

Refocusing digital entrepreneurship: an updated overview of the field, emerging opportunities and challenges

Femi Olan

SOE, Business School, University of Essex, Southend-on-Sea, UK

Ciro Troise

Department of Management, University of Turin, Turin, Italy

Nadja Damij

Faculty of Business and Law, University of Sunderland, Sunderland, UK, and

Robert Newbery

*Newcastle University Business School, Northumbria University,
Newcastle upon Tyne, UK*

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 the 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 describe 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

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.*, 2019a, b, c) 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 has altered the nature of the inherent unpredictability in the processes and results of entrepreneurial ventures (Bailetta, 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” or “Internet Entrepreneurship” 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 categorise 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. Joint research has also contributed to delineating digital entrepreneurship from related phenomena and conceptualising the different roles of digital technologies.

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 (Schiaivone *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.* (2019a, b, c), 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) and 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.* (2019a, b, c) asserts that a supportive ecosystem is necessary for the success of digital entrepreneurship.

In a similar vein, Paul *et al.* (2021a, b) place an emphasis on the role that a pervasively linked environment and saturation technology usage play in supporting the transition of the 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 the platforms are essential to the success of digital businesses. In the related body of research on industrial or external platforms (Mariani *et al.*, 2022a, b), two-sided marketplaces (McAdam *et al.*, 2020) and multisided platforms, the significance of network effects is frequently discussed (Mariani *et al.*, 2022a, b). 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 the 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 the 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:

- RQ1.* What is the present level of understanding of digital entrepreneurship within the existing body of literature on entrepreneurship?
- RQ2.* 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, 2022; Boell and Cecez-Kecmanovic, 2015; Kraus *et al.*, 2022, 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.* (2021a, b), Zupic and Ceter (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.*, 2022a, b). 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 technology*” OR “Digital entrepreneurship opportunity*” OR “Digital entrepreneurship challenge*” OR “Digitalisation in entrepreneurship*” OR “Digital platform*”) and TITLE-ABS-KEY (“Digital Entrepreneurship”) AND (“Digital technolog*” OR “Digital entrepreneurship opportunity*” OR “Digital entrepreneurship challenge*” OR “Digitalisation in entrepreneurship*” OR “Digital platform*”) AND (LIMIT-TO (SUBJAREA, “ECON”) OR LIMIT-TO (SUBJAREA, “SOCT”) OR LIMIT-TO (SUBJAREA, “BUSI”) OR LIMIT-TO (SUBJAREA, “COMP”) OR LIMIT-TO (SUBJAREA, “DECT”) OR LIMIT-TO (SUBJAREA, “ENGI”), respectively. The results of these searches revealed many relevant information.

We recognise earlier literature reviews (Kraus *et al.*, 2019a, b, c; 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

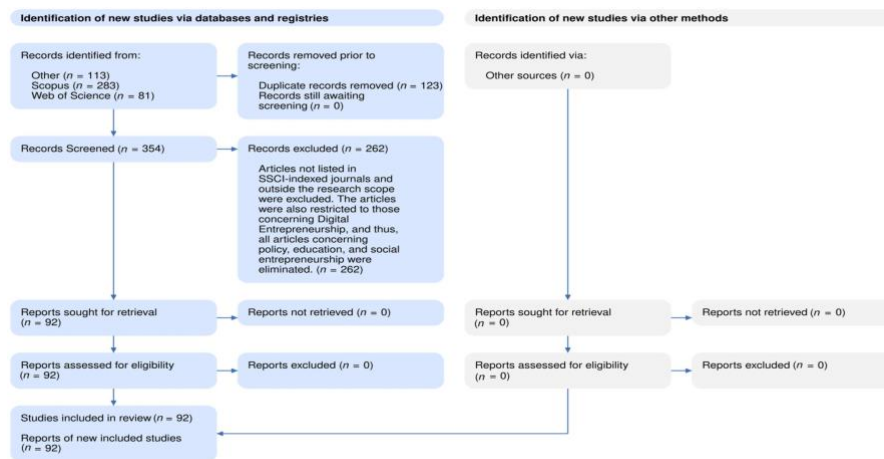


Figure 1.
Digital entrepreneurship PRISMA diagram

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.*, 2022a, b). 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.

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. Amongst 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, whilst 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.

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., 2019a, b, c, 2022, 2023](#); [Kreuzer et al., 2022](#); [Martinez Dy et al., 2018](#); [Richter et al., 2017](#); [Satalkina and Steiner, 2020](#)).

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 Rasiene, 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

