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- Context and interdisciplinarity in entrepreneurship research
- Italian equity crowdfunding platforms
- Community entrepreneurship: a systematic literature review
- E-commerce in SMEs: challenges and catalysts
- Business model innovation and resilience
- Successfully migrant women entrepreneurs
- Startup and medium-sized company relationship
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EDITORIAL

CONTEXT AND INTERDISCIPLINARITY
IN ENTREPRENEURSHIP RESEARCH.
DO YOU SEE THE ELEPHANT?

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Abstract

Purpose. This editorial argues for putting emphasis on context and interdisciplinarity in entrepreneurship and innovation research.

Design/methodology/Approach. I propose a conceptual discussion about the topic.

Findings. Following Welter (2011), this editorial shows that entrepreneurship and innovation need to be contextualized, that contexts can be intertwined, and that recursive relationships may exist. The case of gendered innovations strikingly demonstrates the role of context and supports the argument that diversity in entrepreneurship and innovation asks for specific targeted research.

Practical and social implications. To properly research complex phenomena, such as entrepreneurship and innovation, this also calls for more interdisciplinary research in this field. Exemplarily, the decisive role entrepreneurs' voices play in presenting their business case to relevant gatekeepers, supports the argument of making contributions to expand knowledge in this field following an interdisciplinary approach in research. The Elaboration Likelihood Model (Petty & Cacioppo, 1984, 1986a, b) as a dual-process model is presented as an example to highlight a contribution from research on attitude formation to the field of entrepreneurship.

1. Introduction

You may be familiar with the parable of the blind men and the elephant: It is about a group of blind men who have never met an elephant and learn by touching the elephant and imagining what it looks like. Each blind man feels a different part of the elephant's body, but only one part, for instance, the side or the tail. They then describe the elephant based on their limited experiences, and their descriptions of the elephant differ from each other. The moral of the parable is that people tend to claim absolute truth based on their limited, subjective experience, while ignoring the limited, subjective experiences of other people, which may be equally true.

In other words, truth, whether actual or perceived, depends on context. Different truths can have value at the same time. They contribute to learning more about the entire phenomenon. The phenomenon (here: the elephant) is *complex*. To properly research the phenomenon, we may also need to take an *interdisciplinary* approach.

When we look at entrepreneurship as the phenomenon to research, we need to look at it in its *context*: to contextualize the context. As Welter (2011, p. 165) points out, context can be asset or liability for entrepreneurial activities and vice versa, entrepreneurship can also influence the context:

“There is growing recognition in entrepreneurship research that economic behavior can be better understood within its historical, temporal, institutional, spatial, and social contexts, as these contexts provide individuals with opportunities and set boundaries for their actions. Context can be an asset and a liability for the nature and extent of entrepreneurship, but entrepreneurship can also impact contexts.”

Contexts are intertwined and cut across levels of analysis—so contextualizing theory needs to apply a multi-context perspective. Most research assumes a “one-way relationship” with the context as given. Scholars investigate how context factors influence entrepreneurial activity but lack a focus on how entrepreneurial activity impacts its contexts. To date, there are few studies that recognize recursive relationships and attempt to bridge between different contexts. If for no other reason, then this occurs because of the conceptual and empirical challenges such designs entail (Welter, 2011).

Welter suggests that a contextualized view on entrepreneurship asks for an interdisciplinary perspective, as it is not realistic to present one overarching theory of entrepreneurship which is valid in all contexts, but rather to integrate knowledge from other disciplines which deliver concepts and tools which scholars need to explore the richness and variety of contexts. Contextualization can be integrated at several stages of the research process, from addressing the research problem, developing a research design, choices about method and location, to data measurement, analysis, and

discussion (Rousseau & Fried, 2001). The latter would also include interpreting the results by putting them into context.

Our world is facing increasing urgency and complexity when it comes to current societal challenges (Wang et al., 2015; Glänzel & Debackere, 2022). *Interdisciplinary* research may be a consequence of this, but also a means of overcoming societal challenges as the National Academy of Sciences et al. (2005, p. 2) emphasize:

“Interdisciplinarity is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.”

According to this definition, knowledge integration is the core of interdisciplinary research (Glänzel & Debackere, 2022). Indeed, interdisciplinarity is a concept closely linked to our understanding of academic disciplines, and there is ongoing debate about the distinctions between interdisciplinary, multidisciplinary, and transdisciplinary research (Choi & Pak, 2006). Instead of clear boundaries, there is a spectrum with blurred lines and overlapping areas. This makes it difficult to define these categories precisely. In essence, interdisciplinarity incorporates elements from two or more disciplines to create a new framework for the discourse as well as the integration of knowledge (Choi & Pak, 2006; Glänzel & Debackere, 2022; Rafols and Meyer, 2010).

From a policy standpoint, there is a growing emphasis on program-oriented directives, shaping the mechanisms for funding research. Funders play a crucial role by acting as catalysts as they promote interdisciplinary research through the establishment of “grand challenges” that call for cognitive and organizational interdisciplinary approaches. However, the task of defining and mapping interdisciplinary research is complex, as highlighted by Glänzel and Debackere (2022). This is supported by The Royal Society (2016, p. 1):

“Many of the major challenges that society faces today will require solutions developed through interdisciplinary research and cross-disciplinary collaboration. Improving support for and addressing the barriers to this work could contribute to major scientific breakthroughs at the interface of disciplines, develop new technologies and ultimately support the economy and develop novel solutions to societal challenges”.

In the following, I will elaborate on two examples to demonstrate the decisiveness of *context* as well as of *interdisciplinarity* in entrepreneurship and innovation research.

2. Focus on Context-related Research: An Example

The field of gendered innovations gives a striking example of why *context* plays a crucial role (Birkner et al., 2020; Tegtmeier & Birkner, 2021). While innovations are often associated with thoughts of progress, new technologies, and improved work and lifestyles, the example of “health” shows that this is not always the case.

From the 18th century onward, numerous innovations have played a crucial role in enhancing public health and overall quality of life. These advancements extend across disease control and epidemiology, as highlighted by Porter (1999). The progress is not solely attributed to medical faculties and institutions; researchers and inventors in chemistry and physics have also made substantial contributions. Examples include the creation of X-ray and radiation diagnostics as well as the development of vaccines.

Nevertheless, advancements in medical diagnosis and therapy have yet to achieve universal accessibility across the global population. Disparities not only exist in the healthcare opportunities and structures specific to each country but also manifest as significant health deficits in innovation development and implementation, particularly when considering various diversity categories and in that sense also various contexts. The World Health Organization (WHO) has, for almost 80 years, recognized health as a fundamental human right. According to the definition of the WHO, health goes beyond the mere absence of symptomatic signs of illness; instead, it encompasses a dynamic state of complete physical, mental, social, and spiritual well-being (Dhar et al., 2011; WHO, 1946).

Addressing gender inequalities in (public) health is vital for countering negative effects related to it. Neglecting gender-sensitive research results in costly misdiagnoses and missed market opportunities (European Commission, 2013). Failure to consider diversity in innovation development leads to discriminatory effects with serious social consequences. For instance, certain cars are 71% less safe for women and people assigned female at birth (AFAB) due to development based on a stereotypical male dummy, leading to increased injuries in accidents for them. To promote safety, innovation must account for differences in female injury tolerance, spinal alignment, neck strength, biomechanics, and other relevant factors (Stanford University, 2011).

Recently, the World Economic Forum has estimated the economic benefits of addressing the women’s health gap (2024) and calculated an estimated boost of \$1 trillion annually by 2040 if it was properly addressed. Among other women related diseases, the World Economic Forum is putting endometriosis into the spotlight which has been overlooked and underdiagnosed for many years. Endometriosis is a persistent inflammatory disease that affects around 10% of women of childbearing age worldwide

(Shafir et al., 2018). Overlooking this disease results in less than half of the women living with this gynecological condition have a documented diagnosis (Horne & Saunders, 2019; Westwood et al., 2023). Although endometriosis is clinically benign, pain and dysfunction associated with endometriosis seriously affect women's health and therefore their personal, social, and professional lives (Della Corte et al., 2020; Surrey et al., 2020; Westwood et al., 2023).

Other than overlooking diseases which are specific to women, a central issue is the historical exclusion of women from clinical studies related to diseases of men and women alike, extending even to preclinical research on mice. This exclusion not only affects the application of current medical innovations but also significantly impacts the growing digitization of healthcare. In the realm of digital medical diagnostics, the absence of sufficient data on female subjects results in a 50% higher likelihood of misdiagnosis and mistreatment during a heart attack (Criado Perez, 2020).

In the future, if medical innovation is to bring better health care to all people equally, it is important to close this data gap, also known as the "gender data gap" (Criado Perez, 2020). Given the relevance of gender analysis for health research and practice, it is surprising that there is still little empirical evidence from research in this area on how gender-specific innovations are reflected in newer (also: digital) business models (Birkner et al., 2020).

Encouragingly, there is ongoing research into integrating gender as a key consideration in health research processes—from crafting research questions to method design and data interpretation. Professor Londa Schiebinger from Stanford University has played a significant role in promoting gender-conscious research, uncovering the societal harm caused by unconscious gender biases. Emphasizing the value of gender analysis across various sciences, including chemistry and physics, Schiebinger's consortium introduced the term "gendered innovations" to unite these efforts. This approach commendably considers intersectional effects, i.e., it involves other diversity aspects such as age or origin as specific contexts (Ettl et al., 2021; Sundermeier et al., 2020). In doing so, this research promises new discoveries across disciplines (Schiebinger, 2014; Schiebinger & Schraudner, 2011; Schiebinger & Klinge, 2015).

Regardless of whether one is a researcher, inventor, or practitioner in health or other fields, the inclusion of gendered innovations not only reduces discrimination but also promotes innovation. In a gender-sensitive perspective, previously researched or developed concepts can yield fresh scientific insights, mitigate social discrimination, and create additional value. The methods and tools required for this are readily accessible at no cost, making it straightforward to initiate this transformative approach which acknowledges this specific and important context.

3. Focus on Interdisciplinary Research: An Example

Together with my colleagues, I propose a fresh avenue of investigation which highlights the significance of interdisciplinary methodologies in the field of entrepreneurship research (Niebuhr et al., 2017; Niebuhr et al., 2019). Entrepreneurs, in their quest to bring new ideas to the market, often encounter resistance to change and face increased investment risks when they introduce innovations. Successfully turning these ideas into reality requires effective persuasion aimed at supervisors, potential investors, and customers. We propose a focus on the charismatic aspect of speaking, particularly the tone of voice, as a crucial skill for entrepreneurs. Our research direction builds on previous analyses of political speakers and traditional rhetorical characterizations of charismatic tone, aiming to enhance existing approaches like charismatic leadership tactics. The goal is to advance and potentially replace descriptive rhetorical terms with an unbiased, acoustically grounded, perceptually informed, and technologically supported analysis, evaluation, and training of tone of voice (Niebuhr et al., 2017).

The realm of charismatic speech has seen more progress in researching and training verbal aspects, such as words and their meanings, than in exploring the non-verbal domain, particularly the speaker's tone of voice. Despite its pivotal role in shaping perceptions of charismatic speakers, tone of voice has been largely described using vague, impressionistic terms. This abbreviated view limits our understanding and training capabilities despite the existence of solid phonetic foundations that render the speaker's tone of voice as quantifiable as their words. In response, our new area of research focuses on acoustic charisma profiling and training and aims to define the speaker's tone of voice objectively and quantifiably. This interdisciplinary approach combines acoustics, psychology, and phonetics with management and entrepreneurship research. It allows for progress from acoustic profiles to audience-oriented performance profiles and integrated charisma scores (Niebuhr et al., 2017).

In the realm of entrepreneurship, this line of research provides quantifiable insights because it fills gaps in understanding the impact of a speaker's voice on investor decisions. We offer new ways to analyze and train investor pitches that go beyond the content of pitch decks and business plans to communication skills and overall impression. Therefore, entrepreneurship research enriches our understanding of the interplay between expressivity, speaking styles, and charismatic tone of voice. In recent work, we show the benefit of interdisciplinary approaches in entrepreneurship research that follow the suggestion above by investigating the role of voice in venture evaluation (Tegtmeier et al., 2020). To explain why the pure voice can play a decisive role in this context—investors can be seen as powerful gatekeepers who could be expected not to be guided by the voice of the speaker,

i.e. of the entrepreneur—, the suggestion by Shepherd and Wiklund who advocate for “[c]ontribut[ing] to the entrepreneurship literature by theorizing from another literature” (Shepherd & Wiklund, 2020, p. 3) can bring significant added value.

As a theoretical lens on how the process of persuasion works, literature on attitude formation and change can contribute to entrepreneurship research. The Elaboration Likelihood Model proposed by Petty and Cacioppo is a dual-process model (Petty & Cacioppo, 1984, 1986a, 1986b; Petty, Cacioppo, Strathman, & Priester, 2005) which focuses on ways of processing stimuli and distinguishes two essential routes to persuasion: the central route and the peripheral route.

Via the central route, an individual carefully and thoughtfully evaluates issue-relevant information by means of a critical thought process. Issue-relevant information can be all credible key evidence which relates to the communicated topic and its true merits (Crano & Prislin, 2006; Darley & Smith, 1993). In our context, this can, for instance, be entrepreneur- or product-relevant information (Allison, Davis, Webb, & Short, 2017).

