

THE INTRICATE FABRIC OF (DIGITAL) ENTREPRENEURSHIP STUDIES LED BY THEORIES

A INTRINCADA ESTRUTURA DOS ESTUDOS SOBRE EMPREENDEDORISMO (DIGITAL), ORIENTADOS POR FUNDAMENTOS TEÓRICOS

LA INTRINCADA ESTRUCTURA DE LOS ESTUDIOS SOBRE EMPREENDIMIENTO (DIGITAL), ORIENTADOS POR FUNDAMENTOS TEÓRICOS

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ABSTRACT

This study aims to map and discuss the theoretical foundations employed in entrepreneurship and digital entrepreneurship literature, revealing underexplored perspectives and overlaps that may support future research. We conducted an in-depth, systematic, and analytical literature review on the Knowledge Development Process - constructivist (ProKnow-C). Our findings identified 67 theories related to entrepreneurship and 93 to digital entrepreneurship, with 11 theories overlapping. The resource-based view remains dominant across both fields, while institutional theory emerged as the most frequently cited perspective in digital entrepreneurship. Future studies may expand to broader samples and complementary methods.



Keywords: entrepreneurship; theory; digital entrepreneurship, e-business; systematic literature review; future research

RESUMO

Este estudo tem como objetivo mapear e discutir os fundamentos teóricos utilizados na literatura sobre empreendedorismo e empreendedorismo digital, revelando perspectivas pouco exploradas. Foi realizada uma revisão sistemática, analítica e aprofundada da literatura com base no Processo de Desenvolvimento do Conhecimento – construtivista (ProKnow-C). Como resultados tivemos 67 teorias relacionadas ao empreendedorismo e 93 ao empreendedorismo digital, com 11 teorias coincidentes. A visão baseada em recursos permanece dominante, enquanto a teoria institucional destacou-se em empreendedorismo digital. Pesquisas futuras podem ampliar a amostra e incorporar métodos complementares.

Palavras-chave: empreendedorismo; teoria; empreendedorismo digital; e-business; revisão sistemática da literatura; pesquisas futuras.

RESUMEN

Este estudio tiene como objetivo mapear y discutir los fundamentos teóricos empleados en la literatura sobre emprendimiento y emprendimiento digital, revelando perspectivas poco exploradas. Se realizó una revisión sistemática, analítica y en profundidad de la literatura mediante el Proceso de Desarrollo del Conocimiento – constructivista (ProKnow-C). Los hallazgos identificaron 67 teorías relacionadas con el emprendimiento y 93 con el emprendimiento digital, con 11 teorías coincidentes. La visión basada en recursos sigue siendo dominante en ambos campos, mientras que la teoría institucional se destacó como la perspectiva más citada en el emprendimiento digital. Estudios futuros pueden ampliar la muestra e incorporar métodos complementarios.

Palabras clave: emprendimiento; teoría; emprendimiento digital; negocios electrónicos; revisión sistemática de la literatura; investigación futura

1 INTRODUCTION

Despite receiving attention, entrepreneurship has an ambitious agenda to understand its boundaries (BELITSKI et al., 2019; ELIA; MARGHERITA; PASSIANTE, 2020; FERNANDES et al., 2023). Over the last fifteen years, technologies such as platforms, social media, Internet of Things (IoT) and big data have allowed easier resource access, supported new products and service creation (LYYNTINEN et al., 2016). Further, technologies enabled new business models BRIEL; DAVIDSSON; RECKER, 2018) and supported the creation of new contexts where diverse stakeholders promote innovation (ELIA; MARGHERITA; PASSIANTE, 2020).



Hence, digital technologies have developed new projects and promoted entrepreneurial activity (BRIEL; DAVIDSSON; RECKER, 2018). The increasing availability of information and communications technology (ICT) has made e-entrepreneurship a reality (OUMLIL; JUIZ, 2018). Digital entrepreneurship is founded on new business opportunities presented by the Internet and technologies (DAVIDSON e VAAST, 2010). Therefore, digital businesses differ from other entrepreneurial endeavors (CAVALLO; COSENZA; NOTO, 2023). Authors have created groundwork for emerging digital entrepreneurship as a different research field (NAMBISAN, 2017; BRIEL; DAVIDSSON; RECKER, 2018; KRAUS; ROIG-TIERNO; BOUNCKEN, 2019). Further, scholars affirm the need for a systematic inventory of theoretical perspectives (ZAHEER; BREYER; DUMAY, 2019; ELIA; MARGHERITA; PASSIANTE, 2020; PAUL et al., 2023), which demands a depth analysis (ZAHEER; BREYER; DUMAY, 2019).

Organizations and individuals are increasingly alert to the rising opportunities promoted by digital transformation and entrepreneurship (KRAUS; ROIG-TIERNO; BOUNCKEN, 2019; RATTEN; USMANIJ, 2021). Digitalization is responsible for a momentous change in entrepreneurship, and it is imperative to understand the digital entrepreneurship process, platform strategies, digital ecosystems, entrepreneurship education and social digital entrepreneurship (KRAUS; ROIG-TIERNO; BOUNCKEN, 2019). For Berman et al. (2023), digital entrepreneurship is responsible for an increasing and prominent role in regional economic growth and development.