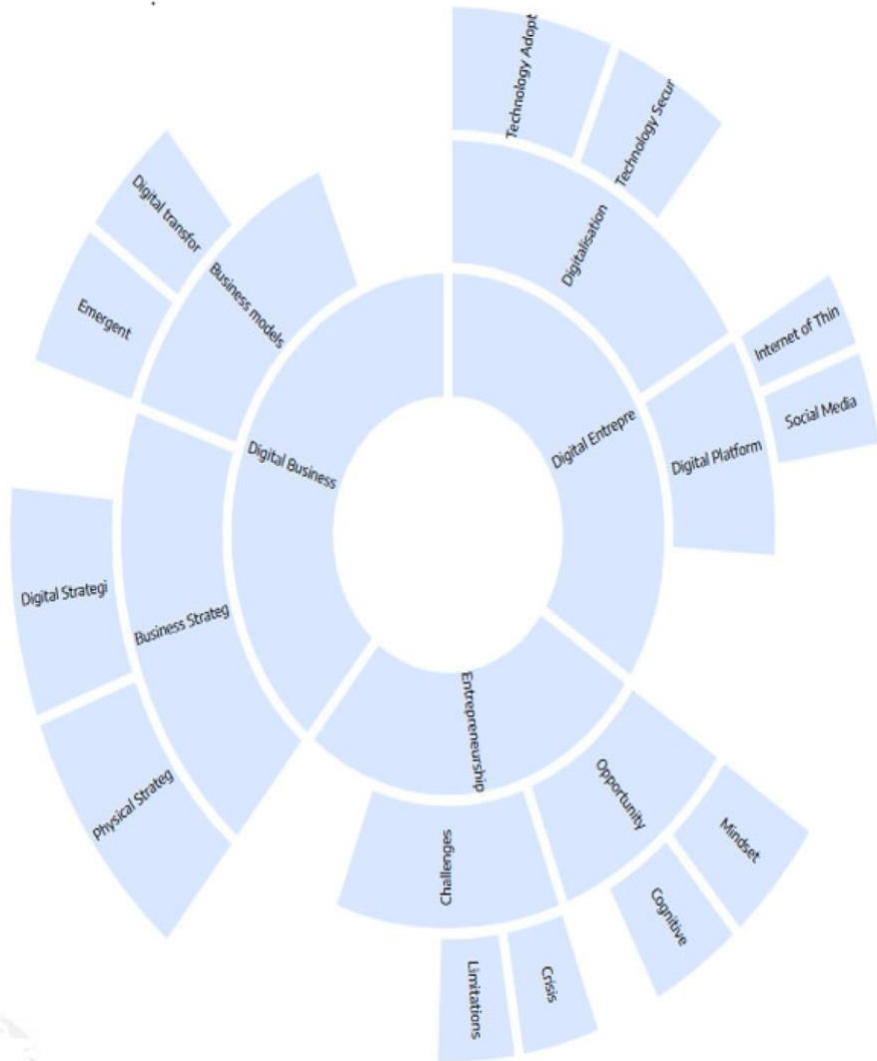


Figure 2.
Articles included in
tagging nodes

Source(s): Author's own creation/work

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.

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"

| 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 <i>et al.</i> (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 <i>et al.</i> (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 <i>et al.</i> (2018) | Emancipation through digital entrepreneurship? A critical realist analysis. https://doi.org/10.1177/1350508418777891 |

Source(s): Author's own creation/work

Table 1.
Articles included in tagging digital entrepreneurship attributes

| S.No. | List of author (s) | Title |
|-------|-----------------------------------|--|
| 1 | Jawad <i>et al.</i> (2021) | Era of digital revolution: Digital entrepreneurship and digital transformation in emerging economies. https://doi.org/10.1002/bsd2.145 |
| 2 | Baranauskas and Rai-siene_ (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 | Souza <i>et al.</i> (2022) | Agile Roadmapping: A management Tool for Digital Entrepreneurship. http://doi.org/10.1109/TEM.2020.3027918 |
| 6 | Manjon <i>et al.</i> (2022) | Green and digital entrepreneurship in smart cities. https://doi.org/10.1007/s00168-021-01080-z |
| 7 | Beliaeva <i>et al.</i> (2020) | Dynamics of digital entrepreneurship and the innovation ecosystem: A multilevel perspective. https://doi.org/10.1108/IJEBR-06-2019-0397 |
| 8 | Gabrielsson <i>et al.</i> (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 |

Source(s): Author's own creation/work

Table 2.
Articles included in tagging digital business attributes

(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) and “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, whilst 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, whilst 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.*, 2019a, b, c). 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 levels 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 levels 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.

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 revitalisation 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).

| 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 <i>et al.</i> (2023) | Digital platforms and entrepreneurial support: a field experiment in online mentoring. https://doi.org/10.1007/s11187-022-00704-8 |
| 3 | Modgil <i>et al.</i> (2022) | Has COVID-19 accelerated opportunities for digital entrepreneurship? An Indian perspective. https://doi.org/10.1016/j.techfore.2021.121415 |
| 4 | Cornet <i>et al.</i> (2023) | 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 <i>et al.</i> (2019) | Digital entrepreneurship: An interdisciplinary structured literature review and research agenda. https://doi.org/10.1016/j.techfore.2019.119735 |
| 6 | Martinez Dy <i>et al.</i> (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 <i>et al.</i> (2019b) | Digital entrepreneurship: A research agenda on new business models for the twenty-first century. https://doi.org/10.1108/IJEBR-06-2018-0425 |

Source(s): Author’s own creation/work

Table 3. Articles included in tagging entrepreneurship attributes

Digital entrepreneurs 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) and 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 amongst 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.*, 2022a, b). 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. Whilst 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 digitalisation make it possible for brand new forms of social and economic engagement. This contribution can be transferred to the levels of the entrepreneurial environment, given that openness in entrepreneurship has been shown to increase socioeconomic welfare (Zupic and Cater, 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.*, 2021a, b). 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.