In contrast, through the peripheral route, an individual invests less cognitive effort into her evaluation of a message, but rather forms an evaluation by means of peripheral cues (Kelman, 1961; Petty & Cacioppo, 1986b). Instead of providing support for the benefits of the topic in question (quality of the stimulus) as done by issue-relevant information, peripheral cues stand for the remaining or non-issue-relevant elements of a message. These positive or negative cues can, for instance, be related to the tone of language used (Yang, Hung, Sung, & Farn, 2006), describing the venture in question as a personal dream (Allison et al., 2017) or just the count of arguments used in a pitch (Briñol & Petty, 2006).

The Elaboration Likelihood Model distinguishes processes of attitude change along an elaboration continuum which ranges from low to high. Persuasion based on processing a message at the low end follows the peripheral route while persuasion based on processes to determine attitudes at the high end follow the central route. The central route is applied when the individual has both the motivation and the ability to reflect on the message and its content. Instead of evaluations based on object-relevant information, peripheral processes make the individual rely on heuristics when reacting on a message (Petty & Briñol, 2012), that is, in the peripheral route the elaboration likelihood is lower. In principle, both routes of persuasion can apply in parallel, but the impact of the one or the other can be higher (Petty & Wegener, 1998).

An argument for consciously including peripheral cues can be investing into ventures which potential customers and further investors would be most likely to prefer because those groups would indeed infer from peripheral cues (for instance, from attractiveness) to competence, social

skills, and success (Brooks et al., 2014). On the contrary, peripheral cues can cause subconscious reactions, such as positive or negative emotions. These emotions can evoke social approach or avoidance behavior in a social interaction (Agthe, Spörrle, & Maner, 2011; Lemay, Clark, & Greenberg, 2010). Seen this way, the attractiveness of a pitch or the entrepreneur who presents the pitch can be a non-issue-relevant peripheral cue which leads to a subconscious decision to finance a venture.

In this way, “[t]he second literature [...] [from another discipline] provides the theoretical basis for filling the gap in the first”, as Shepherd & Wiklund argue for (Shepherd & Wiklund, 2020, p. 3) and the interdisciplinary approach can contribute to exploring and explaining the entire phenomenon.

4. Conclusion

To conclude, I hope that I have been able to support the argument that both, contextual studies, and interdisciplinary work, are important. While I stressed *context* more in the first example above and *interdisciplinarity* more in the second, of course, both should be addressed in any single research endeavor. As authors, we should emphasize both more in our research, but also as reviewers and editors of journals, we should recognize this type of study and work to research the entire phenomenon, in other words: to see the elephant.

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RESEARCH ARTICLES



EQUITY CROWDFUNDING PLATFORMS:
A DEMOGRAPHIC AND OPERATIONAL PERFORMANCE
ANALYSIS OF THE ITALIAN SCENARIO

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Abstract

Purpose. The paper aims to investigate Italian equity crowdfunding platforms and their role in supporting innovative SMEs. Nowadays, platforms represent one of the many facets of innovative and digital entrepreneurial phenomena that support the development of SMEs through innovative financial tools.

Design/methodology/approach. The exploratory descriptive qualitative (EDQ) research method supports the paper, analysing the 51 Italian equity crowdfunding platforms authorized by CONSOB (Italian acronym of "Commissione Nazionale per le Società e la Borsa"). Dataset analysis has been built through ordinary records contained within CONSOB register and with financial and non-financial data from AIDA database.

Findings. The research highlights an irregular platforms' distribution with a concentration in northern Italy (RQ1). Focusing on performance (RQ2), only a residual part of the platforms show positive results (35% of the sample). Only a few players run the equity crowdfunding market and SMEs seem to prefer only certain platforms for promoting their campaigns.

Practical and Social implications. The present research can be useful in twofold. On one hand, it can help public authorities, such as CONSOB, with monitoring the equity crowdfunding phenomenon. On the other hand, it can guide practitioners in supporting innovative small businesses toward platforms that perform better and therefore, help them to stand a better chance of success in raising capital.

Originality of the study. The present paper enriches the literature on innovative small-medium enterprises and innovative financial tools. Several aspects of the workings of the innovative equity financial market for SMEs have been treated, and several topics theorized by scholars on equity crowdfunding platforms have been checked within this empirical study.

1. Introduction

In recent time the world economies undergone a process of transformation oriented to innovation. The innovation process involved different aspects of organizations such as the preferences, behaviors and products (Gomber et al., 2018, Balata et al., 2018; Baldissera, 2019; Pencarelli et al., 2020). This transformation has not affected only individuals but also enterprises have been involved in the process of change. Particularly, the area in which this process is being applied is entrepreneurial innovation observed from the perspective of financial innovation (Dessy, 1995; Cesaroni and Sentuti, 2016; Blakstad and Allen, 2018).

Starting from 2012, the Italian regulator introduces two different kinds of innovative financial tools: the equity-side instruments (as stock exchange listing in AIM segment of Borsa Italiana and equity crowdfunding tool) and the debt-side instruments (as private debt, minibonds, and lending crowdfunding). Particularly, using these tools, the Fintech phenomenon takes root in Italy, where corporate finance and innovation technology merge into a unique solution, supporting the ventures in their growth paths (Branten and Purju, 2013; Altman et al., 2020; Beltrame et al., 2023).

In the following section we focus on the equity crowdfunding (ECF) tool, that within the donation-based, reward-based and lending-based, represents one of the main ways to raise money from the crowd (Belleflamme et al., 2014; Younkin and Kashkooli, 2016; Pagano et al., 2021). Through ECF, SMEs can raise money in return for shares and promote their innovative entrepreneurial project on the on-line portals, better known as platforms (Vulkan. Et al., 2016; Davis et al., 2017; Walthoff-Borm et al., 2018). In the Italian context, until early 2023, access to ECF has been reserved for innovative SMEs called innovative start-ups that satisfy the formal and substantive conditions established by law (Law Decree no. 179/2012)¹.

Recently, Legislative Decree No. 30 of March 10, 2023 and CONSOB Resolution No. 22720 of June 1, 2023, provided that all SMEs in the form of LLCs, including non-innovative ones, can access equity crowdfunding.

As it is clear from this short introduction, the platforms play a crucial

¹The formal conditions require the company to be established as a corporation or a joint-stock company, not to be listed, not to be more than 5 years old, not to be driven from extraordinary operations, to reside in Italy (or within the European Economic Area but with production headquarters in Italy), not to have an annual turnover of more than five million euros, not to have ever paid dividends and to have as its exclusive or prevalent purpose, the development, production and marketing of goods or services with a high technological content. The substantial conditions however, require the company to be an innovative start-up, to spend at least 15% of the greater value between turnover and cost of production in R&D and innovation; to employ highly qualified employees of which at least 1/3 have PhDs, are PhD students or researchers, or at least 2/3 are in possession of a master's degree; to be the owner, depositary or the licensee of at least one patent or the owner of a registered software.

role in financing SMEs and innovative start-ups. However, scholars seem to underestimated the role of these platforms and instead, have focused on the characteristics of the projects presented by SMEs (campaigns) (Modaffari et al., 2020; Caputo et al., 2022) and the behaviour of individuals in subscribed equity-share (investors) (Davis et al., 2017; Lukkarinen et al., 2022).

In this stream, the present work aims at investigating the ECF platform contribution in supporting innovative SMEs, as a hub between enterprises and investors. Analysing these issues is important because they represent the material junction in the financing model, without which the innovative SMEs would not have the opportunity to share equity to fill the gaps in the financial sphere.

Therefore, ECF platforms certainly represent one of the many facets of the innovative and digital entrepreneurial phenomenon, that contribute to the development of SMEs through innovative financial tools.

For this reason, the main research questions (RQs) of this first exploratory study are:

RQ1: how are equity crowdfunding platforms demographically distributed in the Italian economic landscape?

RQ2: what are the main operational performances of Italian platforms?

To reach the declared goals, the present paper is supported by qualitative methodology of exploratory descriptive qualitative (EDQ) research (Carvalho et al., 2005; Cleff, 2014; Modaffari and della Corte, 2022). In this way, an explorative analysis of the 51 Italian equity crowdfunding platforms authorised by CONSOB (Italian acronym of “Commissione Nazionale per le Società e la Borsa”) in 2018- 2021 period was conducted. For the best knowledge, CONSOB is the regulatory board of the Italian financial market.

Findings show several relevant topics to RQs. Firstly, the Italian equity-crowdfunding platforms have an irregular distribution. Most of them are located in northern Italy while only a few are in the middle, and only two in southern Italy (RQ1). Several considerations in this stream are presented in the discussion and conclusion section, among which is the potential beginning of a phenomenon already known to Italy’s economic content: districts. This new phenomenon, due to the territorial concentration of platforms, could be recognized as a digital district for innovative financing tools.

Secondly, focusing on platforms’ performance (RQ2), only a residual part of the sample shows positive results. Most platforms achieve negative performance in terms of income and cash flow.

Finally, there are only a few major players the equity crowdfunding market. While the official data shows an increase in raised funds, only a few platforms reach positive performances. This shows that SMEs prefer specific platforms for promoting their equity crowdfunding campaigns. In

addition, findings show that while generating negative results, platforms try to survive as if the opportunity cost of losing the CONSOB authorization is greater than the negative performance achieved each year.

The originality of this first explanatory study can be appreciated both from a theoretical and a practical point of view. From a theoretical perspective, the work can enrich the literature on innovative small-medium enterprises and innovative financial tools. Several aspects of the functioning of the innovative equity financial market for SMEs have been treated, and several topics theorized by scholars on equity crowdfunding platforms have been checked within this empirical study. From a practical perspective, the present research can be useful in two ways. On one hand, it can support public authorities such as CONSOB, in monitoring the equity crowdfunding phenomenon. On the other hand, it can direct practitioners toward platforms that perform better and gives them a better chance at success in raising capital.

The main limitations of the work refer to the lack of qualitative information to support the analysis. Future research perspectives will be focused on developing case studies, with direct interviews on the members of platforms' governance. This methodology will be useful for understanding the critical elements of success that cause the equity crowd funding market to be so heterogenous.

The paper is structured as follows: paragraph 2 analyzes the existing literature on equity crowdfunding platforms, paragraph 3 describes the methodology, paragraph 4 elaborates on the results of the research, the conclusions of the work are provided in paragraph 5 and limitations and future research prospects are described in paragraph 6.

2. Literature review

The present study could be intended as an explanatory study with the aim of deepening the platforms' role in the financing of small-medium enterprises. In order to grasp the real operation of these particular business-investor linking entities, it is useful to investigate the main features of their operation and how they manage to achieve their mission. For these reasons, the literature section introduces a general panorama of the equity crowdfunding tools, and then, it focuses on the function of platforms with particular attention to describing their business model. Equity crowdfunding represents one of the main equity-side innovative financial tools introduced by the Fintech Revolution (Belleflamme et al., 2014; Modaffari et al., 2020; Grassi and Fantaccini, 2022; Caputo et al., 2022). In 2012, equity crowdfunding was introduced in Italian Law (Law Decree no.83/2012) and other relevant regulations (for instance in the USA by the Jobs ACT),

allowing innovative start-ups to raise equity from investors (the crowd) through online portals, namely platforms (Zarandi et al., 2015; Vulkan et al., 2016; Walthoff-Borm et., 2018; Cumming et al., 2020). This instrument was born to reduce the equity-gap in start-up ventures, allowing them to overcome liquidity threats in the early-stage (Veugelers, 2011; Cesaroni and Sentuti, 2016; Quintiliani, 2017; Baldissera, 2019; Pencarelli et al., 2020). Unlike business angels, who are one of the main forms of initial funding for innovative startups (Iacoviello, 2015; Pagano et al., 2021; Paoloni and Modaffari, 2022), the equity crowdfunding protects the intellectual capital of start-ups (Wilson and Testoni, 2014). In Italy, since early 2023 a crucial shift is taking place; in fact, by the LD No. 30/2023 and CONSOB Resolution No. 22720/2023, the Regulator has provided access to equity crowdfunding to all SMEs incorporated as limited liability companies (LLC), including non-innovative ones.

However, while several scholars focus their works on other facets of equity-crowdfunding, such as campaigns' issues or investors' behaviors, platforms' research stream has been underestimated.

Through the openness, collaboration, and participation of platforms (Danmayr, 2013), the equity crowdfunding instrument can be considered as an open and sharing system between companies and individuals (Paoloni, et al., 2019; Cillo et al., 2019; Nespoli et al., 2022), increasing the sustainable growth of innovative start-ups. Therefore, platforms represent the link between firms and investors and play a fundamental role in resolving potential principal-agent mismatching that hurt the financing process. Their effectiveness can be observed in relation to the services offered pre, during and post campaign (Burtch et al., 2015; Vismara, 2016; Paschen, 2017; Davis et al. 2017; Hornuf and Neuenkirch, 2017; Signori and Vismara, 2018). More specifically, their typical behavior can be deduced from phases such as the evaluation of the project presented by firms, the preparation of the negotiation and the shares placement, the possible subscription by investors and finally, the assignment of the capital shares of the start-up (Hagedorn and Pinkwart, 2016).

The information provided during these phases, helps the investor to better understand the entrepreneurial initiative. Project evaluation and subscription phases are a crucial moment for the business model of the platform (Attuel-Mendes et al., 2018), in which a lot of activity return is generated. In fact, during the project evaluation phase the platform, based on the business plan provided by start-ups, fixes its yield expectation.