Digital entrepreneurship research has been fragmented (ELIA; MARGHERITA; PASSIANTE, 2020), divergent and embryonic, but the field is expressively expanding (ZAHEER; BREYER; DUMAY, 2019). Digital technology influences entrepreneurship theory and forces refreshment in theorizing (NAMBISAN, 2017). The emergence of digital platforms and new entrepreneurial environments has created novelty for theoretical perspectives for entrepreneurship studies (PAUL et al., 2023), and authors are asking for more remarkable theoretical studies (BELITSKI; AGINSKAJA; MAROZAU, 2019; ZHAI et al., 2023). Our analysis revealed that most entrepreneurship and digital entrepreneurship publications adopt an empirical orientation and exhibit limited theoretical engagement. Many studies focus on applied outcomes without explicitly grounding their findings in established theoretical frameworks or contributing to theory development. Theory-based research supports understanding complex entrepreneurial phenomena, and theoretically grounded



research provides insights into entrepreneurs and reduces the chance of mistakes. Also, theory-based research makes science evolve in this field, contributing to a deeper analysis intending to impact society significantly. Further, it can also give policymakers important information (ZAHRA, 2007).

Considering this, we created the following research questions (RQ1): What theories have informed prior entrepreneurship research? (RQ2): What theories have informed prior digital entrepreneurship research? Moreover, RQ3: What is the overlap between entrepreneurship and digital entrepreneurship theories?

The rest of this paper is organized to address those research questions: First, we present an overview of entrepreneurship and the DE concept. Then, we discuss the research method about literature search, filtering, and article selection. We present and discuss the results and findings, then draw conclusions to address the research questions.

2 SETTING THE SCENE: ENTREPRENEURSHIP AND DIGITAL ENTREPRENEURSHIP

Entrepreneurship has been seen as essential in a prominent economy, as it contributes in many ways to economic growth. Entrepreneurs are vibrant and risk-takers because they see market opportunities others do not foresee (RATTEN; USMANIJ, 2021). However, according to Kuratko (2011), entrepreneurship was seen as a new business practice. History has shown that in each downturn of the economy, entrepreneurs react by bringing it back. Entrepreneurs help improve product and service quality and advance new technologies in difficult times. They are a source of knowledge and guarantee that an economy remains innovative and competitive. For instance, the Global Entrepreneurship Monitor (GEM) studies presented that entrepreneurship promotes economic growth by expanding existing markets and creating new ones (KURATKO, 2011).

Digitalization brought a “major shift” from offline to online business and changed business activities. Moreover, digital technology modifies how businesses deliver value to their customers and generates new entrepreneurial opportunities (KRAUS; ROIG-TIERNO; BOUNCKEN, 2019). In this context emerges the concept of “digital entrepreneurship,” which explains new ventures and the transformation of existing

businesses by developing digital technologies. Although “Digital entrepreneurship” is a prominent field, there is no consensus in the literature about the definition (FERNANDES et al., 2022; PAUL et al., 2023). Berman et al. (2023) consider that the term itself experienced its breakthrough with Nambisan’s article in Entrepreneurship Theory & Practice, which has been cited about 2,000 times according to Google Scholar in less than 6 years since its publication.

Digital entrepreneurship has been seen as the process of creating a digital startup as a new business or within an established firm (McMullen & Dimov, 2013) through technology advancement (Hull et al., 2007) and use of digital media and other communication technologies (DAVIDSON; VAAST, 2010). Thereafter, Nambisan (2017) related “Digital Entrepreneurship” to platforms that use computer power on universal networks and Le Dinh et al. (2018) affirm that it emerged with the Internet and Information & Communications Technologies (ICT).

Even though the papers about digital entrepreneurship have increasing in the last years, there is room to explore the opportunities based on digital media and technologies (HOSU; LĂNCUHU, 2016; KRAUS; ROIG-TIERNO; BOUNCKEN, 2019; ELIA; MARGHERITA; PASSIANTE, 2020; CAPUTO et al., 2021; PAUL et al., 2023; FERNANDES et al., 2022). Caputo et al. (2021) wrote a bibliometric analysis of the field and made a science map to compile the leading journals, authors, and keywords, but they did not analyze the content. Paul et al. (2023) published a systematic literature review paper to generate insights into recent developments in the digital entrepreneurship field and identified the main themes, contexts, and methodologies. Still, more research has been required to evaluate digital entrepreneurship and explore the rapid evolution of this field (KRAUS; ROIG-TIERNO; BOUNCKEN, 2019; ZAHEER; BREYER; DUMAY, 2019; ELIA; MARGHERITA; PASSIANTE, 2020; BELITSKI; AGINSKAJA; MAROZAU, 2019; PAUL et al., 2023).