References

- Abubakre, M., Faik, I. and Mkansi, M. (2021), "Digital entrepreneurship and indigenous value systems: an Ubuntu perspective", *Information Systems Journal*, Vol. 31 No. 6, pp. 838-862, doi: [10.1111/isj.12343](https://doi.org/10.1111/isj.12343).
- Abubakre, M., Zhou, Y. and Zhou, Z. (2022), "The impact of information technology culture and personal innovativeness in information technology on digital entrepreneurship success", *Information Technology and People*, Vol. 35 No. 1, pp. 204-231, doi: [10.1108/ITP-01-2020-0002](https://doi.org/10.1108/ITP-01-2020-0002).
- Adusumilli, G., Pederson, J.M., Hardy, N., Kallmes, K.M., Hutchison, K., Kobeissi, H., Heiferman, D.M. and Heit, J.J. (2021), "Mechanical thrombectomy with and without intravenous tissue plasminogen activator for acute ischemic stroke: a systematic review and meta-analysis using nested knowledge", *Frontiers in Neurology*, Vol. 12, doi: [10.3389/fneur.2021.759759](https://doi.org/10.3389/fneur.2021.759759).
- Adusumilli, G., Pederson, J.M., Hardy, N., Kallmes, K.M., Hutchison, K., Kobeissi, H., Heiferman, D.M., Kallmes, D., Brinjikji, W., Albers, G.W. and Heit, J.J. (2022), "Endovascular therapy versus medical therapy alone for basilar artery stroke: a systematic review and meta-analysis through nested knowledge", *Stroke: Vascular and Interventional Neurology*, Vol. 2 No. 3, e000147, doi: [10.1161/svin.121.000147](https://doi.org/10.1161/svin.121.000147).
- Aldrich, H.E. (2004), *Teams. Teoksessa: Handbook of Entrepreneurial Dynamics. The Process of Business Creation*, Toim. William B. Gartner–Kelly G. Shaver–Carter, Nancy M.–Reynolds, Paul D., 299-310, Sage Publications, Thousand Oaks, CA.
- Ammirato, S., Sofu, F., Felicetti, A.M., Helander, N. and Aramo-Immonen, H. (2020), "A new typology to characterize Italian digital entrepreneurs", *International Journal of Entrepreneurial Behavior and Research*, Vol. 26 No. 2, pp. 224-245, doi: [10.1108/IJEBR-02-2019-0105](https://doi.org/10.1108/IJEBR-02-2019-0105).
- Anim-Yeboah, S., Boateng, R., Awuni Kolog, E., Owusu, A. and Bedi, I. (2020), "Digital entrepreneurship in business enterprises: a systematic review", in Hattings, M., Matthee, M., Smuts, H., Pappas, I., Dwivedi, Y.K. and M€antym€aki, M. (Eds), *Responsible Design, Implementation and Use of Information and Communication Technology*, Springer International Publishing, Cham, pp. 192-203.
- Arakpogun, E.O., Rodrigo, P. and Olan, F. (2022), "'You shall not pass' without a jab: an institutional theory perspective to COVID-19 vaccine passport policies", *International Journal of Environmental Research and Public Health*, Vol. 19 No. 21, doi: [10.3390/ijerph192114105](https://doi.org/10.3390/ijerph192114105).
- Arrow, H., McGrath, J.E. and Berdahl, J.L. (2000), *Small Groups as Complex Systems: Formation, Coordination, Development, and Adaptation*, Sage Publications, Inc, doi: [10.4135/9781452204666](https://doi.org/10.4135/9781452204666).
- Arvidsson, V. and Mønsted, T. (2018), "Generating innovation potential: how digital entrepreneurs conceal, sequence, anchor, and propagate new technology", *The Journal of Strategic Information Systems*, Vol. 27 No. 4, pp. 369-383, doi: [10.1016/j.jsis.2018.10.001](https://doi.org/10.1016/j.jsis.2018.10.001).
- Audretsch, D.B. and Keilbach, M. (2004), "Does entrepreneurship capital matter?", *Entrepreneurship Theory and Practice*, Vol. 28 No. 5, pp. 419-430, doi: [10.1111/j.1540-6520.2004.00055.x](https://doi.org/10.1111/j.1540-6520.2004.00055.x).
- Baig, U., Hussain, B.M., Meidute-Kavaliauskiene, I. and Davidavicius, S. (2022), "Digital entrepreneurship: future research directions and opportunities for new business model", *Sustainability*, Vol. 14 No. 9, p. 5004, doi: [10.3390/su14095004](https://doi.org/10.3390/su14095004).
- Bailetti, T. (2012), "Technology entrepreneurship: overview, definition, and distinctive aspects", *Technology Innovation Management Review*, Vol. 2 No. 2, pp. 5-12, doi: [10.22215/timreview/520](https://doi.org/10.22215/timreview/520).