In this way, the literature agrees on recognizing the kind of raising activity that characterizes the negotiation and placement phase in twofold. On one hand, it is possible to find the first-come-first-serve system (in Italian context known as "prendi tutto") in which regardless of the raised amount, the campaign closes successfully and the amount is transferred to the start-

up as equity. On the other hand, there is the threshold-pledge system (in Italian context known as “tutto o niente”), in which, in order for the campaign to be successful, a certain amount of capital needs to be raised. The capital will be transferred to the start-up only if the collection goal is met; otherwise, the amount will be returned to investors. Campaigns usually have a limited duration, usually ranging from 30 to 60 days (Hemer et al, 2011; Cumming et al., 2020).

However, in countries where there is weak or no regulation, platforms have more liberty to adapt their business models based on market needs. Conversely, in countries where there is strong regulation, platforms have to try to be profitable by adopting more rigid business models in compliance with the law.

In this way, relevant gaps highlighted by previous research identify the need for legal framework revision, starting from the creation of a more efficient capital market to support innovation entrepreneurship (Borrello et al., 2015; Younkin and Kashkooli, 2016; Hornuf and Schwienbacher, 2017; Lukkarinen et al., 2022). Currently, ECF remains a funding technique for SMEs and small investors, but it is unlikely to attract institutional investors. To improve the tool’s status, platforms should expand their services and renew their business models (Tiberius and Hauptmeijer, 2021).

In the light of the above, in order to appreciate the real contribution of platforms and the effort they make to drive the equity crowdfunding industry, it is useful to analyze the specific disciplines that each country has for ECF.

Focusing on the Italian context, the Consob Regulation nr. 18592 issued on 2013, June 26, (updated on 2020, 6 feb by the resolution nr. 21259) regulates this instrument. In addition to certain access requirements, the regulation provides some behavioral requirements that platforms must maintain while operating as online portals. These include disclosure requirements, investor protection duties, confidentiality issues and obligatory reporting of any violations to CONSOB

Obligations that limit the use of the generic business model framework described above include: insurance coverage (Art.7-bis), maximum inactivity limit of not more than 6 months (Art.11-bis), conflict of interest with investors in terms of disclosure and co-investment (Art.13), due diligence to be carried out on each project by an independent professional (Art.13), negotiation of mini-bonds (Art.13), fraud risk prevention measures (Art.14), confidentiality obligations (Art.19) and record-keeping obligations (Art.20).

These issues fit in the present research, which attempts to illustrate the state of Italian equity-crowdfunding platforms through the empirical study of the phenomenon. The evidence from this initial observation may help academia to address the contextual issues highlighted above.

3. Methodology

Exploratory Descriptive Qualitative (EDQ) research (Carvalho et al., 2005; Cleff, 2014; Modaffari and della Corte, 2022) supports the paper. EDQ is a qualitative methodology suitable for addressing research objectives that aim to provide a direct description of phenomena (Caelli et al., 2003; Sandelowski, 2004). EDQ design fits in the various qualitative approaches as phenomenology, ethnography, grounded theory and action research (Swedberg, 2020). Explorative research can be defined as a method aimed at underlining how a phenomenon is manifested. Explorative research allows researchers to explore an issue with limited coverage, contributing to the development of new knowledge in that area (Glaser & Strauss, 1967; Glaser, 1978).

According to Hunter et al. (2019), EDQ methodology was born as a hybrid methodology between the exploratory research proposed by Stebbins (2001) and the descriptive qualitative research promoted by Sandelowski (2010). Specifically, Stebbins (2001), defines explorative research as the conception of an exploratory project to be developed through research design, data collection, and final report writing. Sandelowski (2010) emphasizes that qualitative descriptive studies are not intended to rescue poorly or partially conducted research. Rather, they are appropriate when a different, more interpretive qualitative methodology would not have been better suited to the research goals.

Focusing on the research topic, the EDQ was applied to understand the phenomenon of equity crowdfunding platforms in Italy, through the analysis of 51 active portals that are authorized by CONSOB (Italian acronym for “Commissione Nazionale per le Società e la Borsa”), the competent body in the matter.

In order to develop the analysis and answer the RQs, the authors had to build a complex dataset that combines platform data from different sources.

3.1 Dataset description

The analysis dataset was built through matching the platforms information extracted by ordinary Register held by CONSOB, extracting the financial information for the period 2018-2021 for each platform by AIDA database and finally, using the Italian equity crowdfunding market official data provided by the School of Management of the Politecnico di Milano, 2022.

3.2 Platform data by CONSOB

CONSOB is the public authority in charge of authorizing equity crowdfunding platforms. It also supervises the activity of the platforms in line

with the provisions of Consob Regulation nr. 18592 issued on 2013, June 26 (updated to Feb -2020) and holds the record of authorized subjects. Data collection started from the ordinary section of this record. As of 2023, Jan 03, there were 51 platforms authorized to raise equity in Italy. As shown below (Fig.1):

Fig.1 Identikit of Italian Equity Crowdfunding platforms

nr.	Auth. nr.	Year of release	Name	City	nr.	Auth. nr.	Year of release	Name	City
1	2	2014	ACTION CROWD S.R.L	MILANO	27	61	2021	INNEXTA S.C.R.L	MILANO
2	45	2020	ACTIVANT S.R.L	MILANO	28	29	2018	LIFESEEDER S.P.A	ROMA
3	57	2021	AGRHCROWD S.R.L	MILANO	29	38	2019	LOCAL CROWDFUNDING NETWORK S.R.L	LAIVES
4	58	2021	AZIMUT DIRECT X S.R.L	MILANO	30	40	2019	MERIDIAN 180 S.R.L	BOLOGNA
5	12	2015	BACKTOWORK24 S.R.L	MILANO	31	5	2014	MF NEXT EQUITY CROWDFUNDING S.R.L	CIVITANOVA MARCHE
6	13	2015	BALDI FINANCE S.P.A	MILANO	32	54	2021	MIGLIORA S.R.L	MILANO
7	53	2021	BILDAP S.R.L	MILANO	33	7	2014	MUUM LAB S.R.L	LECCE
8	56	2021	BRICKUP S.R.L	BOLOGNA	34	18	2015	OPSTART S.R.L	BERGAMO
9	34	2018	BUILD AROUND S.R.L	MILANO	35	46	2020	PARITER EQUITY S.R.L	TRENTO
10	20	2017	CLUBDEAL S.P.A	MILANO	36	65	2021	PARTNERSINCROWD S.R.L	GENOVA
11	6	2014	CROWDFUNDME S.P.A	MILANO	37	50	2020	PUZZLE FUNDING S.R.L	MILANO
12	31	2018	CROWDINVEST S.R.L	PRATO	38	47	2020	RE-ANIMA S.R.L	MILANO
13	33	2018	DOORWAY S.R.L SOCIETA' BENEFIT	BOLOGNA	39	59	2021	REROI S.R.L	MILANO
14	10	2014	ECOMILL S.R.L	MILANO	40	66	2021	RESTARTUP S.R.L	MILANO
15	44	2020	EQUIFUNDING S.R.L	MILANO	41	8	2014	SIAMOSOCI S.R.L	MILANO
16	49	2020	ETIANUS S.R.L	FRANCAVILLA FONTANA	42	1	2013	STARS UP S.R.L	LIVORNO
17	60	2021	EXRE CROWDFUNDING S.R.L	MILANO	43	35	2019	START FUNDING S.R.L	LECCE
18	55	2021	FENICE CROWD S.R.L	MILANO	44	4	2014	THE ING PROJECT S.R.L	BRESCIA
19	48	2020	FINANZA CONDIVISA S.R.L	PADOVA	45	52	2020	UPSIDETOWN S.R.L	MILANO
20	63	2021	FIRMAID S.R.L	SANTOMERO	46	21	2017	WALLANCE S.P.A	TRENTO
21	36	2019	FORCROWD S.R.L	MILANO	47	11	2014	WEARESTARTING S.R.L	BERGAMO
22	51	2020	FOXCROWD S.R.L	FIRENZE	48	41	2019	WEDEAL S.R.L	MILANO
23	9	2014	FUNDERA SRL	MILANO	49	62	2021	Y- CROWD S.R.L	MILANO
24	25	2018	GAMGA S.R.L	MILANO	50	28	2018	1001FACT ITALY S.R.L	TORINO
25	37	2019	GOPMI S.R.L	NAPOLI	51	32	2018	4CROWD S.P.A	MILANO
26	24	2017	IDEA CROWDFUNDING S.R.L	ROMA					

Source: author's elaboration

Moreover, data regarding legal address, province, state, website, the presence of Collective Investment Undertakings (CIUs) - (Ita OICR), authorization to trade debt securities (ITA mini-bond for SMEs), the presence of electronic dashboard for investors and finally, eventually endorsements issued by CONSOB has been extracted for each platform.

3.3 Platform financial data by AIDA

Aida is one of the most important databases for Italian SMEs information. Focusing on the present research, after obtaining data from CONSOB record, the authors were able to extract the information through queries via vat number for each platform.

The extracted information focus on several issues from income statement and financial statements, and performances' index as described in the following section 4.

3.4 Equity-crowdfunding volume data

Regarding the data on the volume of capital raised during the analysis period (2018-2021), this research refers to the equity crowdfunding information provided in the 7th Report by the School of Management of the Politecnico di Milano, 2022.

The report states that “up to June 30th, 2022, 799 campaigns have been successfully closed in the equity crowdfunding market with a total capital volume of 429.04 million euros” (Politecnico di Milano, 2022, p. 23). For the purpose of our analysis and to link the performance of platforms with the volume of raised capital, we can extrapolate from the report that:

- 36.39 million euros were raised in 2018;
- 65.41 million euros were raised in 2019;
- 101.05 million euros were raised in 2020; and
- 148.26 million euros were raised in 2021 (the last year of our analysis).

To comply with the journal’s guidelines, much information has been provided in summary form. If interested in the study, you can request specific appendices from the authors by contacting them at blindforreviewers@blindforreviewers.it.

The following section provides the data analysis.

4. Findings

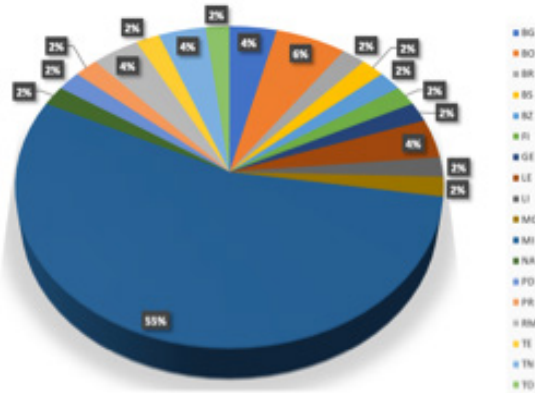
The present section is devoted to synthesize the main findings that the analysis points out. The following sub-sections highlight 1) geographical area; 2) the possibility of negotiating mini-bonds; 3) economic performances; 4) financial performances; 5) subsidiaries companies; 6) index.

4.1. Geographical area

The 51 Italian equity crowdfunding platforms have an imbalanced geographical distribution, with a concentration in northern Italy (38 units out of 51) and the remainder divided between central Italy (9 units) and southern Italy (3 units).

The following figure (Fig. 2) breaks down the data based on province and it shows a prevalent concentration of platforms in the province of Milan (MI) with 28 units out of 51 (55%), followed by Bologna (BO) with 3 units (6%), Bergamo (BG), Lecce (LE), Rome (RM) and Trento (TN) respectively with 2 units each (4%) and the remaining 12 provinces with 1 unit each (2%).

Fig.2 Geographical area by province distribution of Italian Equity Crowdfunding platforms



Source: author's elaboration

For the critical discussion of the information, please refer to the “discussion and conclusion” section.

4.2. Mini-bonds

This sub-section aims to highlight the number of Italian equity crowdfunding platforms, that allow SMEs to negotiate mini-bonds through the online portal, according to the reform introduced by CONSOB Regulation in the 2020.

Across the analysis, it is possible to identify the platforms (which for convenience we can define as “multi-strategy”) allowing Italian SMEs to develop their financing strategies through innovative instruments of both the equity and debt type.

The following figure (Fig.3) shows the 7 equity crowdfunding platforms that have obtained authorization from CONSOB to also negotiate mini-bonds.

Fig.3 Italian Equity Crowdfunding Platform enabled for mini-bonds trading

nr.	Auth. nr.	Year of release	Name	City	Province
4	58	2021	AZIMUT DIRECT X S.R.L.	MILANO	MI
11	6	2014	CROWDFUNDME S.P.A.	MILANO	MI
20	63	2021	FIRMAID S.R.L.	SANT'OMERO	TE
23	9	2014	FUNDERA SRL	MILANO	MI
32	54	2021	MIGLIORA S.R.L.	MILANO	MI
34	18	2015	OPSTART S.R.L.	BERGAMO	BG
39	59	2021	REROI S.R.L.	MILANO	MI

Source: author's elaboration

Referring to seniority, the platforms authorized to issue minibonds are half among the oldest (years 2014-2015) and half among the newly established (year 2021). Most of these are located in the province of Milan (MI) (5 units out of 7, or 71.42%).