3 METHOD

High-quality and reliable data are essential to obtaining a satisfactory analysis result (CARVALHO; FLEURY; LOPES, 2013). The research instrument, the Knowledge Development Process - Constructivist (ProKnow-C) (ENSSLIN et al., 2010), was applied. This method enables the construction of knowledge and provides



research details that can help researchers in future investigations (ENSSLIN et al., 2010). All the data selection was set in January 2025. The bibliographic portfolio selection is divided into a raw papers bank, filtering, and bibliometric/systematic analysis. The steps included in each part are described in Figure 1

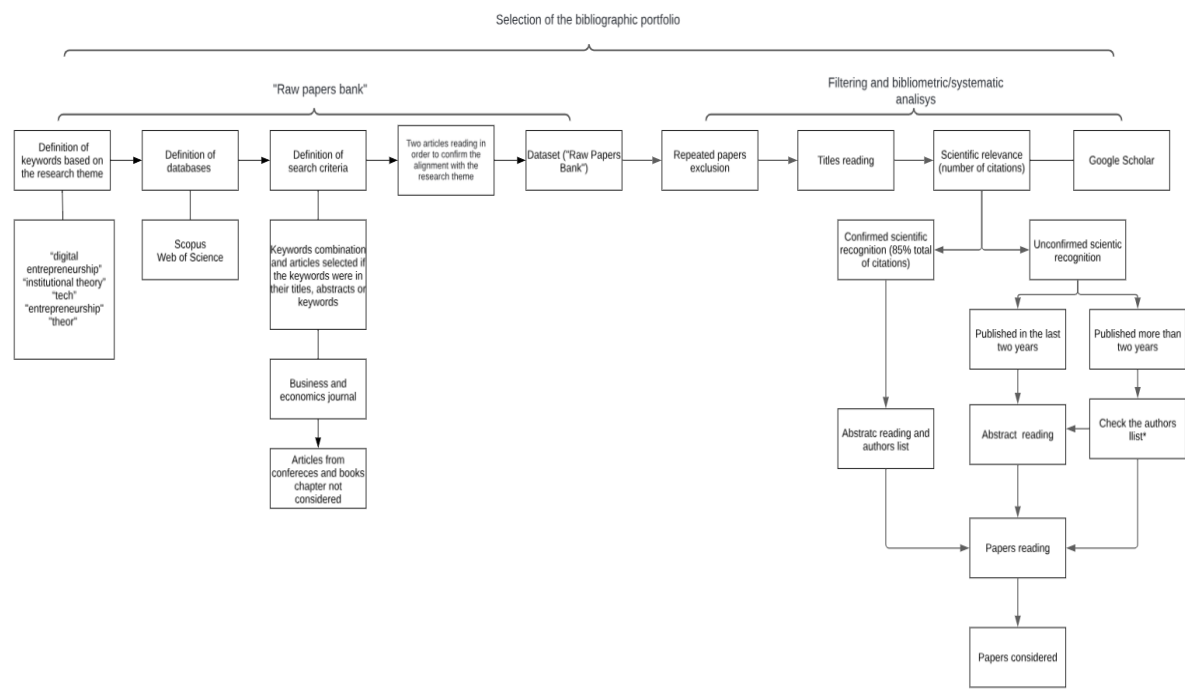


Figure 1: Selection of the bibliographic portfolio (ProKnow-C).

Source: adapted from Ensslin et al. (2010).

3.1 RAW PAPERS BANK

For this study, the selected keywords were combined, and papers were selected considering keywords in their titles, abstracts, or keywords. Two searches were made the first search the keywords selected were: “entrepreneurship” and “theor” to identify papers which the central theme is theories; (ii) to ensure a complete coverage, second one considered the keywords: “digital entrepreneurship”, “e-business”, “digital business”, “systematic literature review” and “future research” to identify which theories have been mentioning in digital entrepreneurship research.

The keyword “systematic literature review” was chosen to guarantee this study is unprecedented, the literature search considered two of the significant data bases: Scopus (CAPUTO et al., 2021; BERMAN et al., 2023) and Web of Science (WoS) (CAPUTO et al., 2021; FERNANDES et al., 2022; BERMAN et al., 2023; ZHAI et al.,



2023); (iii) and to guarantee the alignment with the business field, it was considered just business and economic journals. Moreover, articles were discarded for conferences and book chapters; (iv) by reading two articles from the first step, whether the selected keywords brought papers related to the research area. Quantities per keywords combination are presented in Tables 1 and 2. The systematic literature review was managed using Mendeley and Excel software (ZAHEER; BREYER; DUMAY, 2019; P; BERMAN et al., 2023).

Table 1: Phase 1 search - results of the first five steps per keyword combination and databases

Keywords Combination	Amount		
	Scopus	Web of Science	Total
(i) "Entrepreneurship" AND "theor"	1990	238	2228

Table 2: Phase 2 search - results of the first five steps per keyword combination and databases

Keywords Combination	Amount		
	Scopus	Web of Science	Total
(i) "digital Entrepreneurship" AND "systematic literature review"	67	145	212
(ii) "digital Entrepreneurship" AND "future research"	264	582	846
(iii) "e-business" AND "systematic literature review"	8	45	53
(iv) "e-business" AND "future research"	18	187	205
(v) "digital business" AND "systematic literature review"	304	928	1232
(vi) "digital business" AND "future research"	881	1163	2044
Total	1542	3050	4592

3.2. FILTERING AND BIBLIOMETRIC/SYSTEMATIC ANALYSIS – PHASE 1 AND 2

The filtering process has six steps as described in Figure 1. Notably, for phase 1, the selected articles demonstrated strong conceptual alignment—highlighting recurrent theoretical patterns such as resource-based view, institutional theory, cognitive approaches, and effectuation—and revealed high academic impact. For instance, Palich e Bagby’s (1995) work on cognitive theory and risk perception

exceeds 3,800 citations. Such citation metrics reinforce the academic relevance and influence of the selected works, supporting their inclusion as foundational pillars for this research.