- Bandara, F., Jayawickrama, U., Subasinghage, M., Olan, F., Alamoudi, H. and Alharthi, M. (2023), "Enhancing ERP responsiveness through big data technologies: an empirical investigation", *Information Systems Frontiers*, Vol. 26 No. 1, pp. 251-275, doi: [10.1007/s10796-023-10374-w](https://doi.org/10.1007/s10796-023-10374-w).
- Baranauskas, G. and Rai-siene, A.G. (2022), "Transition to digital entrepreneurship with a quest of sustainability: development of a new conceptual framework", *Sustainability*, Vol. 14 No. 3, p. 1104, doi: [10.3390/su14031104](https://doi.org/10.3390/su14031104).
- Basly, S. and Hammouda, A. (2020), "Family businesses and digital entrepreneurship adoption: a conceptual model", *The Journal of Entrepreneurship*, Vol. 29 No. 2, pp. 326-364, doi: [10.1177/0971355720930573](https://doi.org/10.1177/0971355720930573).
- Beckman, C., Eisenhardt, K., Kotha, S., Meyer, A. and Rajagopalan, N. (2012), "Technology entrepreneurship", *Strategic Entrepreneurship Journal*, Vol. 6 No. 2, pp. 89-93, doi: [10.1002/sej.1134](https://doi.org/10.1002/sej.1134).
- Beliaeva, T., Ferasso, M., Kraus, S. and Damke, E.J. (2020), "Dynamics of digital entrepreneurship and the innovation ecosystem", *International Journal of Entrepreneurial Behavior and Research*, Vol. 26 No. 2, pp. 266-284, doi: [10.1108/IJEER-06-2019-0397](https://doi.org/10.1108/IJEER-06-2019-0397).
- Berger, E.S.C., von Briel, F., Davidsson, P. and Kuckertz, A. (2021), "Digital or not – the future of entrepreneurship and innovation: introduction to the special issue", *Journal of Business Research*, Vol. 125, pp. 436-442, doi: [10.1016/j.jbusres.2019.12.020](https://doi.org/10.1016/j.jbusres.2019.12.020).
- Bican, P.M. and Brem, A. (2020), "Digital business model, digital transformation, digital entrepreneurship: is there A sustainable "digital"?", *Sustainability*, Vol. 12 No. 13, p. 5239, doi: [10.3390/su12135239](https://doi.org/10.3390/su12135239).
- Boell, S.K. and Cecez-Kecmanovic, D. (2015), "Debating systematic literature reviews (SLR) and their ramifications for IS: a rejoinder to Mike Chiasson, Briony Oates, Ulrike Schultze, and Richard Watson", *Journal of Information Technology*, Vol. 30 No. 2, pp. 188-193, doi: [10.1057/jit.2015.15](https://doi.org/10.1057/jit.2015.15).
- Carraher, S., Carraher, S. and Whitely, W. (2003), "Global entrepreneurship, income, and work norms: a seven country study", *Academy of Entrepreneurship Journal*, Vol. 9 No. 1, pp. 31-42.
- Cavallo, A., Ghezzi, A., Dell’Era, C. and Pellizzoni, E. (2019), "Fostering digital entrepreneurship from startup to scaleup: the role of venture capital funds and angel groups", *Technological Forecasting and Social Change*, Vol. 145, pp. 24-35, doi: [10.1016/j.techfore.2019.04.022](https://doi.org/10.1016/j.techfore.2019.04.022).
- Chae, B. and Goh, G. (2020), "Digital entrepreneurs in artificial intelligence and data analytics: who are they?", *Journal of Open Innovation: Technology, Market, and Complexity*, Vol. 6 No. 3, p. 56, doi: [10.3390/joitmc6030056](https://doi.org/10.3390/joitmc6030056).
- Constantin, F. and Kavoura, A. (2022), "Digital entrepreneurship via sustainable online communication of dentistry profession, Oradea, Romania: a longitudinal analysis", *Sustainability*, Vol. 14 No. 2, p. 802, doi: [10.3390/su14020802](https://doi.org/10.3390/su14020802).
- Cornet, D., Bonnet, J. and Bourdin, S. (2023), "Digital entrepreneurship indicator (DEI): an analysis of the case of the greater Paris metropolitan area", *The Annals of Regional Science*, Vol. 71 No. 3, pp. 697-724, doi: [10.1007/s00168-022-01175-1](https://doi.org/10.1007/s00168-022-01175-1).
- Davidsson, P. and Wiklund, J. (2007), "Levels of analysis in entrepreneurship research: current research practice and suggestions for the future*", in Cuervo, A., Ribeiro, D. and Roig, S. (Eds), *Entrepreneurship: Concepts, Theory and Perspective*, Springer Berlin Heidelberg, Berlin, Heidelberg.
- Doganova, L. and Eyquem-Renault, M. (2009), "What do business models do? Innovation devices in technology entrepreneurship", *Research Policy*, Vol. 38 No. 10, pp. 1559-1570, doi: [10.1016/j.respol.2009.08.002](https://doi.org/10.1016/j.respol.2009.08.002).
- Drouillard, M. (2017), "Addressing voids: how digital start-ups in Kenya create market infrastructure", *Digital Kenya*, pp. 97-131, doi: [10.1057/978-1-137-57878-5_4](https://doi.org/10.1057/978-1-137-57878-5_4).
- Fernandes, C., Ferreira, J.J., Veiga, P.M., Kraus, S. and Dabi,c, M. (2022), "Digital entrepreneurship platforms: mapping the field and looking towards a holistic approach", *Technology in Society*, Vol. 70, doi: [10.1016/j.techsoc.2022.101979](https://doi.org/10.1016/j.techsoc.2022.101979).