4.3. Economic performance

In an aggregate view, we can define the entire sector of Italian equity crowdfunding platforms as loss-making. The aggregate data show negative operating margins (in terms of EBITDA), and consequently also negative net results. The following figure (Fig.4) shows the aggregated data with an insight of the past performance of the current operating platforms. In other words, the analysis doesn't consider the platforms that shut down before 2021.

Fig.4 Aggregate economic results by the operating platforms in 2021-2018/EUR

Period:	2021	2020	2019	2018
Total Turnover	11.167.190	6.533.141	5.958.927	4.131.675
EBITDA	-385.549	-5.464.056	-1.841.482	-1.310.733
Net income (loss)	-2.663.920	-6.614.474	-3.041.834	-2.015.447
Operating Platforms	51	49	43	33

Source: author's elaboration

Focusing on the total turnover information, for 2021 the average of the sample is 218.915 euros. Starting from this benchmark value, only 8 platforms held a higher value than the average data.

The following figure (Fig.5) shows the results:

Fig.5 Top 8 Italian equity crowdfunding platform in 2021 per turnover/EUR

Platform	2021	2020	2019	2018
SIAMOSOCI S.R.L.	2.458.347	776.676	845.935	617.168
WALLIANCE S.P.A.	1.706.365	868.391	625.938	344.983
INNEXTA S.C.R.L.	1.465.231	1.137.868	1.273.793	387.060
OPSTART S.R.L.	1.348.407	632.027	280.111	180.958
CROWDFUNDME S.P.A.	1.336.475	420.415	390.175	186.480
BALDI FINANCE S.P.A	958.193	526.209	925.103	1.081.315
BACKTOWORK24 S.R.L.	772.204	905.550	535.162	679.781
DOORWAY S.R.L. SOCIETA' BENEFIT	343.526	222.595	101.460	0

Source: author's elaboration

As highlighted above, the total turnover generated in 2021 by the top 8 platforms (for a total of 10.388.748 euros) represents the 93% of entire market.

Analysing EBITDA, only 18 platforms out of 51 reach a positive margin. The following figure shows the findings (Fig.6):

Fig.6 Equity crowdfunding platforms with positive EBITDA during the period (2021-2018)/EUR

Period:	2021	2020	2019	2018
Total Turnover	9.530.513	2.841.980	2.907.239	1.521.714
EBITDA	1.706.504	397.007	381.559	140.465
Net income (loss)	538.951	107.954	31.180	81.772
Operating Platforms with positive EBITDA	18	14	12	6
Platform with pos. EBITDA on total Platform (%)	35.29%	28.57%	27.91%	18.18%

Source: author's elaboration

From the data above, it is clear that only a residual part of the sample shows positive results. Although the results are growing, in 2021 platforms with positive results account for only 35.29 percent of the sample (18 units on 51).

Finally, comparing the above data with the equity crowdfunding volume provided by Politecnico di Milano, it is possible to highlight a slight decline in the ratio of platform revenues to raised equity volume, from average royalty ratio of 11.35% in 2018, falls to 7.35 % in 2021. The analysis of this change in the incidence to total raised volume will be the subject of analysis in future work

4.4. Financial performance

The present section shows the main financial results of the Italian equity crowdfunding platforms.

The following figure (Fig. 7) shows the equity and debt range, in term of MAX/min value, for each period.

Fig.7 Equity and Debt range (MAX/min) of Italian equity crowdfunding platform per year/EUR

Period:	2021	2020	2019	2018
Total Equity MAX	4.651.447	8.442.000	2.032.201	1.735.729
Total Equity min	-308.885	-170.504	-131.379	-257.013
Total Debt MAX	1.244.518	2.528.000	696.417	756.650
Total Debt min	8	70	20	201

Source: author's elaboration

The highest (best) value in term of capitalization (equity) is reached in 2020, while the lowest (worst) value is reached in 2021. Moreover, the worst results have been held by the same entity (namely 1001PACT ITALY S.rl.) since 2019.

In the same way, referring to debt-side, while the platform holding the highest value of debt differs over time, the lowest stock of debt (near zero) has been held by the same entity (namely STARTFUNDING S.rl.) until 2020.

Referring to the composition of the Italian platforms' assets, there is a prevalence of intangible assets that generally account for almost 80% of the composition, the remaining 20% being liquidity and only a residual part of tangible assets. This facet is interesting since, according to national accounting standards, the value of licenses (as well as the authorization granted by CONSOB) is accounted for as intangible assets. It is, therefore, this asset that has the greatest value among the assets in the financial statement.

Also, analyzing the patenting activities, only three Italian platforms (SIAMOSOCI S.R.L.; CROWDFUNDME S.P.A.; and BACKTOWORK24 S.R.L.) dedicate part of their work to new products/inventios.

For the best of knowledge, it is useful to point out that in Italy there are several limitations regarding the business model of the platforms. The most relevant one concerns the impossibility to invest in the campaigns promoted in their portals. Therefore, the performances shown are the result of the mere characteristic activity of junction between companies and investors, i.e. as match of demand (by SMEs) and of offer (by investors) of capital.

4.5. Subsidiaries

Holding activity is not very common among Italian equity crowdfunding platforms. In fact, only 9 out of 51 hold one or more subsidiaries. Even more uncommon is holding activity for internationalization, as out of the 9 mentioned only 2 hold foreign subsidiaries. We refer, in particular, to the Opstar Srl platform that holds an English company (SEED SET Ltd) and the Walliance platform that holds a French company (Walliance France). Walliance is the only platform in Italy that carries out the real estate equity crowdfunding.

4.6. Index

As framed in sub-section 4.4, also for index, we provide an insight based on MAX/min value for each item. Particularly, we analyzed the performance indicators inherent to working capital, operating cash flow, ROI (%), ROE (%), Debt/Equity ratio, Debt/EBITDA ratio and NFP (Net Financial Position). In our opinion, the present analysis is useful for understanding the real situation and the overall balance of Italian equity crowdfunding platforms.

Indeed, information regarding working capital and operating cash flow is useful for understanding how platforms intend to meet short-term commitments (working capital) and to what extent they have cash flow from operations (operating cash flow).

ROI and ROE ratio, on the other hand, provide evidence of the profitability of the operating income on invested capital and net income on equity.

Finally, the study of the ratio of debt to Equity and to EBITDA grant important insight into the financial sustainability of overall debt exposure. The first ratio helps to understand the stock of debt versus the size of equity, while the second ratio expresses debt relief versus operating cash flow generated from operations (EBITDA).

NFP means the difference between total financial debts, regardless of their maturity, and liquid assets, i.e., those financial assets whose immediate conversion into currency or transferability can be demanded.

Following figure (fig.8) shows the highest and the minimum value for each indicator during the analysis period.

Fig.8 MAX/min value index of Italian equity crowdfunding platform per year/EUR

Period:	2021	2020	2019	2018
Working Capital MAX	4.141.963	1.469.617	1.749.521	464.695
Working Capital min	-117.324	-142.202	-250.793	-265.824
Operating Cash Flow MAX	725.736	118.283	109.862	43.417
Operating Cash Flow min	-541.646	-963.746	-916.527	-377.598
NFP (Net Financial Position) MAX	-3.946.083	-1.341.655	-1.064.974	-80.456
NFP (Net Financial Position) min	328.613	109.581	463.886	227.958
ROI (%) MAX	25.9	15.3	39.4	27.4
ROI (%) min	-746.2	-466.5	-383.5	-254.7
ROE (%) MAX	77.7	25.9	573.6	1,091.9
ROE (%) min	-495.2	-679.8	-1,371.2	-1,682.3
Debt/Equity ratio MAX	16.1	75.1	7.6	21.8
Debt/Equity ratio min	0.0	0.0	0.0	0.0
Debt/EBITDA ratio MAX	50.5	34.9	22.0	7.3
Debt/EBITDA ratio min	0.0	0.3	0.8	1.8

** the representation not consider the platform with negative Equity.*

*** the representation not consider the platform with negative EBITDA.*

Source: author's elaboration

Representing the same data by entity (Fig.9), we can see several correlations that lead us to think of the platform market as a context represented by only a few subjects.

Fig.9 MAX/min index value of Italian equity crowdfunding platform per entity per year

Period:	2021	2020	2019	2018
Working Capital MAX	SIAMOSOCI S.R.L.	OPSTART S.R.L.	WALLIANCE S.P.A.	WALLIANCE S.P.A.
Working Capital min	1001PACT ITALY S.R.L.	MIGLIORA S.R.L.	CROWDFUNDME S.P.A.	BACKTOWORK24 S.R.L.
Operating Cash Flow MAX	SIAMOSOCI S.R.L.	INNEXTA S.C.R.L.	INNEXTA S.C.R.L.	BALDI FINANCE S.P.A.
Operating Cash Flow min	CLUBDEAL S.P.A.	BACKTOWORK24 S.R.L.	BACKTOWORK24 S.R.L.	BACKTOWORK24 S.R.L.
NFP (Net Financial Position) MAX	SIAMOSOCI S.R.L.	OPSTART S.R.L.	WALLIANCE S.P.A.	CROWDFUNDME S.P.A.
NFP (Net Financial Position) min	CLUBDEAL S.P.A.	MIGLIORA S.R.L.	CLUBDEAL S.P.A.	CLUBDEAL S.P.A.
ROI (%) MAX	LOCAL.CROWDFUNDING NETWORK S.R.L.	BUILD AROUND S.R.L.	ETIANUS S.R.L.	MF NEXT QUILTY CROWDFUNDING S.R.L.
ROI (%) min	1001PACT ITALY S.R.L.	1001PACT ITALY S.R.L.	1001PACT ITALY S.R.L.	1001PACT ITALY S.R.L.
ROE (%) MAX	PUZZLE FUNDING S.R.L.	INNEXTA S.C.R.L.	MUUM LAB S.R.L.	GAMGA S.R.L.
ROE (%) min	GAMGA S.R.L.	PUZZLE FUNDING S.R.L.	4CROWD S.P.A.	CROWDINVEST S.R.L.
Debt/Equity ratio MAX	PUZZLE FUNDING S.R.L.	PUZZLE FUNDING S.R.L.	ETIANUS S.R.L.	LOCAL.CROWDFUNDING NETWORK S.R.L.
Debt/Equity ratio min	GOPMI S.R.L.	START FUNDING S.R.L.	START FUNDING S.R.L.	START FUNDING S.R.L.
Debt/EBITDA ratio MAX	FUNDERA SRL	ECOMILL S.R.L.	GAMGA S.R.L.	MUUM LAB S.R.L.
Debt/EBITDA ratio min	CROWDFUNDME S.P.A.	OPSTART S.R.L.	MIGLIORA S.R.L.	FIRMAID S.R.L.

Source: author's elaboration

According to the highlighted results, SIAMOSOCI platform is one of the most important platforms operating in ECF Italian market. It is the first Italian platform per turnover, reaching positive results, in terms of EBITDA, net income and operating cash flow. SIAMOSOCI reaches the best NFP only in 2021, as the previous years represent a start-up period. At this stage, SIAMOSOCI started its holding activity by reaching as many as 4 subsidiaries in 2021.

Analyzing the profitability of operating income, platforms present several different results in terms of ROI. The worst operating profitability for the entire analysis period is held by the 1001PACT ITALY S.R.L platform, while the best result is held by a different platform for each year observed.

Focusing on the analysis of the profitability of net income (ROE), Italian

platforms are presented as a wide-ranging picture with different subjects in different survey years. For the best knowledge, it is useful to highlight that the above results do not represent the best (or worst) in absolute value but they represent only the best (or worst) ratio compared to net income and the amount of the equity of the period. In this way, it is useful to highlight the best result in term of net income of the Italian equity crowdfunding for 2021 (Fig. 10):

Fig.10 Top five Italian equity crowdfunding platform for net income in 2021 with historical results

Platform	2021	2020	2019	2018
SIAMOSOCI S.R.L.	351.720	-504.951	-397.649	-341.803
INNEXTA S.C.R.L.	108.213	106.778	2.837	-193.053
OPSTART S.R.L.	69.521	28.272	24.817	15.938
WALLIANCE S.P.A.	36.191	-654.838	-223.509	-138.954
CROWDINVEST S.R.L.	9.668	-16.725	-37.488	-37.212

Source: author's elaboration

Finally, focusing on the analysis of the sustainability of the debts compared to equity and to EBITDA (please see previous fig.9), the best results in term of Debt/Equity is presented by GOPMI srl platform while in term of Debt/EBITDA is held by CROWDFUNDME spa platform.

5. Discussions and conclusion

Equity crowdfunding represents one of the main innovative equity-side financing instruments that support small-medium enterprises (Modaffari et al., 2020). Using this tool, companies obtain financial resources as risk capital to financing their business idea. Investors, on the other hand, subscribe and get shares in the company, which offers future profits and capital gains in return.

The described mechanism can only be realized thanks to particular entities who aim to coincide the interests of SMEs and investors, namely the platforms (Vulkan et al., 2016; Walthoff-Borm et., 2018; Cumming et al., 2020). The equity crowdfunding platforms play a fundamental role in the promotion of innovative entrepreneurship, fitting in specific phases of innovative SMEs life cycle where, other financing agents such as business incubators, business angels and venture capital (Iacoviello, 2015; Pagano et al., 2021; Paoloni and Modaffari, 2022) cannot find place.

However, scholars seem underestimate the platforms' relevance, developing studies about companies and investors (Davis et al., 2017; Lukkar-

inen et al., 2022; Caputo et al., 2022); and treating platforms topics as a residual part of the equity crowdfunding tool.