For phase 2, selected articles demonstrate explicit theoretical engagement and collectively reflect the field's intellectual foundations. For instance, Hsu, Kraemer e Dunkle (2006), grounded in the Diffusion of Innovation Theory, have been cited over 1,500 times, while Standing e Mattsson (2016) behavioral analysis of digital business models exceeds 500 citations. Others, such as Kohtamäki et al. (2019), based on the Theory of the Firm and the Resource-Based View, have received over 600 citations, underscoring their academic influence. These articles not only bring conceptual depth—drawing from theories such as institutional theory, network theory, and innovation theory—but also form a coherent and impactful theoretical corpus. Their selection reflects a deliberate and rigorous effort to construct a robust theoretical foundation to inform future research on digital entrepreneurship.

Table 3: Filtering – Phases 1 and 2

Filtering step	Description	Phase 1	Phase 2
Raw papers bank	Articles selected using keywords	2,228	4,592
First step	Duplicates removed	2,216	2,593
Second step	All titles read; only aligned with the research theme retained	194	235
Third step	Citation-based filtering (confirmed and unconfirmed scientific recognition)	67	67
Fourth step	Abstracts read; papers aligned with theoretical objectives retained	44	45
Fifth step	Evaluation of less-cited papers (<2 years or authors list).	2	44
Sixth step	All papers fully read (only theoretical contributions retained)	22	19

4 RESULTS. DIGITAL ENTREPRENEURSHIP: A PROMINENT RESEARCH FIELD

In 2016, Hosu and Lancu (2016) affirmed that research regarding digital entrepreneurship was arising. In 2023, Paul et al. (2023) pointed out that Digital Entrepreneurship is still a prominent field of study. Berman et al. (2023) also presented the number of publications on drivers of successful digital entrepreneurship, which has risen exponentially from 2018 to 2022.

Figure 2 presents the raw papers bank after the first filter (repeated articles) and the number of articles published yearly in Scopus and Web of Science with the keyword combination presented in Table 1. The last three years represent 80% of the total publications, and between 2023 and 2024, it rose by about 67%.

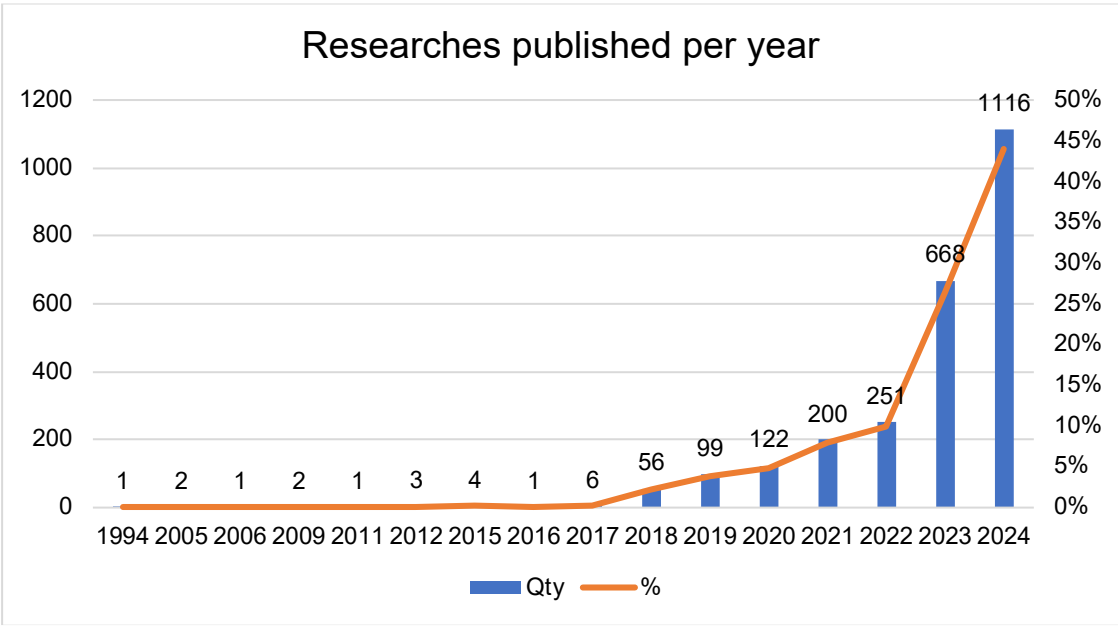


Figure 2: papers published per year (after filter I)

Considering that terminologies related to digital entrepreneurship have been an unexplored ground (KRAUS; ROIG-TIERNO; BOUNCKEN, 2019; MATLAY, 2004; FERNANDES et al., 2022), it was also observed in all the articles fully read (41) the main terminologies related to “Digital Entrepreneurship”.