- Ferreira, J.J., Ferreira, F.A., Fernandes, C.I., Jalali, M.S., Raposo, M.L. and Marques, C.S. (2016), "What do we [not] know about technology entrepreneurship research?", *International Entrepreneurship and Management Journal*, Vol. 12 No. 3, pp. 713-733, doi: [10.1007/s11365-015-0359-2](https://doi.org/10.1007/s11365-015-0359-2).
- Florida, R. and Kenney, M. (1988), "Venture capital and high technology entrepreneurship", *Journal of Business Venturing*, Vol. 3 No. 4, pp. 301-319, doi: [10.1016/0883-9026\(88\)90011-0](https://doi.org/10.1016/0883-9026(88)90011-0).
- Gabrielsson, M., Raatikainen, M. and Julkunen, S. (2022), "Accelerated internationalization among inexperienced digital entrepreneurs: toward a holistic entrepreneurial decision-making model", *Management International Review*, Vol. 62 No. 2, pp. 137-168, doi: [10.1007/s11575-022-00469-y](https://doi.org/10.1007/s11575-022-00469-y).
- Geissinger, A., Laurell, C., Sandström, C., Eriksson, K. and Nykvist, R. (2019), "Digital entrepreneurship and field conditions for institutional change— Investigating the enabling role of cities", *Technological Forecasting and Social Change*, Vol. 146, pp. 877-886, doi: [10.1016/j.techfore.2018.06.019](https://doi.org/10.1016/j.techfore.2018.06.019).
- He, X. (2019), "Digital entrepreneurship solution to rural poverty: theory, practice and policy implications", *Journal of Developmental Entrepreneurship*, Vol. 24 No. 01, doi: [10.1142/S1084946719500043](https://doi.org/10.1142/S1084946719500043).
- Helfat, C.E. and Raubitschek, R.S. (2018), "Dynamic and integrative capabilities for profiting from innovation in digital platform-based ecosystems", *Research Policy*, Vol. 47 No. 8, pp. 1391-1399, doi: [10.1016/j.respol.2018.01.019](https://doi.org/10.1016/j.respol.2018.01.019).
- Hemsley-Brown, J. (2023), "Antecedents and consequences of brand attachment: a literature review and research agenda", *International Journal of Consumer Studies*, Vol. 47 No. 2, pp. 611-628, doi: [10.1111/ijcs.12853](https://doi.org/10.1111/ijcs.12853).
- Jawad, M., Naz, M. and Maroof, Z. (2021), "Era of digital revolution: digital entrepreneurship and digital transformation in emerging economies", *Business Strategy and Development*, Vol. 4 No. 3, pp. 220-228, doi: [10.1002/bsd2.145](https://doi.org/10.1002/bsd2.145).
- Jha, A., Sindhwani, R., Dwivedi, A. and Saddikuti, V. (2022), "Sustainable recovery for digital entrepreneurs with shared resources: enablers, challenges and solutions", *Journal of Asia Business Studies*, Vol. 16 No. 3, pp. 515-537, doi: [10.1108/JABS-05-2021-0214](https://doi.org/10.1108/JABS-05-2021-0214).
- Kang, H.Y. (2022), "Technological engagement of women entrepreneurs on online digital platforms: evidence from the Apple iOS App Store", *Technovation*, Vol. 114, doi: [10.1016/j.technovation.2022.102522](https://doi.org/10.1016/j.technovation.2022.102522).
- Karahanna, E., Straub, D.W. and Chervany, N.L. (1999), "Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs", *MIS Quarterly*, Vol. 23 No. 2, pp. 183-213, doi: [10.2307/249751](https://doi.org/10.2307/249751).
- Kraus, S., Breier, M. and Das, I-Rodríguez, S. (2020), "The art of crafting a systematic literature review in entrepreneurship research", *International Entrepreneurship and Management Journal*, Vol. 16 No. 3, pp. 1023-1042, doi: [10.1007/s11365-020-00635-4](https://doi.org/10.1007/s11365-020-00635-4).
- Kraus, S., Breier, M., Lim, W.M., Dabic, M., Kumar, S., Kanbach, D., Mukherjee, D., Corvello, V., Pinheiro-Chousa, J., Liguori, E., Palacios-Marques, D., Schiavone, F., Ferraris, A., Fernandes, C. and Ferreira, J.J. (2022), "Literature reviews as independent studies: guidelines for academic practice", *Review of Managerial Science*, Vol. 16 No. 8, pp. 2577-2595, doi: [10.1007/s11846-022-00588-8](https://doi.org/10.1007/s11846-022-00588-8).
- Kraus, S., Mahto, R.V. and Walsh, S.T. (2023), "The importance of literature reviews in small business and entrepreneurship research", *Journal of Small Business Management*, Vol. 61 No. 3, pp. 1095-1106, doi: [10.1080/00472778.2021.1955128](https://doi.org/10.1080/00472778.2021.1955128).
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F.L. and Spitzer, J. (2019a), "Digital entrepreneurship", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 2, pp. 353-375, doi: [10.1108/IJEBR-06-2018-0425](https://doi.org/10.1108/IJEBR-06-2018-0425).
- Kraus, S., Palmer, C., Kailer, N., Kallinger, F.L. and Spitzer, J. (2019b), "Digital entrepreneurship: a research agenda on new business models for the twenty-first century", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 2, pp. 353-375.

- Kraus, S., Roig-Tierno, N. and Bouncken, R.B. (2019c), "Digital innovation and venturing: an introduction into the digitalization of entrepreneurship", *Review of Managerial Science*, Vol. 13 No. 3, pp. 519-528, doi: [10.1007/s11846-019-00333-8](https://doi.org/10.1007/s11846-019-00333-8).
- Kreuzer, T., Lindenthal, A.-K., Oberlander, A.M. and Röglinger, M. (2022), "The effects of digital technology on opportunity recognition", *Business and Information Systems Engineering*, Vol. 64 No. 1, pp. 47-67, doi: [10.1007/s12599-021-00733-9](https://doi.org/10.1007/s12599-021-00733-9).
- Lai, P.C. (2017), "The literature review of technology adoption models and theories for the novelty technology", *JISTEM - Journal of Information Systems and Technology Management*, Vol. 14 No. 1, pp. 21-38, doi: [10.4301/s1807-17752017000100002](https://doi.org/10.4301/s1807-17752017000100002).
- Lall, S.A., Chen, L.-W. and Mason, D.P. (2023), "Digital platforms and entrepreneurial support: a field experiment in online mentoring", *Small Business Economics*, Vol. 61 No. 2, pp. 631-654, doi: [10.1007/s11187-022-00704-8](https://doi.org/10.1007/s11187-022-00704-8).
- Lee, S.-G., Trimi, S. and Kim, C. (2013), "The impact of cultural differences on technology adoption", *Journal of World Business*, Vol. 48 No. 1, pp. 20-29, doi: [10.1016/j.jwb.2012.06.003](https://doi.org/10.1016/j.jwb.2012.06.003).
- Li, L., Su, F., Zhang, W. and Mao, J.-Y. (2018), "Digital transformation by SME entrepreneurs: a capability perspective", *Information Systems Journal*, Vol. 28 No. 6, pp. 1129-1157, doi: [10.1111/isj.12153](https://doi.org/10.1111/isj.12153).
- Li, W., Du, W. and Yin, J. (2017), "Digital entrepreneurship ecosystem as a new form of organizing: the case of Zhongguancun", *Frontiers of Business Research in China*, Vol. 11, pp. 1-21, doi: [10.1186/s11782-017-0004-8](https://doi.org/10.1186/s11782-017-0004-8).
- Liberati, A., Altman, D.G., Tetzlaff, J., Mulrow, C., Gøtzsche, P.C., Ioannidis, J.P., Clarke, M., Devereaux, P.J., Kleijnen, J. and Moher, D. (2009), "The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration", *Annals of Internal Medicine*, Vol. 151 No. 4, pp. W65-W94, doi: [10.7326/0003-4819-151-4-200908180-00136](https://doi.org/10.7326/0003-4819-151-4-200908180-00136).
- Lin, Y.-K. and Maruping, L.M. (2022), "Open source collaboration in digital entrepreneurship", *Organization Science*, Vol. 33 No. 1, pp. 212-230, doi: [10.1287/orsc.2021.1538](https://doi.org/10.1287/orsc.2021.1538).
- Manjon, M., Aouni, Z. and Crutzen, N. (2022), "Green and digital entrepreneurship in smart cities", *The Annals of Regional Science*, Vol. 68 No. 2, pp. 429-462, doi: [10.1007/s00168-021-01080-z](https://doi.org/10.1007/s00168-021-01080-z).
- Margiono, A., Zolin, R. and Chang, A. (2018), "A typology of social venture business model configurations", *International Journal of Entrepreneurial Behavior and Research*, Vol. 24 No. 3, pp. 626-650, doi: [10.1108/ijeb-09-2016-0316](https://doi.org/10.1108/ijeb-09-2016-0316).
- Mariani, M.M., Machado, I., Magrelli, V. and Dwivedi, Y.K. (2022a), "Artificial intelligence in innovation research: a systematic review, conceptual framework, and future research directions", *Technovation*, Vol. 122, doi: [10.1016/j.technovation.2022.102623](https://doi.org/10.1016/j.technovation.2022.102623).
- Mariani, M.M., Machado, I. and Nambisan, S. (2023), "Types of innovation and artificial intelligence: a systematic quantitative literature review and research agenda", *Journal of Business Research*, Vol. 155, doi: [10.1016/j.jbusres.2022.113364](https://doi.org/10.1016/j.jbusres.2022.113364).
- Mariani, M.M., Perez-Vega, R. and Wirtz, J. (2022b), "AI in marketing, consumer research and psychology: a systematic literature review and research agenda", *Psychology and Marketing*, Vol. 39 No. 4, pp. 755-776, doi: [10.1002/mar.21619](https://doi.org/10.1002/mar.21619).
- Martinez Dy, A., Martin, L. and Marlow, S. (2018), "Emancipation through digital entrepreneurship? A critical realist analysis", *Organization*, Vol. 25 No. 5, pp. 585-608, doi: [10.1177/1350508418777891](https://doi.org/10.1177/1350508418777891).
- McAdam, M., Crowley, C. and Harrison, R.T. (2019), "To boldly go where no [man] has gone before" - Institutional voids and the development of women's digital entrepreneurship", *Technological Forecasting and Social Change*, Vol. 146, pp. 912-922, doi: [10.1016/j.techfore.2018.07.051](https://doi.org/10.1016/j.techfore.2018.07.051).
- McAdam, M., Crowley, C. and Harrison, R.T. (2020), "Digital girl: cyberfeminism and the emancipatory potential of digital entrepreneurship in emerging economies", *Small Business Economics*, Vol. 55 No. 2, pp. 349-362, doi: [10.1007/s11187-019-00301-2](https://doi.org/10.1007/s11187-019-00301-2).