Starting from this emerging gap, this first explanatory study aimed to observe the material platforms' role in the financing of small-medium enterprises in a specific context.

Particularly, the study has been developed in twofold. In one hand, by analysing the generic functioning framework of equity crowdfunding platforms, and then focusing on the specific Italian regulations. On the other hand, through an empirical analysis of the Italian scenario, by observing and analyzing the current workings of the platforms that promote financing function for SMEs.

To achieve this goal, two different research questions (RQs) have been formulated, which will be answered below with conclusive considerations in the light of the results mentioned in the previous section.

RQ1: how are equity crowdfunding platforms demographically distributed in the Italian economic landscape?

The findings reveal an uneven territorial distribution of the platforms. A significant concentration is found in the province of Milan, where 28 units out of 51 reside (or about 55% of the total). In the rest of northern Italy there are another 10 platforms, which together with the previous ones amount to 38 units (or 75.5% of the total). In central Italy there are 9 units while in the south only 3 units.

This disparity in geolocation does not have objective justification. An issue useful in explaining this disparity in distribution could be traced in the territorial proximity to firms. The concentration of the platforms in a specific area can also be linked with a phenomenon already known in Italian economic history as industrial districts. The empirical data evidences could be read as the beginning of a new conformation of districts: the "digital" ones. This new conformation has the scope to promote the innovative financing instruments in favor of SMEs, assisting them from the pre-collection phase up to the exit phase. This consideration is also in line with the literature discussed, which highlight that the platforms support is not limited to mere advertising of the campaign but it is tailored on SMEs needs.

A further aspect related to the physical distance between enterprises and platforms could be the issue of control. In fact, the distance of the platform from the company can trigger troubles regarding execution, by the platform, of due diligence requested by Consob Regulations before the funding campaign. Furthermore, empirical studies show that one of the investor's considerations when buying shares in innovative SMEs through the equity crowdfunding tool, is precisely the physical proximity to the project (Hornuf and Neuenkirch, 2017). Therefore, having a greater num-

ber of platforms that are equally distributed on territories, could be a stimulating factor for innovative entrepreneurial phenomenon, as well as a factor for the growth and development of entrepreneurial culture and the use of innovative financing tools, such as equity crowdfunding.

Despite of these issues, it is still possible to pursue the phenomenon of democratization of capitals to which, equity crowdfunding aspires. A further development out of this initial explanatory study that strengthens the thesis, according to which the investor prefers to finance projects that are physically closer, could be the observation of the connection existing between the provenience of the investors and the project characteristics that platform choose to launch. Developing this analysis is useful for understanding whether the platforms that are located in the north, promote projects by companies close to them and also if, on the contrary, companies not close to platforms turn to geographically distance platforms to promote their innovative projects. This last conclusion could confirm that equity crowdfunding is as an innovative financing tool isn't affected by physical constraints.

RQ2: what are the main operational performances of Italian platforms?

Although in the period (2021-2018) the total aggregate revenues grow, negative results are observed both in terms of operating income and in terms of net income for the Italian equity crowdfunding platforms. The worst data is recorded in 2020, where the annual percentage growth in revenues is the lowest compared to year-on-year deviations and aggregate losses (operating (eur -5.4 mln) and net (eur -6.6 mln)) are the highest of the entire historical series.

For the best of knowledge also with respect to the contents illustrated for RQ1, it is useful to mention, that the number of active platforms grew during the survey period: out of the 51 actives today, 33 were already active in 2018.

However, negative statements about the sector are not entirely correct. In fact, by focusing only on the entities with positive EBITDA, encouraging performance results become visible. Firstly, we should mention that out of the 51 platforms, only 18 have a positive EBITDA (i.e. only 35% of the sector). These 18 platforms, in 2021, contribute to the production of approximately 85% of the entire revenue volume (eur 9.5 million out of eur 11.1), producing a positive EBITDA of eur 1.7 million and a net income of eur 0.5 million. This picture shows that in 2021, the probability of loss from EBIDTA, in terms of probability of occurrence of the harmful event compared to the number of participants in the sector, is around 64.70% (33 entities out of 51 record operating losses). From this conclusion, subsequent studies could be elaborated to understand which cost factors make platforms economically vulnerable.

Referring to the analysis by ratio, in the present work a MAX/min type analysis was performed on all 51 platforms. Using this technique, it was possible to identify the entities that recorded the best and the worst result, thus tracing the perimeter of the entire segment for each year.

Starting from the Debt/Equity ratio, it is important to observe that during the survey period, for the range between MAX value and min value, there was a reduction in the distance between the values in favor of the greater capitalization of the platforms. On the contrary, in the Debt/EBIT-DA ratio, there is a gap in the values whose cause could lie; on the one hand, by the increase in the use of credit capital and, on the other, by the reduction in operating profitability. Still with reference to the operational aspect of the platforms, the operational cash flow indicators show a worsening of the min results during the survey period as well.

In contrast to what is described for the previous ratios and with regard to the data of the net financial position (NFP), there is an expansion of the range of values. In fact, in 2021, there is a proportional percentage increase in MAX value compared to the previous year. There is also a worsening of min value, in spite of getting counterbalanced by the benefit recorded in MAX values.

In the historical series analysis, it is noted that, often, the same subject holds the value of min every year (for example the 1001PACT ITALY S.R.L. platform records the result of the worst ROI for the entire historical series).

The natural consequence of reading this data would be the interruption of the activity over time, however the platforms seem to want to survive despite recording negative results. The procrastination of the negative period could be linked to the desire to preserve the value of the authorization issued by CONSOB. To support this view, as already mentioned in the literature section, we find the provision envisaged in article 11-bis of Consob Regulation nr. 18592/2013, which attests the possibility to revoke the authorization in the event of inactivity for more than 6 months. From this point of view, the platforms that find themselves in this situation, in order not to lose the authorization, could be led to accept non-performing equity crowdfunding campaigns.

Moving towards the conclusion of this first explanatory research, the positive role of platforms in supporting Italian SMEs, in a general perspective, can be confirmed. In Italy, there has been an increase in the total volume of raised equity, with a growing trend over the years. This confirms that platforms represent the key link between SMEs and investors. In addition, there is an increase of the average percentage of royalties that platforms receive from campaigns. It could be read as a better service provided by the platforms. Firms are willing to pay higher fees for the better collecting activities. This conclusion is in line with literature. In fact, according to

Wilson and Testoni, 2014 “platforms usually charge companies a fee, typically 5-10 percent of the amount raised” (p.5).

In the light of what has been discussed so far and the points derived from the answer to 2 RQs, we can conclude by defining the platform sector, which derives from the phenomenon of financing through equity crowdfunding, as a heterogeneous sector in which the risk of loss is greater than 50% of the entire sample. In other words, to date, the number of platforms with positive performances represents only 35% of the sector.

However, a further positive growth forecast can be linked to the regulations introduced in 2020, with which the possibility of negotiating debt-side instruments such as minibonds was also provided to the portal. Nowadays, this possibility is exploited by only 13% of Italian platforms (7 units), but in the near future it could allow a real democratization of the phenomenon of innovative financing instruments.

Last but not least, the aspect that requires greater attention is the holding activity of the platforms. Only a few entities hold investee companies and even fewer, are those whose investee activity is oriented towards the development of innovative SMEs. What we are referring to, specifically, is the creation of groups that can support the start-up from early stages to development and the creation of value. One could think of mixed groups in which there are incubators for idea screening services, company constitution and business modelling / start-up, business angels and venture capital, with the aim of providing financial resources in the pre-seed and seed phase. Finally, these groups can also include platforms that support SMEs in the collection of equity and then accompany them, with post-collection services, up to the possible “exit way”.

In the light of the results of this study, we can assert that the conclusions we reach is not at all generic. In fact, the online platforms can function differently depending on country where they are located and also the place where fundraising takes place. In other words, the same instrument (equity crowdfunding) has different rules based on the countries considered and the business model performed by platforms. In countries with advanced laws, this financing instrument, and consequently the platforms business model, is subject to more stringent rules and precise control mechanisms. On the contrary, in countries where laws are weaker, its use is less controlled and opportunistic behaviors can occur.

Italy is involved in the first category and although the benefits of equity crowdfunding are tangible, several steps have still to be taken.

Considering financing and recapitalization SMEs as a primary pillar of the instrument, expanding or mandatorily providing consulting services instrumental to the start of the campaign by platforms could increase the effectiveness of equity crowdfunding and trust toward investors.

Across this assumption a twofold reflection must be drawn. On the en-

terprises and platforms side, Italian regulations do not still provide a specific rule for direct involvement of the platform in financing campaigns. Nowadays, the role of Italian platforms could be simply resumed as match of demand (by SMEs) and of offer (by investors) of capital. Instead, in other countries, even with low regulation, direct platform involvement in SMEs financing can occur.

On the investor side, however, there is still a lack of tools useful to preserve investors and support them in their investments' choices. Particularly, even today, there are no campaign rating or fraud prevention models. Equity crowdfunding, through the investors' turnover (new entries and exits), could lend itself to fraudulent practices, such as Ponzi schemes.

In this direction, policy maker could plan new rules that can better ensure investor protection and at the same time in financing small and medium-sized enterprises, including via the direct involvement of platforms. To reach this scope, among other, policy maker could require to platforms the implementation of specific models, that based multi-variable analysis, provides outputs in term of rating of campaign and fraud-risk for investors.

Campaign rating could cover different issues, such as scores on operational and financial performance; on sustainability issues; and many others.

Fraud risk, on the other hand, could relate to models that consider specific enterprise and campaign characteristics. For instance, they might consider qualitative variables such as board characteristics or even qualitative aspects of the project, or quantitative variables such as the amount of capital required, ROI or ROE compared to the feasibility of the proposed project, and many others. Even on these issues the literature is still underestimated.

Developing and following the above issues could encourage a further advance in the implementation of financial innovation and the process of financial democratization, a crucial point for crowdfunding.

Referring to the originality of this first explanatory work, several theoretical and practical implications can be mentioned. From a theoretical point of view, the work contributes to the literature on SMEs and innovative entrepreneurship linked with the studies on innovative equity-side financing instruments. Particular emphasis was dedicated to the contents discussed in the literature on the subject of equity crowdfunding platforms and their response in territorial contexts, where the financing instrument is specifically regulated, such as the Italian one. From a practical point of view, the work can help improve the relationship between start-ups and platforms by providing a clear representation of the current market. Furthermore, this work can help professionals involved in supporting the growth of start-ups, which represent a rapidly growing entrepreneurial phenomenon in Italy.

Limitations and future lines of the research are summarized in the next section

6. Limitations and future perspectives

The main limitation of this study lies in the nature of the accounting data used for investigating purposes. The data come from the AIDA database and need to be verified against the platforms' official balance sheet documents. Moreover, further qualitative documentation should be provided for better quantitative data processing.

This limit can be overcome in future research which, work on case studies aimed at investigating the issues that emerged in the concluding paragraph of this work; in particular, the analysis of the relationships between the SMEs and investors and equity crowdfunding platforms as their main link.

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COMMUNITY ENTREPRENEURSHIP.
FROM GENESIS TO THE LEGITIMIZATION¹

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Abstract

Purpose. Community Entrepreneurship (CE) at its very origin has been associated with the process of building a robust, entrepreneurial community, as a social as well as an economic endeavour by community entrepreneurs. Since then, many experiences have emerged all around the world, in impoverished territories of the Global North as well as in depleted contexts of the Global South, often giving birth to a specific kind of enterprise, named Community-based Enterprise or simply Community Enterprise. Apart from the framework of Community Entrepreneurship, these initiatives have often been explored under the social entrepreneurship construct, with which it shares many similarities. However, CE presents some distinctive features that may advocate a specific role within entrepreneurship studies. Considering the above, our study aims to provide an extensive background of issues related to CE, focusing on its specificities as well as its relationships with other strands of entrepreneurship studies.

Design/methodology/approach. A systematic literature review on Scopus and Web of Science Core Collection (WoS) has been carried out, limiting it to peer-reviewed academic articles published in English between 1990 and 2022.

Findings. Beyond descriptive analytics, the results discuss the main research topics explored within the realm of CE, highlighting challenges that connect researchers and practitioners.

Practical and Social Implications. Considering that both community enterprises and other kinds of Community Entrepreneurship are relevant for the development and regeneration of depleted contexts, especially in rural areas, this analysis can support practitioners and policy-makers willing to foster entrepreneurial initiatives based on local community involvement.

Originality of the study. Although the literature on CE dates back to the 1990s, it has recently experienced renewed interest from scholars. However, no systematic literature reviews on this topic have been already developed.

¹ Although the paper is the result of a joint effort, the drafting of paragraphs 3 and 4 is to be attributed to Massimo Albanese; the remaining paragraphs are to be attributed to Nicoletta Buratti.

1. Introduction

The label Community Entrepreneurship (CE) is used to interpret initiatives aimed at stimulating local community engagement and active participation in local development processes (Johannisson, 1990; Beeton, 2010; Dana and Light, 2011; Mars, 2022).