As presented in Table 4 the term “Digital entrepreneurship” in papers were exhaustively mentioned (685 times in 16 different papers), followed by other terms such as “Digital business”, “E-business”, “E-entrepreneurship”, “Internet entrepreneurship”, “Online business”, “AI-Digital entrepreneurship”, “Cyber

entrepreneurship” and “Virtual entrepreneurship”. Unclear terminologies, concepts and boundaries create opportunities for future research to help clarify the disjointed literature and the digital entrepreneurship phenomena (ZAHEER; BREYER; DUMAY, 2019).

Table 4: Used terminology

Term	Qty of citations	Qty of papers
Digital entrepreneurship	685	16
Digital business	112	12
E-business	33	4
E-entrepreneurship	18	4
Internet entrepreneurship	11	3
Online business	9	5
AI-Digital entrepreneurship	8	1
Cyber entrepreneurship	3	2
Virtual entrepreneurship	2	1

4.1 ENTREPRENEURSHIP THEORIES

This section considers 22 papers identified in the method (phase 1). Despite the number of published papers regarding the theory of entrepreneurship, no generally accepted theory of entrepreneurship has emerged (GREBEL; PYKA; HANUSCH, 2001) and theory development and testing are essential to the advancement of entrepreneurship as a scholarly field (ZAHRA, 2007). Research on entrepreneurship is a controversial topic in theorizing (GREBEL; PYKA; HANUSCH, 2001).

The theory of entrepreneurship is the process by which new organizations come into existence (PAUL et al., 2023). Entrepreneurship researchers have sometimes hoped for a single entrepreneurship theory; however, there is no such theory, and it will be a melting pot of diverse research positions (ALVAREZ; BUSENITZ, 2001). Most theories of entrepreneurship revolve around entrepreneurs' ability to recognize opportunities and decide to act, and non-entrepreneurs are not willing to do the same (AUDRETSCH; KEILBACH, 2007)

After reading all papers, I found that the most dominant and frequent theories were the theory of entrepreneurship, economic theory, resource-based view, network theory, effectuation, and cognitive theory (Table 5).

Table 5: The most dominant theories in the literature of entrepreneurship

Theory	Number of citations	Analysis
Theory of entrepreneurship	6	The theory of entrepreneurship is the process by which new organizations come into existence (PAUL et al., 2023). According to Casson (2004), entrepreneurship is a massive change, not a theory of the firm, and entrepreneurial judgement is essential for success in making complex decisions under uncertainty.
Economic theory	5	Economic theory assumes that thinking is taken in a linear order to maximize the outcome of profit (in terms of market and competitive analysis) (HLADY-RISPAL; SERVANTIE, 2018). The economic theory influences the traditional assumption regarding an entrepreneur’s decision-making style (ZAHEER; BREYER; DUMAY, 2019), which assumes rational thinking is taken in a linear order to maximize the outcome of profit (in terms of market and competitive analysis) (HLADY-RISPAL; SERVANTIE, 2018).
Resource-based view	5	The resource-based view focuses on understanding how combinations of valuable, rare, inimitable, non-substitutable, and organized resources (VRIN/O) can generate competitive advantages for a firm (BARNEY, 1991; PENROSE, 1959). The resource-based theory of the firm (BARNEY, 1991) has been one of the most important theories in entrepreneurship due to the relevance of resources to the success of a new venture. Resource heterogeneity is considered necessary for advantage and is the most important point of resource-based theory (BARNEY, 1991). Alvarez e Busenitz (2001) extended the boundaries of resource-based theory, considering the cognitive ability of individual entrepreneurs with individual-specific resources that help identify opportunities.
Network theory	4	Network theory has been used to understand how entrepreneurs obtain information about foreign markets, use it, and accumulate resources for internationalization (ZAHRA, 2007).
Effectuation	4	In effectuation, entrepreneurs are concerned about who they are, whom they know and what they know. They deploy their abilities and resources to avoid losses (ZAHEER et al., 2022). Effectuation relates to new strategies and considers alternatives based on loss affordability and strategic alliances (SARASVATHY, 2008). Entrepreneurs try to maintain their journey over a long time and apply different strategies to create an effect,

		and they are effective in reacting to unpredictable opportunities (ZAHEER et al., 2022). In this approach, entrepreneurs experiment with options with the resources available. They combine physical, skills and institutional resources for new goals (FISHER, 2012).
Cognitive theory	3	In cognitive theory, entrepreneurs may not prefer to take risks. They associate business situations with cognitive categories that imply more favorable attributes (PALICH; BAGBY, 1995). This perspective focuses on how firms' decision-makers consider available information and make decisions that shape their environment (PALICH; BAGBY, 1995).

Other important theories were identified: institutional theory, knowledge-based view, transaction cost approach, knowledge spillover entrepreneurship and entrepreneurial orientation theory.