- Mishra, S. and Tripathi, A. (2020), "Literature review on business prototypes for digital platform", *Journal of Innovation and Entrepreneurship*, Vol. 9, pp. 1-19, doi: [10.1186/s13731-020-00126-4](https://doi.org/10.1186/s13731-020-00126-4).
- Modgil, S., Dwivedi, Y.K., Rana, N.P., Gupta, S. and Kamble, S. (2022), "Has Covid-19 accelerated opportunities for digital entrepreneurship? An Indian perspective", *Technological Forecasting and Social Change*, Vol. 175, doi: [10.1016/j.techfore.2021.121415](https://doi.org/10.1016/j.techfore.2021.121415).
- Moher, D., Cook, D.J., Eastwood, S., Olkin, I., Rennie, D. and Stroup, D.F. (1999), "Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement", *The Lancet*, Vol. 354 No. 9193, pp. 1896-1900, doi: [10.1016/s0140-6736\(99\)04149-5](https://doi.org/10.1016/s0140-6736(99)04149-5).
- Mosey, S., Guerrero, M. and Greenman, A. (2017), "Technology entrepreneurship research opportunities: insights from across Europe", *The Journal of Technology Transfer*, Vol. 42, pp. 1-9, doi: [10.1007/s10961-015-9462-3](https://doi.org/10.1007/s10961-015-9462-3).
- Nambisan, S. (2017), "Digital entrepreneurship: toward a digital technology perspective of entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 41 No. 6, pp. 1029-1055, doi: [10.1111/etap.12254](https://doi.org/10.1111/etap.12254).
- Nambisan, S. and Baron, R.A. (2021), "On the costs of digital entrepreneurship: role conflict, stress, and venture performance in digital platform-based ecosystems", *Journal of Business Research*, Vol. 125, pp. 520-532, doi: [10.1016/j.jbusres.2019.06.037](https://doi.org/10.1016/j.jbusres.2019.06.037).
- Nambisan, S., Wright, M. and Feldman, M. (2019), "The digital transformation of innovation and entrepreneurship: progress, challenges and key themes", *Research Policy*, Vol. 48 No. 8, 103773, doi: [10.1016/j.respol.2019.03.018](https://doi.org/10.1016/j.respol.2019.03.018).
- Novandari, W. and Puspasari, N. (2021), "Antecedents and consequences of user satisfaction in startup application as digital entrepreneurship in Indonesia", *Quality-Access to Success*, Vol. 22 No. 185.
- Nzembayie, K.F., Buckley, A.P. and Cooney, T. (2019), "Researching pure digital entrepreneurship – a multimethod insider action research approach", *Journal of Business Venturing Insights*, Vol. 11, e00103, doi: [10.1016/j.jbvi.2018.e00103](https://doi.org/10.1016/j.jbvi.2018.e00103).
- O'Farrell, R. and Montagnier, P. (2020), "Measuring digital platform-mediated workers", *New Technology, Work and Employment*, Vol. 35 No. 1, pp. 130-144, doi: [10.1111/ntwe.12155](https://doi.org/10.1111/ntwe.12155).
- Onjewu, A.-K.E., Olan, F., Nyuur, R. B.-B.-I., Paul, S. and Nguyen, H.T.T. (2023), "The effect of government support on Bureaucracy, COVID-19 resilience and export intensity: evidence from North Africa", *Journal of Business Research*, Vol. 156, 113468, doi: [10.1016/j.jbusres.2022.113468](https://doi.org/10.1016/j.jbusres.2022.113468).
- Palmer, C., Kraus, S., Kailer, N., Huber, L. and Gner, Z.H. (2021), "Entrepreneurial burnout: a systematic review and research map", *International Journal of Entrepreneurship and Small Business*, Vol. 43 No. 3, pp. 438-461, doi: [10.1504/ijesb.2021.115883](https://doi.org/10.1504/ijesb.2021.115883).
- Paul, J., Lim, W.M., O'Cass, A., Hao, A.W. and Bresciani, S. (2021a), "Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR)", *International Journal of Consumer Studies*, Vol. 45 No. 4, pp. O1-O16, doi: [10.1111/ijcs.12695](https://doi.org/10.1111/ijcs.12695).
- Paul, J., Merchant, A., Dwivedi, Y.K. and Rose, G. (2021b), "Writing an impactful review article: what do we know and what do we need to know?", *Journal of Business Research*, Vol. 133, pp. 337-340, doi: [10.1016/j.jbusres.2021.05.005](https://doi.org/10.1016/j.jbusres.2021.05.005).
- Paul, J., Alhassan, I., Binsarif, N. and Singh, P. (2023), "Digital entrepreneurship research: a systematic review", *Journal of Business Research*, Vol. 156, doi: [10.1016/j.jbusres.2022.113507](https://doi.org/10.1016/j.jbusres.2022.113507).
- Reuschke, D. and Mason, C. (2022), "The engagement of home-based businesses in the digital economy", *Futures*, Vol. 135, doi: [10.1016/j.futures.2020.102542](https://doi.org/10.1016/j.futures.2020.102542).
- Richter, C., Kraus, S., Brem, A., Durst, S. and Giselsbrecht, C. (2017), "Digital entrepreneurship: innovative business models for the sharing economy", *Creativity and Innovation Management*, Vol. 26 No. 3, pp. 300-310, doi: [10.1111/caim.12227](https://doi.org/10.1111/caim.12227).
- Rosin, A.F., Proksch, D., Stubner, S. and Pinkwart, A. (2020), "Digital new ventures: assessing the benefits of digitalization in entrepreneurship", *Journal of Small Business Strategy (Archive Only)*, Vol. 30 No. 2, pp. 59-71.