The most notable of these initiatives is the setting up of community enterprises, defined as organizations that engage in commercial activities to actively contribute to the development of a local community bringing economic, social, and environmental benefits (Buratti et al., 2022b). These initiatives are characterized by some distinguished features, namely they are typically embedded in places (Haugh and Pardy, 1999); built on local resources, and leveraging on social capital (Pearce, 2003; Tracey et al., 2005; Somerville and McElwee, 2011; Bailey, 2012), they involve the local community in their activities as well as in their governance (Peredo and Chrisman, 2006; Smith, 2012; Pierre et al., 2014; Shrestha et al., 2022).

Community enterprises are often considered a special kind of social enterprise, since they are characterized by the attainment of multiple goals, with an emphasis on social ones. Furthermore, they often assume the form of not-for-profit organizations, adopting a cooperative style of management to attain multiple stakeholders' satisfaction (Vestrum and Rasmussen, 2013). However, due to the specific focus on places and their community, scholars have argued that literature on community enterprise may represent a distinct corpus within the strand of entrepreneurship (Tracey et al., 2005; Cooney, 2008).

As emphasized by Smith (2012, p. 58) *"These theoretical variations on the theme of entrepreneurship are being used to label and explain all sorts of individual and collective enterprising behaviour enacted within our communities. ... Often the resultant explanations are not entirely convincing to scholars or practitioners alike"*.

In light of these different perspectives, a literature review can support the definition of CE and its distinguished features within entrepreneurship studies. Community entrepreneurship can refer to very different research fields (among these: entrepreneurship; management; sociology; geography; local development). To address this feature and obtain meaningful and relevant results, a literature review has been set up considering the different fields of interest. It should also be noted that in the analysis of the papers, the entrepreneurial perspective has been privileged, following the pattern of analysis proposed by Gartner (1985), which highlights the areas of interest to be investigated when studying the process of creating a business venture. For this reason, we can say that our work fits, within management studies, in the specific field of entrepreneurship. The paper is organized as follows. First, we introduce the topic and formulate the research questions which drive the following analysis. We then illustrate

the methodology adopted to select the body of literature to be analyzed and provide a descriptive analysis of selected papers. Based on the literature review, an attempt is made to clarify the development path of CE, pinpointing the main issues emerging from the various studies analyzed. Finally, we conclude by describing the limitations of our study, also giving indications for further research.

2. Theoretical background

2.1 “Community” and “Entrepreneurship” as building blocks

Strictu sensu, CE construct is at the intersection between community and entrepreneurship, where a community may be defined as a group of people based in a geographically bound area, such as a village or locality (Haugh and Pardy, 1999). Being part of a community implies an intrinsic connection between members and a collective sense of difference from others not from the community (Lyons et al., 2012). Communities tend to be self-defining in place (Lyons et al., 2012), which then impacts and becomes fundamental to the entrepreneurial process (McKeever et al., 2015).

It may be harder to offer a clear-cut definition of entrepreneurship. Several different approaches have been developed over time and, as recognized by Smith (2012) “our appreciation of exactly what actions and activities constitute entrepreneurship *per se* is blurring as entrepreneurship theory matures and perhaps re-fragments” (ibid, p. 57). To our purpose, we consider entrepreneurship as the creation of a new organization (as proposed by Gartner, 1985), and as the process of creation and extraction of value from an environment (following the holistic definition of Anderson, 1995).

Since the seminal contribution of Johannisson (1990), many scholars have proposed empirical studies referred to geographical areas characterized by some commonalities, i.e., affected by critical economic, social, and/or environmental conditions and requiring some entrepreneurial behavior to revitalize and/or develop.

The experiences in the various contexts have been affected by the specificities of the social, cultural, economic, and institutional setting. As a consequence, the studies conducted on them have contributed to the sedimentation of practices and interpretations, resulting in a jagged body of knowledge. Due to this complexity and lack of clarity, scholars have stressed the urgency of “getting things in order”, by recognizing the link between community and entrepreneurs as a new frontier in entrepreneurship research (Lyons et al., 2012), as a new stream of thought within the broader strand on entrepreneurship (Fortunato and Alter, 2015).

The studies on CE are largely based on case studies with theoretical

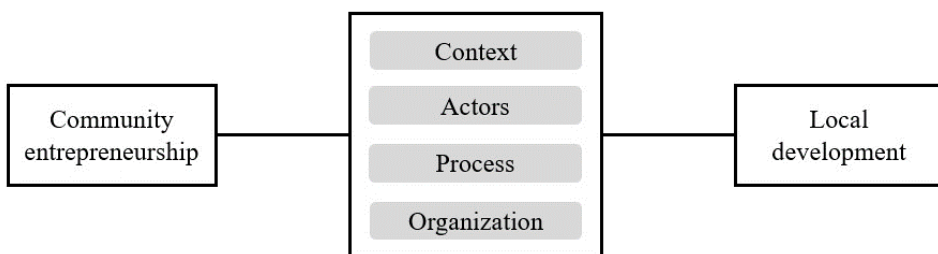
frameworks that are often poor or not explicit. Implicitly or explicitly, however, the literature on CE typically refers to two main research areas: community enterprise (as a specific kind of organization emerging from the community entrepreneurial process operated in a specific context by the so-called community entrepreneur as its main actor), and local development (where the focus is on the regeneration of the local community operated by the community entrepreneur who, thanks to peculiar ability, can stimulate the entrepreneurial spirit of individuals and orient them toward the welfare of the community as a whole).

This is also the perspective we are interested in (see Fig. 1); by conducting an extensive literature review, we aim to address two fundamental issues: the first, is related to the very nature of community entrepreneurship, and its distinctive characteristics; while the second focuses on its actual contribution to local development. It is well known that the main value of community entrepreneurship initiatives resides in the positive impact on the community and the place they are rooted in. However, these initiatives face several difficulties, so it is important to highlight if and to what extent researchers and practitioners have dealt with the subject and, eventually, pinpoint the conditions that make them sustainable and therefore able to permanently influence local development processes.

In summary, our literature review is organized to answer the following research questions:

1. What are the distinctive features of CE?
2. What is the actual contribution of CE's initiatives to local development?

Fig.1 Framework for the analysis



Source: authors' elaboration.

3. Methods

We developed a systematic literature review (SLR) based on high-quality sources to summarize CE research, evaluate the frontier of knowledge, and discuss ideas and gaps relevant to the topic.

To this end, the review process followed the input-processing-output approach (Levy and Ellis, 2006) and involved sequential steps.

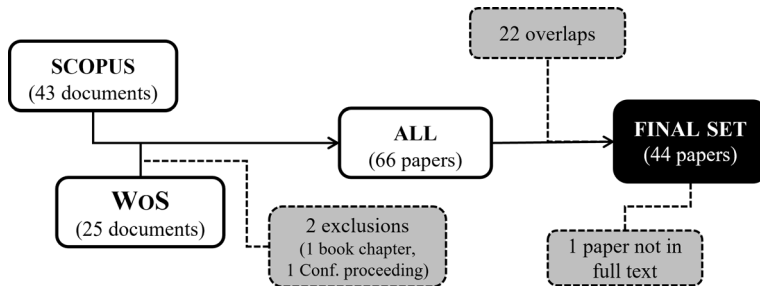
The identification of relevant literature started the first stage of the review process. Usually, SLRs are limited to quality literature; consequently, we searched within two major databases: Scopus and Web of Science Core Collection (WoS), limiting it to peer-reviewed academic articles published in English (thus excluding conference proceedings and book chapters).

Considering that community entrepreneurship is at the crossroads of different strands of literature, we decided not to limit the search to specific subject areas. The methodological reason was to ensure a wide range of perspectives, within which to search for the elements that could enable us to grasp the multifaceted nature of the phenomenon.

Specifically, we searched papers that contained the term “community entrepreneurship” in the title or keywords, and through two queries run in January 2023, we retrieved 43 (Scopus) and 25 (WoS) articles².

The search had no time limit, and after cross-checking the lists, we obtained 44 papers (Figure 2). Only one WoS-listed article was not on the Scopus list, and only one article was not available in full text, due to these aspects, some analysis are limited to 43 papers.

Fig.2 Selected literature



Source: authors' elaboration.

²To support the reproducibility of the input stage, we include the queries used in:

- Scopus database, (TITLE (“community entrepreneurship”) OR KEY (“community entrepreneurship”)) AND (LIMIT-TO (DOCTYPE, “ar”) OR LIMIT-TO (DOCTYPE, “re”)) AND (LIMIT-TO (LANGUAGE, “English”));
- WoS database, (TI=(“community entrepreneurship”)) OR AK=(“community entrepreneurship”), refined by (Document Types: Article OR Review Article) AND (Languages: English).

To develop the processing stage, we read and classified the documents according to the typical variables of a review, such as publication year, keywords, methodological strategy, and publication outlet. To classify:

- *the methodological strategies*, intended as “classes of research settings for gaining knowledge about a research problem”, we followed the taxonomy used in McGrath (1981, p. 182), adding the classes “combined methods” and “not specified”. After the classification, we compared the results and the doubtful cases were discussed, reaching an agreed classification;
- *the journals*, we adopted the journal h-index (Mingers and Yang, 2017) by basing on the Scimago Journal Rank of March 2023, as it is a useful index to evaluate the importance and the quality of peer-reviewed journals (Linke and Florio, 2019).

To sketch the state of the art of the produced knowledge and judge it, we adopted a 3-level analysis aimed at assessing:

- 1) *the scientific activity*. We analysed the density of documents (number of articles). Indeed, the act of generating academic papers (peer-reviewed articles) is a good proxy for (quality) research activity (Henneken and Kurtz, 2019),
- 2) *the scientific impact*. We developed a bibliometric analysis based on citation count. Although citations are not free of limits (MacRoberts and MacRoberts, 1989), they can be considered a proxy for scientific impact (Moed, 2005). Data were downloaded from Google Scholar in March 2023 via Publish or Perish software,
- 3) *the emerging topics*. To identify them, we focused on journals with the highest number of publications and journals classified in the first quartile of the Scimago Journal Rank³. We considered the quartile of the publication year and excluded literature reviews.

4. Descriptive results

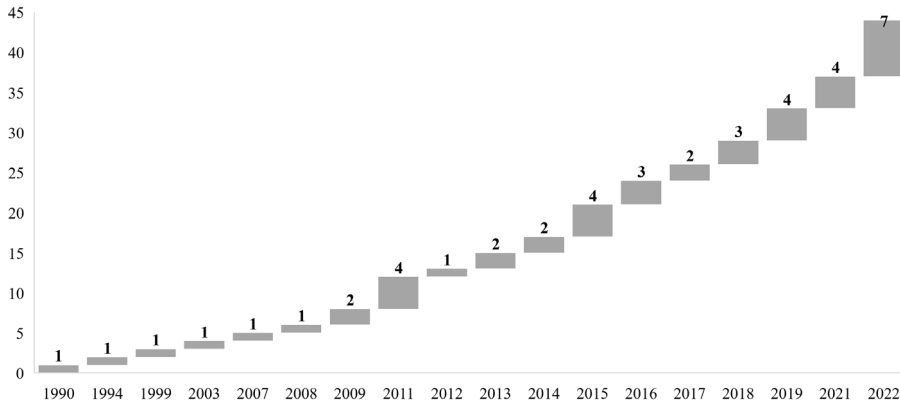
To analyze the evolution of scientific production on community entrepreneurship, we developed a timeline (Figure 3).

The review spans more than 30 years and the first article of this period was published by Johannisson in 1990. Over the next 20 years, scholarly activity was not intense, as only 8 articles were published, whereas, since 2011, community entrepreneurship has attracted more interest. Scientific activity has been more intense and regular only in the last 7 years, and

³The set of journals in each subject category is classified according to their Scimago Journal Rank and divided into four equal groups (four quartiles). The first quartile comprises the quarter of the journals with the highest values.

today community entrepreneurship is increasingly attracting interest as an area of academic scrutiny (note that 25% of the selected literature has been published in the last 2 years).

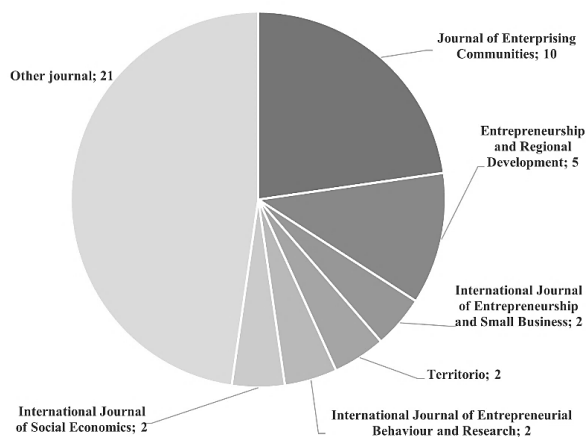
Fig.3 Timeline



Source: authors' elaboration.

Figure 4 and Table 1 offer an overview of journals which accepted manuscripts on community entrepreneurship and the importance of publication outlets. Journal of Enterprising Communities and Entrepreneurship and Regional Development are the journals that most frequently publish articles related to community entrepreneurship. Furthermore, the prestige of the journals publishing the articles in question has increased.

Fig. 4 Main publication outlets



Source: authors' elaboration.

Table.1 Articles by class of Scimago H-index published during 1990-2022

Journal h-index	1990-1992	1993-1995	1996-1998	1999-2001	2002-2004	2005-2007	2008-2010	2011-2013	2014-2016	2017-2019	2020-2022	Total
161-180		1										1
141-160												0
121-140										1		1
101-120											1	1
81-100	1							2			2	5
61-80				1	1			1			2	5
41-60						1			1	1	1	4
21-40							2	3	8	3	4	20
0-20							1	1		3		5
NA										1	1	2
Total	1	1	0	1	1	1	3	7	9	9	11	44

Source: authors' elaboration.