4.2 DIGITAL ENTREPRENEURSHIP THEORIES

The entrepreneurship field is becoming more digital (and open for new conceptualisations (NAMBISAN, 2017). Digital entrepreneurship literature has considered all major aspects of entrepreneurship theories; Therefore, it is paving the way for more in-depth research in the future (ZAHEER; BREYER; DUMAY, 2019). The market requires entrepreneurs to join digital platforms or create new ones in this new context. Digital technology has led to significant challenges to traditional entrepreneurship theories such as the dynamic capabilities perspective, institutional theory, network theory, opportunity discovery theory and opportunity creation theory (ZHAI et al., 2023).

In endogenous growth theory, knowledge of the frontiers has also been considered an important part of entrepreneurial innovation and an essential factor of regional economic growth. In this sense, several countries are implementing policies to develop collaboration, entrepreneurship support, and acceleration (BELITSKI; AGINSKAJA; MAROZAU, 2019).

Nambisan, Wright e Feldman (2019) identified 10 theories: Complexity theory, Problem-solving theory, Affordance perspective, Contingency theory, Social capital theory, Signaling theory, Self-determination theory, Agency theory, Socio-materiality theory, and Appropriability strategy theory. Berman et al. (2023) identified the drivers

of successful digital entrepreneurship in their research, analysing 29 peer-reviewed papers and 33 different theories. Majdouline, El Baz e Jebli (2022) found in their literature review about technological entrepreneurship that the most cited theories in the paper abstracts were: resource-based view (RBV), innovation theory, knowledge spillover theory, techno-entrepreneurship, and corporate entrepreneurship. This study found many different theories (93) related to digital entrepreneurship. The most cited theories were institutional theory, network theory, diffusion of innovation theory and resource-based view presented in Table 6.

Table 6: The most dominant theories in the literature of digital entrepreneurship

Theory	Number of citations	Analysis
Institutional theory	7	Institutional theory relies on creating value in the economy. In the digital context and availability of platforms, users have a crucial role in creating value due to user-generated content. The fast diffusion of digital technologies made social engagement possible at a lower cost, consequently changing trends in dynamic institutional settings (BELITSKI; AGINSKAJA; MAROZAU, 2019). There are doubts regarding how digital technologies impact institutional settings and productivity (SEKER; SALIOLA, 2018).
Resource-based view (RBV)	5	The resource-based view in the digital context emphasises the advantages created through evolving technology in internal and external processes (KOHTAMÄKI et al., 2019; ELIA; MARGHERITA; PASSIANTE, 2020). Even Standing e Mattsson (2016) mentioned the importance of the resources, but did not mention the resource-based view. Belitski, Aginskaja e Marozau (2019) linked the creativity spillover theory of entrepreneurship, resource-based view, and the entrepreneurship ecosystem perspective to discuss frontiers and boundaries in entrepreneurship literature. Furthermore, the rise of digital business has challenged the resource-based view of the firm and the definition of firms' resources themselves (REUSCHKE; MASON; SYRETT, 2021).

Diffusion of Innovation theory (Dol)	3	The diffusion of innovation theory (Dol) is most suitable for exploring the possibilities of digital entrepreneurship (MODGIL et al., 2022). It explains how innovations are adopted and used in organisations and presents the adoption patterns, mechanism of diffusion, and whether and how innovation will be successful (HSU; KRAEMER; DUNKLE, 2006). This theory was considered by Hsu, Kraemer e Dunkle (2006) to investigate how a new technology diffuses in U.S. firms. Hence, Dol helps entrepreneurs figure out market opportunities using novel concepts and technology extents by anticipating the consumers' behavior about their service or product (MODGIL et al., 2022).
Network theory	3	In the digital economy, companies must interact with multiple individuals, such as users and the government, to create value together (NAMBISAN, 2017). Network theory states that with digital technology, companies can spend less to maintain a long-term relationship (FERNANDES et al., 2022; ZHAI et al., 2023).

4.3 OVERLAP BETWEEN ENTREPRENEURSHIP AND DIGITAL ENTREPRENEURSHIP THEORIES

The overlap of theories between the two searches was analyzed to understand which theories remain relevant from entrepreneurship to digital entrepreneurship. Considering the 41 papers from the entrepreneurship (22) and digital entrepreneurship (19) searches, 11 theories were found in common, and they are presented in Table 7 in descending order of the total number of citations.

