on digital entrepreneurship ventures and to provide a comprehensive understanding of the concept. As a result of our review of the relevant literature, we are aware, on the one hand, that digital entrepreneurship is not a phenomenon that occurs in a vacuum; rather, it occurs within an entrepreneurial environment specifically the technological dimension. On the other hand, we believe that the impact that digitisation has on entrepreneurial environments brings about shifts in the ways in which processes and interactions are governed as well as the organisational structures themselves. As the entrepreneurial environment expands its sphere of influence, the repercussions for the

surrounding area become increasingly widespread. As a result, unique contexts for entrepreneurial activity arise at the junction of emerging forms of cooperation and established governing structures. These digital entrepreneurship ventures create an environment that is conducive to the development of entrepreneurial actors and processes in the modern era. Our study consequently enhances research on the potentially fruitful topic of digital entrepreneurship ventures, in addition contributing to the existing body of scholarly work on digital entrepreneurship and entrepreneurial environments.

We recognise that there is not a single method that can be used for all digital entrepreneurship, which is in keeping with the adaptability that is made possible by digitalisation (Mariani et al., 2022). Because of this, our framework conceptualises digital entrepreneurship ventures within a variety of different characterisations. This shifts the focus away from the restrictions of the design and onto the significance of the dynamics and characteristics of entrepreneurial environments, such as the interrelationships between actors, the utilisation of complementarities, and the development of an identity. In a more concrete sense, defining the characteristics of digital entrepreneurship permits the construction of governmental measures that may be used to strengthen entrepreneurial environments that encourage entrepreneurial activity.

Moreover, the flexibility of entrepreneurial processes and outcomes driven by digitalisation (Bandara et al., 2023) indicates that various digital entrepreneurship ventures foster diverse outputs. This is because different digital entrepreneurship ventures cultivate different kinds of outcomes. Although some authors have suggested that the performance of a digital entrepreneurship venture could be measured by the number of resulting unicorns (Onjewu et al., 2023) or digitally enabled unicorns (Arakpogun et al., 2022), our typology suggests a variety of core value propositions that serve as a measurement base for the performance of different digital entrepreneurship ventures.

Because digital entrepreneurship varies from one another in terms of the amount of autonomy in governance and the amount of cooperation that occurs within the entrepreneurial environment, the management methods and tactics that are utilised need to be modified as well. Considering this, the typology that was provided lends help to the process of developing focused managerial implications. To use just one example, highly self-sufficient entrepreneurial environments call for decentralised processes rather than a centralised method. In addition, in entrepreneurial environments with high levels of cooperation, the collective product is the focus of incentive, in contrast to entrepreneurial environments with low levels of collaboration, in which the involvement of individuals should be rewarded.

We expand this perspective by asserting the role that digital entrepreneurship plays in affording new entrepreneurial possibilities, collaboration structures, means of participation, and mediation tools. While digital entrepreneurship has been considered on the one hand as the output of the entrepreneurial environment and on the other hand as the facilitating environment (Zhao et al., 2022), we expand this perspective by asserting the role that digital entrepreneurship play in affording new entrepreneurial possibilities. This viewpoint contributes to an increase in the value of digital entrepreneurship ventures. In addition, the adaptability and connection brought about by digitalization make it possible for brand new forms of social and economic engagement. This contribution can be transferred to the level of the entrepreneurial environment, given that openness in entrepreneurship has been shown to increase socioeconomic welfare (Zupic and Čater, 2015). Actors can work together towards the accomplishment of shared goals like sustainable development by utilising the entrepreneurial environment infrastructure as a force multiplier and by taking advantage of the open and collaborative character of digital entrepreneurship ventures. Hence, digital entrepreneurship ventures have the potential to

serve as an environment conducive to entrepreneurial endeavours that advance socioeconomic ideals and global objectives.

Yet, the digital entrepreneurship method re-examines the importance of organisations and agencies in the field of entrepreneurship study (Nambisan and Baron, 2021; Nambisan et al., 2019). The dynamics of an entrepreneurial environment, together with the infrastructure made possible by digital technology, can cause disruptions in governance structures, and alter the ways in which entrepreneurial operations are carried out. Considering this, it may be deduced that digital entrepreneurship ventures play a part in the larger economic and social framework. The investigation of the governance processes present in digital entrepreneurship ventures may consequently yield insights into future frameworks for the digital economy that are more efficient.

5. Conclusion and Future Research Directions

It is essential to achieve definitional and conceptual clarity in order to progress knowledge and stay up with the rapid speed of field development as research on digital entrepreneurship continues to expand. Our comprehensive analysis of the relevant previous research constitutes an important step in that direction. We investigate the body of research that focuses on the overlap between entrepreneurial environments and digital entrepreneurship. We find that the writers describe the interaction of digitalisation, entrepreneurship, and digital entrepreneurship from a variety of perspectives and use a variety of words. This confirms that there is no universal concept of entrepreneurial environments in the context of digital technology (Palmer et al., 2021). Despite this, the many different qualities that are attributed to the entrepreneurial environments that are spoken about in the research cause us to feel the need to construct a conceptual framework that has a full list of criteria to characterise digital entrepreneurship. The provided framework contains a collection of characterisations important to the entrepreneurial

environment aspects of a digital entrepreneurship venture (Paul et al., 2021). These characterisations are as follows: governance, actors, resources, architecture, complementarity, reach, and identification process. Our method takes into account both the ever-changing nature of digitalisation and the many of characteristics that digital entrepreneurship ventures might exhibit. The conceptual framework is expanded by a two-by-two typology that delineates four varieties of digital entrepreneurship ventures defined according to two dimensions: the degree of autonomy in governance and the degree of collaboration within the entrepreneurial environment. These two dimensions are described in the following sentence. These dimensions act as dividing lines for a variety of entrepreneurial environments that are shown by the typology. This is accomplished by establishing the essential value proposition, the primary function of digital technology, and the peculiarities of players. This work provides a more relevant definition of a digital entrepreneurship, which helps narrow the conceptual gap and provides a platform for future research. This definition was derived from the review, and it offers an improved understanding of a digital entrepreneurship.

This study is subject to some limitations. Due to the utilisation of specific keywords and the deliberate restriction of our search to esteemed scholarly journals, certain domains within the research literature that could have potentially provided additional perspectives were not taken into account. The examination's focus on management literature limited the investigation's ability to fully encompass the multidisciplinary aspects of digital entrepreneurship. To address this limitation, future investigations could employ diverse research methodologies and adopt an interdisciplinary perspective. Moreover, to enhance the overall resilience of the notion, it is imperative to conduct empirical investigations that substantiate our framework and typologies. Based on the established framework, a comprehensive table has been constructed to outline specific study subjects associated

with each facet of digital entrepreneurship. These inquiries shed light on important areas of future study and provide guidance for a research field that is ever evolving. In addition to the aforementioned works, future research endeavours could utilise the proposed definition we have put forth as a conceptual framework to construct a comprehensive scholarly groundwork pertaining to digital entrepreneurial initiatives. This would constitute an additional undertaking to supplement the already conducted studies. Our study places a strong emphasis on the importance of digital entrepreneurship in comprehending entrepreneurship in the digital age. It also advocates for further exploration of this topic to enhance our knowledge of current entrepreneurial landscapes.

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