Considering adopted methods, research set in natural systems stands out above all others, as they account for more than 65% of the analyzed literature (Table 2). This type of research can use interviews, observations, and archival data to investigate specific behavior systems and their prevalence may be associated with a non-advanced level of knowledge maturity on the topic as well as the need to understand the relational and cultural contexts, where community entrepreneurship develops and to analyze social actors involved and the role they play.

In recent years, articles pointing to greater generalizability of results (sample survey, combined methods research), as well as those of a conceptual nature, with a focus on analyzing and describing the state of research (LRs) are published.

Table.2 Research methods adopted during 1990-2022 and related research impact

Research method	1990-1992	1993-1995	1996-1998	1999-2001	2002-2004	2005-2007	2008-2010	2011-2013	2014-2016	2017-2019	2020-2022	Total
Research sets in natural systems (i.e., case studies)	(1) 224,0	(1) 126,0		(1) 89,0	(1) 101,0	(1) 110,0	(2) 17,0	(4) 56,8	(5) 20,0	(6) 22,2	(7) 1,9	(29) 39,9
Empirical simulation and laboratory experiment												(0) 0,0

Sample survey and judgement task									(1) 28,0	(1) 23,0		(2) 25,5
Formal theory, conceptual study, LR								(2) 38,5	(3) 57,0		(2) 2,0	(7) 36,0
Computer simulation (attempts to model)											(1) 0,0	(1) 0,0
Combined methods								(1) 53,0			(1) 0,0	(2) 26,5
Not specified							(1) 11,0			(2) 39,5		(3) 30,0
Total	(1) 224,0	(1) 126,0	(0) 0,0	(1) 89,9	(1) 101,0	(1) 110,0	(3) 15,0	(7) 51,0	(9) 33,2	(9) 26,1	(11) 1,5	(44) 36,4

Notes: Number of publications in brackets; average number of citations per article out of brackets.

Source: authors' elaboration on Google Scholar data.

From the research impact perspective, the works of Johannisson (1990), Selsky and Smith (1994), Gliedt and Parker (2007) and Peredo (2003) are the most influential. These articles were developed on case studies that offered a few theoretical insights very useful for the following works; thus, they can be considered seminal papers. Over the last decade, articles of a conceptual nature, as well as papers based on the combination of different methods, have been developed, testifying to a slow maturation of the topic.

Table 3 shows the various subtopics that emerged over time in the main journals.

Table.3 Main topics in major journals

Authors	Year	Journal	Main topics
Johannisson	1990	Entrepreneurship and Regional Development	Depleted contexts as a stimulus for community development and cooperation. Importance of networking and the role of the community entrepreneur (leadership) in managing links with the market, institutions, and political actors.
Peredo	2003	Journal of Management Inquiry	Enterprises organised and managed by the local community as alternative initiatives to revitalise depressed contexts and pursue sustainable development.

Cooney	2008	Journal of Enterprising Communities	Community enterprise/Community entrepreneurship similarities and differences to traditional enterprises/entrepreneurial processes.
Dana, Light	2011	Entrepreneurship and Regional Development	Community entrepreneurship and the implications in terms of social capital, human capital, and cultural capital.
Spilling	2011	Entrepreneurship and Regional Development	Role of small enterprises in local communities and the chances of the entrepreneurial process to enact local mobilization through the management of personal networks.
Sundin	2011	Journal of Enterprising Communities	Community dimensions of social intentions characterizing (social/conventional) entrepreneurship.
Smith	2012	Journal of Enterprising Communities	Analysis of existing conceptualisations of community entrepreneurship and social enterprise.
Vestrum, Rasmussen	2013	International Journal of Entrepreneurial Behaviour and Research	Community entrepreneurship and resources mobilization. Changes in community enterprises resulting from the resource mobilisation process.
Varady, Kleinhans, van Ham	2015	Journal of Enterprising Communities	The potential of community entrepreneurship in small-scale urban revitalisation.
Summatavet, Raudsaar	2015	Journal of Enterprising Communities	The role of networking, creating community, product development and mentoring in the experiential and entrepreneurial learning process.
Vestrum	2016	Journal of Enterprising Communities	The role of community entrepreneurs, local communities, and the external environment in the resource mobilisation process. Lack of knowledge about gender in community entrepreneurship research.
Madichie	2016	Journal of Enterprising Communities	The role of social/community entrepreneurship in pandemic coping strategies.
Valchovska, Watts	2016	Journal of Social Entrepreneurship	Insights into the origins, key attributes, and development of community enterprises. Relevance of a mix of individual and community actions in the foundation/development of community enterprises.
Gurău, Dana	2018	Technological Forecasting and Social Change	The role of community entrepreneurship in protecting and managing the natural environment.
Roundy	2019	Journal of Business Venturing Insights	Community members and revitalization of entrepreneurial ecosystems.
Haugh	2022	Entrepreneurship and Regional Development	Influences of institutional legacy social structures and relations on community entrepreneurship.
Kalu, Dana	2022	Journal of Enterprising Communities	Relevance of social and cultural capital for community entrepreneurship.

Buratti, Albanese, Sillig	2022	Journal of Small Business and Enterprise Development	Analysis of entrepreneurial posture adopted by community entrepreneurs.
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Source: authors' elaboration on Scimago Journal Rank data

5. Discussion

One of the challenges in understanding more than 30 years of research is to grasp how the literature has evolved and how its results relate to each other. Our analyses suggest a distinct shift in research focus over time. We let these shifts influence our sensemaking in two phases.

First, we organize the shifts into three eras. Our organization under the three eras may be biased by subjective evaluations, but it is in line with observations about the most relevant papers published in periods 1 and 2 and with the rising interest in the topic in period 3. Second, and coherently with the framework proposed (Figure 1), we conduct a thematic exploration of the papers with their published keywords and content, using the eras as an organizing framework to extract substantive themes.

5.1 1990-1999: from the Community Entrepreneur to the entrepreneurial activity by groups with shared interests living in a small area

The first decade of our review is characterized by a very small number of studies (3), which nevertheless played a central role in the following development.

A keystone within the corpus of literature on community entrepreneurship is represented by the seminal work of Johannisson entitled 'Community entrepreneurship-cases and conceptualization', published on Entrepreneurship and Regional Development in 1990. The work describes two successful Swedish local development cases where the revitalization effort succeeded in turning a contraction process into a stable state, thanks to the involvement of the community by a local entrepreneur acting as a community leader. Following the idea that enterprises aiming at both business venturing and community revitalization call for social as well as commercial networking in local arenas⁴, the author defines the community entrepreneur as "a pivotal agent in the socio-economic community network. He or she economizes his/her personal networking by focusing on three issues: the management of the community boundary, internal arenas, and vital external linkages" (Johannisson, 1990, p. 79). In this perspective, the

⁴The idea in nuce had been introduced in a previous work co-authored with Nilsson (Johannisson and Nilsson, 1989).

community entrepreneur possesses leadership skills well beyond that in purely commercial settings, as he/she must initiate and orchestrate both social and political processes.

Community entrepreneurs are to be considered facilitators of entrepreneurial events conducted by other entrepreneurs rather than promoters of their own, individual business ventures; in this vein, the concept of community entrepreneur addresses the actor whose primary concern is the development of the community as a whole.

Shortly thereafter, Selsky and Smith (1994) added insights into the community entrepreneur concept.

They agree with the idea that community entrepreneurs represent a special kind of leader, as "in addition to being leaders of organizations in their own right, they play their most critical role in developing the collective capacities of organizations sharing interests in one or more community issues" (1994, p. 278). Effective community entrepreneurs do have three basic qualities: "(1) an ability to envision and articulate a multi-frame perspective; (2) an entrepreneurial orientation in brokering commitments, mobilizing resources, and managing events; and (3) a reflectiveness in their practice, which enables them to learn from, adapt to, and enact a changing social landscape" (1994, p. 278). These three qualities, traditionally discussed in terms of intra-organizational leadership (Bolman and Deal, 1991), are extended by Selsky and Smith to "inter-organizational, community-based contexts, where structures and norms are much weaker and need to be constructed" (1994, p. 278).

Fundamental, in community entrepreneurship, is the brokerage activity, i.e., developing, in addition to a sense of belonging, relational networks between distinct categories of people (Selsky and Smith, 1994). At the local level, networks of firms and other actors interested or active in the field of community development (individual citizens/volunteers, NGOs, neighborhood associations), and relationships with local institutions, are often essential (Johannisson, 1990). The community entrepreneur builds up a complex set of networks combining the formal as well as the informal social setting to facilitate community development; thus, networking is a crucial organizing vehicle for community entrepreneurs.

The decade ends with a study by Haugh and Pardy (1999), where CE is presented as an example of entrepreneurial activity by groups with social and economic benefits for a community. Namely, CE is referred to as the "...innovative re-combination of pre-existing elements of activity by inhabitants with shared interests living in a small basic administrative or statistical area. Community entrepreneurship attempts to use the process of entrepreneurship as a force for economic development by exploiting the resources and assets of the community" (ibid, p. 165). Community entrepreneurship is distinctive in that it refers to the process of social and

economic regeneration *for* a community *by* the community. The work emphasizes the importance of coordinating community members into a recognizable group to produce the community strategic document, and for the ideas for economic regeneration to come from the community itself. The A. conclude that developing community entrepreneurship requires a supportive infrastructure and a long-term commitment of people and resources to facilitate the process of releasing the entrepreneurial spirit of each community.

From then on, the role of the community entrepreneur as a social motivator will be explored further in later studies. The following decade will thus be marked by the co-existence of research focused either on the emergence and development of community enterprises or on local development initiatives centered on the key role of community entrepreneurs.

5.2 From 2003 up to 2012: the emerging construct of Community-based Enterprise and its debated positioning within the entrepreneurship studies

The second decade starts with a contribution destined to become a landmark in the debate on Community Entrepreneurship: Peredo's paper published in 2003 in the *Journal of Management Inquiry*, entitled: *Emerging Strategies Against Poverty. The Road Less Traveled*.

Peredo introduces the idea of the Community-based Enterprise (CBE) as "a mechanism for change" ... emerging "as an innovative response by impoverished communities to macroeconomic, social, and political factors" (Peredo, 2003, p. 164).

The study, based on three entrepreneurial initiatives in the Peruvian Andes, sheds new light on the concept of CE, pointing out that the outcome of such a process can take on new characteristics and forms, not ascribable to the traditional profit-oriented enterprise, from which it differs by being based on collective initiative, being strongly linked to a place and having as its goal the development of the local community. With regards to this, she recalls that "each CBE arose out of a purely local initiative. Moreover, each of these communities was marked by a high degree of cohesiveness, and in each were social and economic needs not being met by outside organizations. Indeed, in most cases, the initial moving force behind community action was not economic but rather related to the demand for basic social services. Business activity came later" (Peredo, 2003, p. 164).

Finally, A. points out that "the idea that CBE can serve as a strategy for overcoming poverty in the Andean context and possibly in other similar contexts is based on two principal premises: (a) that development, if it is to be sustainable, must come from the people themselves; and (b) that institutional/public policies must incorporate the diversity of cultures as well as of diverse economic, environmental, and social systems" (ibidem).

The following years saw a growing interest in community entrepreneurship and community entrepreneurs, scholars were invited to debate about how to define them, as compared to social entrepreneurship, conventional commercial entrepreneurship, and traditional social organizations (Cooney, 2008).

Studies focused on specific experiences, located in Canada (Gliedt and Parker, 2007), India (Torri, 2009), Turkey (Varol et al., 2009), Finland (Dana and Riseth, 2011; Dana and Light, 2011), and Scotland (Smith, 2012) are published.

Amongst these, only the cases described by Torri (2009) and Smith (2012) are explicitly referred to the CBE concept à la Peredo, while the others describe: social entrepreneurial initiatives labelled green community entrepreneurship (Gliedt and Parker, 2007); the role of social community entrepreneur à la Johannisson⁵ (Varol et al., 2009); community entrepreneurship as a bottom-up political process through which community-based networks collaboratively mobilize localized resources in lobbying policymakers to invest in ventures benefiting the broader community (Beeton, 2010); and finally community entrepreneurship as a mean to maintain cultural traditions in remote contexts as production resources (Dana and Light, 2011; Dana and Riseth, 2011).

The most intriguing paper about the theoretical distinction between community entrepreneurship, social entrepreneurship and conventional entrepreneurship is the study of Sundin (2011): it is she that after presenting and comparing the dominating references on entrepreneurship, social entrepreneurship and community entrepreneurship, shows that not only (as expected) social enterprises but also conventional ones are based on social intentions and that these social intentions often have community dimensions. The cases she presents are in a specific context (Sweden), and we all know that when dealing with entrepreneurship (and social phenomenon in general) findings in one context may not be relevant in others. Notwithstanding, she offers useful insights about the fact that “the existing definitions and images of entrepreneurship, social entrepreneurship and community entrepreneurship, do not cover the wide range of activities and organizations that exist, nor do they cover the individuals and groups behind them” (ibidem, p. 220).