Table 7: Overlap theories between entrepreneurship and digital entrepreneurship (out of 41 papers)

#	Theory	Qty in Entrepreneurship	Qty in Digital Entrepreneurship	Total
1	Resource-based view	5	5	10
2	Institutional theory	2	7	9
3	Theory of entrepreneurship	5	2	7
4	Network theory	4	3	7
5	Economic theory	5	1	6
6	Agency theory	2	2	4
7	Theory of the firm	2	1	3
8	Transaction cost approach	2	1	3

9	Behavioral Theory	2	1	3
10	Social capital theory	1	2	3
11	Dynamic capabilities	1	1	2

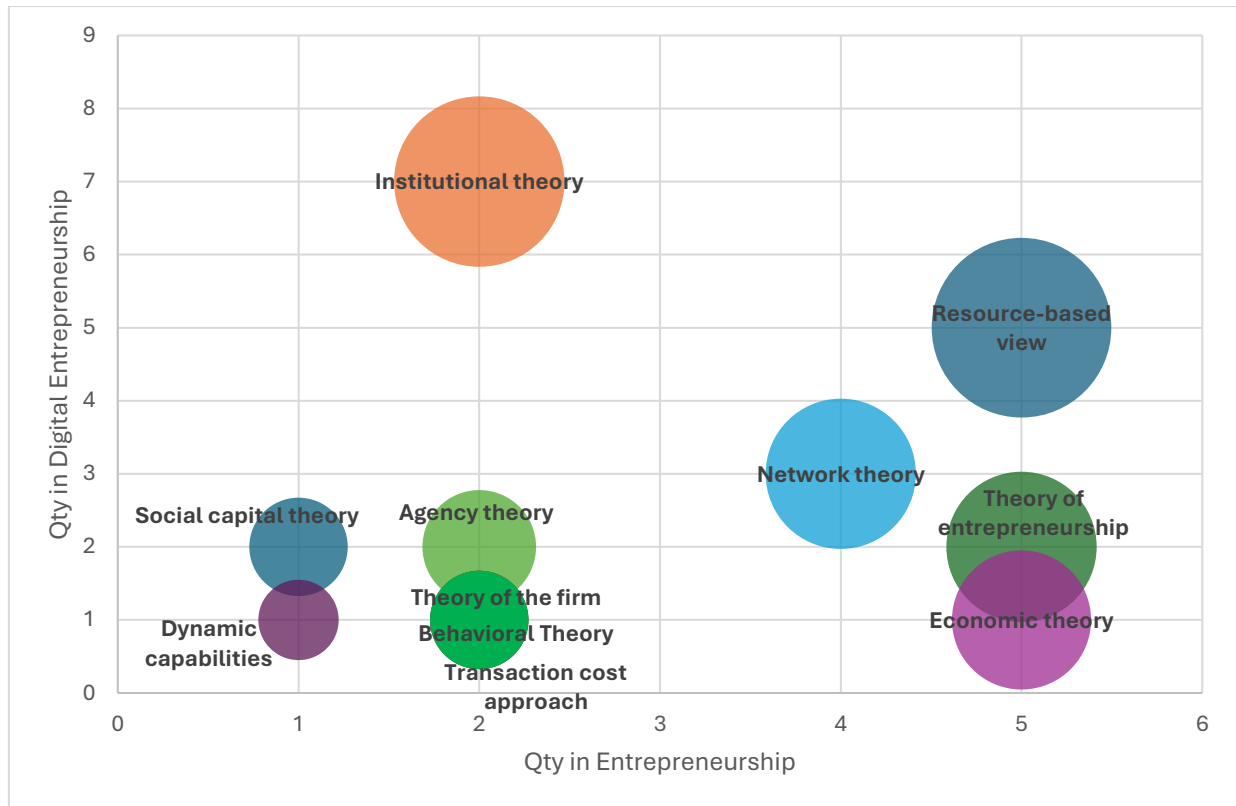
In Figure 3, it is possible to observe the dispersion of theories' citations between entrepreneurship (X axis) and digital entrepreneurship (Y axis) and the total amount of citations (circle size). Resource-based view, institutional theory, theory of entrepreneurship, network theory, economic theory and theory of the firm were discussed before. Therefore, we focused on the other theories (transaction cost approach, agency theory, behavioral theory, social capital theory and dynamic capabilities) in this topic.

Zaheer, Breyer e Dumay (2019) affirmed that digital entrepreneurship includes all significant aspects of entrepreneurship theories and is opening the way for further research. However, it is worth noting that almost no theories with many citations in digital entrepreneurship and entrepreneurship simultaneously exist, except the resource-based view, suggesting this theory has fundamental importance across the board for entrepreneurship and digital entrepreneurship.

The prevalence of institutional theory in digital entrepreneurship suggests that regulatory and structural aspects of the digital landscape are relevant. It examines organizational field structures, including suppliers, consumers, regulatory agencies, and other companies, without solely considering competition and individual actors. However, all the relevant actors evolved (DIMAGGIO; POWELL, 1983).

Economic theory, theory of entrepreneurship, and network theory are significant in entrepreneurship research. This indicates that they should be further explored in the context of digital entrepreneurship to understand how they differ in a digital environment.

Figure 3: Overlap theories between (digital) entrepreneurship (out of 41 papers)



Other theories, such as transaction cost, agency theory, behavioral theory, and the theory of the firm, were less present in papers.

The transaction cost approach has been used to develop a theory on make-or-buy decisions and to analyze conditions that influence transaction costs. This theory considers opportunism and limited rationality as essential assumptions. It implies that environmental uncertainty and the number of transactions is important decision-making criteria. Firms' transaction costs tend to increase, eliminating the pros of lower production costs and resulting in the use of market mechanisms (i.e., outsourcing activity to markets) (KOHTAMÄKI et al., 2019).