- Sahut, J.-M., Iandoli, L. and Teulon, F. (2021), "The age of digital entrepreneurship", *Small Business Economics*, Vol. 56 No. 3, pp. 1159-1169, doi: [10.1007/s11187-019-00260-8](https://doi.org/10.1007/s11187-019-00260-8).
- Satalkina, L. and Steiner, G. (2020), "Digital entrepreneurship and its role in innovation systems: a systematic literature review as a basis for future research avenues for sustainable transitions", *Sustainability*, Vol. 12 No. 7, p. 2764, doi: [10.3390/su12072764](https://doi.org/10.3390/su12072764).
- Sauer, P.C. and Seuring, S. (2023), "How to conduct systematic literature reviews in management research: a guide in 6 steps and 14 decisions", *Review of Managerial Science*, Vol. 17 No. 5, pp. 1-35, doi: [10.1007/s11846-023-00668-3](https://doi.org/10.1007/s11846-023-00668-3).
- Schiavone, F., Tutore, I. and Cucari, N. (2020), "How digital user innovators become entrepreneurs: a sociomaterial analysis", *Technology Analysis and Strategic Management*, Vol. 32 No. 6, pp. 683-696, doi: [10.1080/09537325.2019.1696955](https://doi.org/10.1080/09537325.2019.1696955).
- Secundo, G., Rippa, P. and Cerchione, R. (2020), "Digital Academic Entrepreneurship: a structured literature review and avenue for a research agenda", *Technological Forecasting and Social Change*, Vol. 157, 120118, doi: [10.1016/j.techfore.2020.120118](https://doi.org/10.1016/j.techfore.2020.120118).
- Smith, C., Smith, J.B. and Shaw, E. (2017), "Embracing digital networks: entrepreneurs' social capital online", *Journal of Business Venturing*, Vol. 32 No. 1, pp. 18-34, doi: [10.1016/j.jbusvent.2016.10.003](https://doi.org/10.1016/j.jbusvent.2016.10.003).
- Soluk, J., Kammerlander, N. and Darwin, S. (2021), "Digital entrepreneurship in developing countries: the role of institutional voids", *Technological Forecasting and Social Change*, Vol. 170, 120876, doi: [10.1016/j.techfore.2021.120876](https://doi.org/10.1016/j.techfore.2021.120876).
- Song, A.K. (2019), "The digital entrepreneurial ecosystem—a critique and reconfiguration", *Small Business Economics*, Vol. 53 No. 3, pp. 569-590, doi: [10.1007/s11187-019-00232-y](https://doi.org/10.1007/s11187-019-00232-y).
- Souza, M.L.P.D., Souza, W. C.D., Freitas, J.S., Filho, L.D.R.D.M. and Bagno, R.B. (2022), "Agile roadmapping: a management tool for digital entrepreneurship", *IEEE Transactions on Engineering Management*, Vol. 69 No. 1, pp. 94-108, doi: [10.1109/TEM.2020.3027918](https://doi.org/10.1109/TEM.2020.3027918).
- Spiegel, M. and Marxt, C. (2011), "Defining technology entrepreneurship", *2011 IEEE International Conference on Industrial Engineering and Engineering Management*, IEEE, pp. 1623-1627.
- Spiegel, O., Abbassi, P., Zylka, M.P., Schlagwein, D., Fischbach, K. and Schoder, D. (2016), "Business model development, founders' social capital and the success of early stage internet start-ups: a mixed-method study", *Information Systems Journal*, Vol. 26 No. 5, pp. 421-449, doi: [10.1111/isj.12073](https://doi.org/10.1111/isj.12073).
- Srinivasan, A. and Venkatraman, N. (2018), "Entrepreneurship in digital platforms: a network-centric view", *Strategic Entrepreneurship Journal*, Vol. 12 No. 1, pp. 54-71, doi: [10.1002/sej.1272](https://doi.org/10.1002/sej.1272).
- Standing, C. and Mattsson, J. (2018), "'Fake it until you make it': business model conceptualization in digital entrepreneurship", *Journal of Strategic Marketing*, Vol. 26 No. 5, pp. 385-399, doi: [10.1080/0965254X.2016.1240218](https://doi.org/10.1080/0965254X.2016.1240218).
- Steininger, D.M. (2019), "Linking information systems and entrepreneurship: a review and agenda for IT-associated and digital entrepreneurship research", *Information Systems Journal*, Vol. 29 No. 2, pp. 363-407, doi: [10.1111/isj.12206](https://doi.org/10.1111/isj.12206).
- Sussan, F. and Acs, Z.J. (2017), "The digital entrepreneurial ecosystem", *Small Business Economics*, Vol. 49 No. 1, pp. 55-73, doi: [10.1007/s11187-017-9867-5](https://doi.org/10.1007/s11187-017-9867-5).
- Tranfield, D., Denyer, D. and Smart, P. (2003), "Towards a methodology for developing evidence-informed management knowledge by means of systematic review", *British Journal of Management*, Vol. 14 No. 3, pp. 207-222, doi: [10.1111/1467-8551.00375](https://doi.org/10.1111/1467-8551.00375).
- Troxler, P. and Wolf, P. (2017), "Digital maker-entrepreneurs in open design: what activities make up their business model?", *Business Horizons*, Vol. 60 No. 6, pp. 807-817, doi: [10.1016/j.bushor.2017.07.006](https://doi.org/10.1016/j.bushor.2017.07.006).
- Upadhyay, N., Upadhyay, S. and Dwivedi, Y.K. (2022), "Theorizing artificial intelligence acceptance and digital entrepreneurship model", *International Journal of Entrepreneurial Behavior and Research*, Vol. 28 No. 5, pp. 1138-1166, doi: [10.1108/IJEBr-01-2021-0052](https://doi.org/10.1108/IJEBr-01-2021-0052).