Transaction costs can be significantly lower when digital economies are considered due to logistics and customized innovative solutions (KOHTAMÄKI et al., 2019). Further, digitalization may increase firms' visibility in the exchange relationship and decrease transaction costs (KOHTAMÄKI et al., 2019).

Even Kohtamaki et al. (2019) found little research on digital servitization. They recognized a change from pure servitization, combining manufacturing, service, and software engineering identities. Kohtamaki et al. (2019) found this theory in their

studies about servitization; they did not find any of them focused on its shift for the digital context.

Agency theory helps to explain managers' motivations to support (or sabotage) corporate venturing activities, entrepreneurs' significant average equity ownership, and the high concentration of entrepreneurial wealth in private firms) (ZAHRA, 2007). Institutional theorists are concerned with the role of agency and purposive action in forming and destroying institutions (DIMAGGIO, 1988).

Fisher (2012) compared behaviors regarding causation, effectuation, and bricolage theories based on a multiple-study case between six new. Chen et al. (2025) state that effectuation consolidates the probability of a successful digitalization; however, they also recommend that entrepreneurs be aware of their possible application in uncertain contexts.

Social capital theory focuses on a rich explanation of new ventures' early international expansion. Social capital comes in diverse ways and from different sources, of which networks are one key source (ZAHRA, 2007). In digital contexts, social capital theory was used to analyze variations in social interaction ties, reciprocity, and identification with the crowdfunding community, which affect venture interactions (NAMBISAN; WRIGHT; FELDMAN, 2019).

In digital businesses, it is imperative to develop processes and capabilities to capture and create value. Resources should be reconfigured to seize new business opportunities such as digital servitization, and companies should use dynamic capabilities of sensing, seizing, and reconfiguring (KOHTAMÄKI et al., 2019). Authors (ZHAI et al., 2023) mentioned the dynamic capability perspective as a way for enterprises to consolidate internal and external resources and capabilities to adapt to the complex external environment.

5 CONCLUSIONS

The body of literature exploring themes related to entrepreneurship and digital entrepreneurship is large and has been growing. However, a systematic literature review of theories in these fields was missing. One of this paper's contributions was identifying 67 different theories applied to entrepreneurship, 93 different theories applied to digital entrepreneurship, and 11 theories from entrepreneurship that remain



in digital entrepreneurship. A key finding aligned with Rabetino, Kohtamaki e Gebauer (2018) is that researchers continue to underuse established theoretical perspectives, and the most dominant theoretical perspective is still the resource-based view.

Furthermore, we identified 22 theory-driven articles in entrepreneurship and 19 in digital entrepreneurship that were selected based on their explicit and robust theoretical engagement and academic relevance. Finally, the study discusses the most frequently cited theories across both domains and examines how these theories are conceptually applied and positioned within the selected literature.

The present paper provides important insights for researchers and practitioners. From an academic perspective, this paper sheds light on which theories are being considered in digital entrepreneurship, and which are not. For future research, scholars should investigate whether other entrepreneurship theories should be applied to digital entrepreneurship and contribute to paving research paths. Amit, Glosten e Muller (1993) concluded in their research that it may be too ambitious to expect a complete and robust theory in entrepreneurship due to the field's interdisciplinary nature. Digital entrepreneurship, considering the number of theories identified, presented itself as even more interdisciplinary. Though, it is possible to investigate how digital technologies impact institutional settings and productivity (SEKER; SALIOLA, 2018) and change the theory itself.

Further, although research about digital entrepreneurship is growing, it faces some challenges. For instance, terminologies have been a ground of confusion, literature continues to consider different terms (DAVIDSON; VAAST, 2010; KRAUS; ROIG-TIERNO; BOUNCKEN, 2019; MATLAY, 2004; FERNANDES et al., 2022) making academic research difficult (FERNANDES et al., 2022): internet entrepreneurship (MATLAY, 2004), cyber entrepreneurship (MATLAY, 2004), e-business (MAZZAROL, 2015), e-entrepreneurship (MATLAY, 2004), Tecno-entrepreneurship (ÖRNEK; DANYAL, 2015), High-Growth Entrepreneurship (BROWN; MAWSON, 2016); Knowledge-Intensive Entrepreneurship (MALERBA; MCKELVEY, 2020); and Deep-tech entrepreneurship (DIONISIO; ENRÍQUEZ; SANCHEZ, 2023). For future research, terminologies should be clarified.

This paper focuses on well-known and established theories related to (digital) entrepreneurship. The paper is therefore limited in the quantity of papers analyzed. Future scholars should cover a significant number of papers and search different databases to investigate if agency theory, theory of the firm, transaction cost approach,



and behavioral theory are, in fact, not explored much in entrepreneurship and digital entrepreneurship contexts. Other theories, such as dynamic capabilities theory, are important for the digital context and should be explored more. Additionally, following Kuratko (2011), entrepreneurship educators and researchers should consider the field's theory development and explore the practice of entrepreneurship by successful organizations.

For practitioners, this study provides a structured overview of empirical findings related to relevant topics for entrepreneurship and digital entrepreneurship, such as the importance of resources, network, behavior, institutions, etc.

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