- Upadhyay, N., Upadhyay, S., Al-Debei, M.M., Baabdullah, A.M. and Dwivedi, Y.K. (2023), "The influence of digital entrepreneurship and entrepreneurial orientation on intention of family businesses to adopt artificial intelligence: examining the mediating role of business innovativeness", *International Journal of Entrepreneurial Behavior and Research*, Vol. 29 No. 1, pp. 80-115, doi: [10.1108/IJEBR-02-2022-0154](https://doi.org/10.1108/IJEBR-02-2022-0154).
- Vassilakopoulou, P. and Grisot, M. (2020), "Effectual tactics in digital intrapreneurship: a process model", *The Journal of Strategic Information Systems*, Vol. 29 No. 3, doi: [10.1016/j.jsis.2020.101617](https://doi.org/10.1016/j.jsis.2020.101617).
- Vorbach, S., Poandl, E. and Korajman, I. (2019), "Digital entrepreneurship education - the role of MOOCs", *International Journal of Engineering Pedagogy (iJEP)*, Vol. 9 No. 3, pp. 99-111, doi: [10.3991/ijep.v9i3.10149](https://doi.org/10.3991/ijep.v9i3.10149).
- Wilk, V., Cripps, H., Capatina, A., Micu, A. and Micu, A.-E. (2021), "The state of #digitalentrepreneurship: a big data Leximancer analysis of social media activity", *International Entrepreneurship and Management Journal*, Vol. 17 No. 4, pp. 1899-1916, doi: [10.1007/s11365-020-00729-z](https://doi.org/10.1007/s11365-020-00729-z).
- Yao, M. and Li, J. (2023), "The causal exploration of digital entrepreneurial psychological capital configurations based on fsQCA", *Journal of Innovation and Knowledge*, Vol. 8 No. 1, doi: [10.1016/j.jik.2022.100291](https://doi.org/10.1016/j.jik.2022.100291).
- Zaheer, H., Breyer, Y. and Dumay, J. (2019), "Digital entrepreneurship: an interdisciplinary structured literature review and research agenda", *Technological Forecasting and Social Change*, Vol. 148, doi: [10.1016/j.techfore.2019.119735](https://doi.org/10.1016/j.techfore.2019.119735).
- Zahra, S.A., Liu, W. and Si, S. (2023), "How digital technology promotes entrepreneurship in ecosystems", *Technovation*, Vol. 119, 102457, doi: [10.1016/j.technovation.2022.102457](https://doi.org/10.1016/j.technovation.2022.102457).
- Zhao, G., Olan, F., Liu, S., Hormazabal, J.H., Lopez, C., Zubairu, N., Zhang, J. and Chen, X. (2022), "Links between risk source identification and resilience capability building in agri-food supply chains: a comprehensive analysis", *IEEE Transactions on Engineering Management*, pp. 1-18, doi: [10.1109/TEM.2022.3221361](https://doi.org/10.1109/TEM.2022.3221361).
- Zupic, I. (2014), "The knowledge base of technology entrepreneurship", in *Handbook of Research on Techno-Entrepreneurship*, 2nd ed., Edward Elgar Publishing.
- Zupic, I. and Čater, T. (2015), "Bibliometric methods in management and organization", *Organizational Research Methods*, Vol. 18 No. 3, pp. 429-472, doi: [10.1177/1094428114562629](https://doi.org/10.1177/1094428114562629).