⁵ In this regard they affirm: “More than economic actors some entrepreneurs appear as social representatives who are defined as social or community entrepreneurs. They consider the development of the community as their main personal goal and possess an innovative idea for social change. In local sustainable development concern, community entrepreneurs appear as crucial actors who act as leaders to motivate groups and individuals” (Varol et al., 2009, p. 51).

5.3 From 2013 onwards: searching for theoretical legitimacy

The third decade is characterized by a rise in the interest in community entrepreneurship and its related topics, i.e., community entrepreneur, community enterprise and community development.

Two main features characterize the publications analyzed. First, the widening of geographical boundaries of the case studies proposed, with new entries from Norway (Vestrum and Rasmussen, 2013); Malaysia (Jaafar et al., 2014); Estonia (Summatavet and Raudsaar, 2015); United States (Varady et al., 2015; James and Victor, 2017; Gurău and Dana, 2018; Roundy, 2019; Mars, 2022); Africa (Madichie, 2016; Kalu and Dana, 2022); the Netherlands (Kleinhans and Ham, 2017); Australia (Adhikari et al., 2018; Lamont et al., 2021); Italy (Tricarico and Pacchi, 2018; Buratti et al., 2022a); New Zealand (Argyrou and Hummels, 2019); Nepal (Shrestha et al., 2022).

Second (and most importantly to our perspective), the deepening of the conceptual framework of reference is observed. A generalized more focused analysis of the analogies between social entrepreneurship and community entrepreneurship is developed (Vestrum and Rasmussen, 2013; Gliedt and Parker, 2014; Madichie, 2016; Pan, 2021; Kalu and Dana, 2022), and, in parallel, new frameworks, such as sustainability entrepreneurship (Levinsohn, 2013); institutional entrepreneurship (Vestrum, 2016; Haugh, 2022); humane entrepreneurship (Buratti et al., 2022a) are proposed.

To navigate among the different perspectives, it may be useful to first recall the distinction, emphasized by Vestrum and Rasmussen (2013) between a community entrepreneur as a change agent and a community enterprise (or community venture) as an organization embedded in the community to be able to mobilize resources. They compare the community ventures (CVs) to social enterprises, pinpointing the common elements (focus on social goals and the involvement of many stakeholders) but also highlighting the specific characteristics of CVs, that may not be valid for all types of social ventures.

The distinction between the role of the entrepreneur as a change agent (Vestrum and Rasmussen, 2013; Vestrum, 2016) and the venture as an organization embedded in a specific community enables us to acknowledge the mismatch between the aim to change the *status quo* and the need for valuing the social and cultural capital of the community as a resource. To acquire resources, the community venture must involve the various stakeholders in the area (municipalities, voluntary organizations, local businesses, etc.) each of which has its motivations. Therefore, the community entrepreneur acts as an agent of change in the mid-long run, but in the startup phase of the new venture must exercise the leadership and networking capabilities already emphasized by Johannisson (plus maybe strong mediation skills).

Apart from this, CE also presents some contact points with sustainabil-

ity entrepreneurship (Levinsohn, 2013) due to its focus on places (one of the sustainability principles) and the rising humane entrepreneurship perspective (Buratti, 2022a), due to the community leaders' strategic posture.

Anyway, social entrepreneurship remains the most used theoretical framework for comparative analysis and we may affirm that the distinction from CE is the embeddedness in place of community entrepreneurial initiatives; as recently recalled: "Community entrepreneurship describes the process of establishing a community-based, entrepreneurial, non-profit distributing venture that aims to create economic, social and environmental impacts for the communities in which it is based" (Haugh, 2022, p. 545).

Regarding the actual contribution to local community development, the issue analyzed vary according to the context of reference: most contribution underlines the impact of CE initiatives in rural environments (among others: Pierre et al., 2014; Adhikari et al. 2018; Pan, 2021), although in the years a rising interest towards these kinds of initiatives in urban contexts has been developed, focusing on such issues as co-production, citizen involvement, relationships between stakeholders and the socio-economic positive impacts of interventions (Varady et al., 2015; Kleinhans and Van Ham, 2017; Mars, 2022).

The kind of positive impacts described mostly refer to economic and social impacts. In some contexts, positive environmental impacts are also emphasized (Gray et al., 2014). It is worthwhile to note that, although the three categories of outcomes are closely interrelated and functional to one another, attention to environmental sustainability has emerged quite recently (Gurău and Dana, 2018; Pan, 2021; Shrestha et al., 2022; Buratti et al., 2022a; Mars, 2022).

As most of the cases described in the literature refer to entrepreneurial initiatives that are still relatively young, it is hard to assess the durability of the results obtained.

Notwithstanding, a few recently published articles have brought attention to the – sometimes - missing link between intentions and effective behaviours, offering both a methodological proposal to address the tricky issue of performance measurement (Silfia et al., 2021) and a deep investigation into the viability and sustainability of community enterprises (Shrestha et al., 2022).

5.4. Emerging perspectives

We are now going to recall our research questions to take a stance towards the most intriguing insights.

Our first research question is related to Community Entrepreneurship's distinctive features, as compared to other forms of entrepreneurship.

Concerning this first aspect, our literature review shows that overlaps

between community and social entrepreneurship are commonly acknowledged. However, some distinguishing features emerge. Firstly, the *context*: community entrepreneurship manifests itself in depleted, impoverished places and/or in territories characterized by a paucity of social services. Secondly, the *actor*: CE is centered on the ability of the community entrepreneur to mobilize local social capital, and to organize local assets for the creation and/or extraction of value through the involvement of the local community. Thirdly, the entrepreneurial *process*: is indeed molded by the need to balance between economic sustainability and commitment to social and environmental issues of the local community. Finally, the *output of the process*: what is commonly labelled as ‘community enterprise’ is associated by researchers and practitioners with highly variable practices.

As highlighted in a previous study (Buratti et al., 2022b, p. 20), “literature case studies are positioned along a continuum for at least three variables, regarding: i. the type of objectives (from the effects induced by income and employment growth alone to economic, social, and environmental objectives); ii. the level of community involvement (from individual firms to firms that involve the whole community in production and governance); iii. the share of income derived from commercial activity (from unsubsidized businesses to organizations based primarily on volunteer work and donations with minimal earnings) ... The variety of experiences registered calls for a broad definition, where the basic pillars to be considered are the following three: the attachment to a specific place; the aim of its social, cultural, economic, and environmental regeneration through commercial activities; the involvement of the local community in its activities, governance and – sometimes – management”.

A common objection to the specificity of community enterprise (as the main manifestation of the community entrepreneurial process) is that it shows many points in common with social enterprise (either in a cooperative form or not) and, sometimes, it may also resemble a traditional cooperative of workers. In this vein, one should distinguish between the legal status of the community entrepreneurial initiative and its core elements. An exemplary case is ‘mutuality’. In the workers’ cooperative, internal mutuality prevails, as the benefits pursued concern first and foremost the cooperative members (in terms of employment stability and fair remuneration). Whereas in the community enterprise, mutuality is directed internally to multiple actors (workers, volunteers, users, etc.) and externally to the local community (also attaining the interests of non-members) (Irecoop, 2016). In this perspective, there are some commonalities with social co-operatives, whose primary aim is directed to collective interest (Mancino and Thomas, 2005). However, in community enterprises, the community of reference is related to a defined territorial area, and this also entails specificities in terms of objectives (place revitalization) decision-making processes (based

mostly on extended assemblies), and business models (characterized by a mix of different activities, whose rationale is the attainment of a balance between economic sustainability and local communities' needs satisfaction).

As for the second research question (the actual contribution of CE initiatives to local development), our literature review showed that the scale of analysis is definitively local, and the issues analyzed vary according to the context of reference. Despite the rising interest in these kinds of initiatives, especially those developed following a bottom-up approach, there is little evidence of their actual contribution to sustainable local development, considering also that shared, comprehensive methods for assessing their impact are not yet a widespread practice.

Overall, there is little thinking about the metrics for CE initiatives results assessment (Bailey 2012; Varady et al., 2015). Several studies have instead highlighted the numerous threats encountered by existing community enterprises, concerning, especially, weak governance and managerial capabilities, shortage of resources, and discontinuous relationships with the local community and other relevant actors in the enacted environment. In this vein, it is of paramount importance to acknowledge that, despite their positive contribution to local development, they are affected in most cases by an intrinsic fragility, so it is necessary to correctly size the expectations regarding their sustainable development and achievements.

6. Conclusions

This literature review aims to offer a specific systematization of the literature on this topic which is still lacking, despite the growing interest in community entrepreneurship as a source of viable solutions to counteract decline and meet the needs of communities localized in depleted contexts, either in rural places or in urban areas.

However, our research has some limitations. First, the choice of the database and the lack of non-English language contributions limit access to experiences from contexts less prone to international publications. Second, the choice of the label "community entrepreneurship" may have limited the literature to be analyzed. Indeed, considering the analysis carried out, "collective entrepreneurship" and "community business entrepreneurship" could be useful terms for searching for relevant literature. Third, the choice to exclude from our analysis publications other than papers may offer an incomplete view of the body of knowledge developed on the topic.

Despite these limitations, this review of the existing literature has enabled us to formulate some conclusions and offer some guidelines for future research.

First, our study offers a portrayal of the development and current state of

the literature on community entrepreneurship, i.e., a hybrid form of entrepreneurship manifested especially in areas characterized by economic decline and social impoverishment and based mainly – albeit not exclusively – on community involvement in the governance of the firm thus established and/or in supporting the implementation of development projects.

Concerning the positioning of CE within the realm of entrepreneurship studies, overlaps between community and social entrepreneurship are commonly acknowledged. So, what are the distinctive features of community entrepreneurship? The literature analyzed pinpoints the crucial issue of mobilization of social capital, the ability to organize local assets, and the capacity to involve the local community by the so-called community entrepreneur. In one word, the community entrepreneurs' ability to enact the local environment and to turn an unfavorable, sometimes hostile context into one capable of offering collective well-being. In this perspective, social capabilities (Gray et al., 2014), entrepreneurial networking (Johannisson, 1990), and the ability to balance the need for economic sustainability and commitment to social and environmental issues of the local community are to be considered essential ingredients of community entrepreneurship, in its various manifestations.

Finally, as regards the actual contribution to local development, the analysis shows the multiple positive impacts that effective community entrepreneurial initiatives may have on places, while on the other side have highlighted the many threats to their viability and economic sustainability in the long run. Of particular concern, from an entrepreneurial perspective, access to local resources requires a superior ability to manage cooperative relationships with the community and other actors. In this regard, while institutional recognition of the potential of CE for communities' revitalization is crucial, it is also important to acknowledge their intrinsic fragility and to correctly size the expectations regarding their development and achievements.

Stated these findings, we consider it useful to draw attention to some issues that may be relevant to both researchers and policymakers interested in CE and related initiatives.

In the first place, and in the wake of what has been proposed by some authors, it seems useful to further structure and develop the reflection on the relationship between entrepreneurship, community, and local development.

Up to now the prevailing argument in the international debate is about similarities and differences between community entrepreneurship and social entrepreneurship; considering what has been highlighted so far, it could be of interest for both researchers and practitioners to delve deeper into the specificities of the community entrepreneurial initiatives born in different contexts. A possible starting point is to adopt a shared definition of what a community enterprise is, as compared to other initiatives aiming

at places regeneration and involving the local community in its realization; second, to acknowledge the differences - if significant - between CE initiatives born in rural vs. urban contexts. As regards the pivotal capabilities of community entrepreneurs, it seems that the debate remained anchored to the personal skills of the community entrepreneur, i.e., the leadership and networking skills on which the success of the most promising initiatives are based. However, also considering the changes taking place in the socio-economic and technological environment, it appears important for the near future to address the issue of the impact that new digital technologies may have on community entrepreneurial initiatives. Some timid approaches to the topic have made their appearance (Fahmi and Savira, 2023); particular attention has been given up to now, to the role of social networks in the creation of an extended network of supporters that goes beyond the geographical limits of the resident community (Mars, 2022).

Another important theme that is underdeveloped relates to the assessment of their actual contribution to value generation in local contexts. This is a tricky issue, for at least two sets of considerations. On one side, there is no unanimous consensus on what can be considered the best methodology to adopt, and the variety of concrete situations requires a flexible approach based on a set of multidimensional indicators. On the other side, because even if the need to shift from the consideration of traditional output indicators towards outcome indicators seems to be established in the specialized literature on the topic, the measurement of such indicators requires strict coherence with the objectives formulated in the upstream phase of the entrepreneurial project, as well as the adoption of a medium-long term horizon, to detect the change generated through the initiative. Which requires strategic and managerial capabilities that are rarely found in the founders of the initiatives in question.

This consideration introduces us to the final remark.

Given the potential of CE initiatives in depleted contexts, it seems of paramount importance that government, aid, and economic development organizations must help foster the identification and training of future community entrepreneurship leaders, offering opportunities to improve the ability of existing - as well as would-be - community entrepreneurs, through specific programs of capacity building developed by qualified educational organizations in cooperation with mentors and practitioners engaged in community management.

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ADDRESSING CHALLENGES AND CATALYSTS FOR THE
ADOPTION OF E-COMMERCE IN SMEs

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Abstract

Purpose. This study analyses the internal and external factors that determine hindrances in the adoption of e-commerce technologies within SMEs. Specifically, it elucidates the significant and potential threats that SMEs need to consider when adopting this technology.

Design/methodology/approach. The theoretical TOE model is employed, which holistically integrates three dimensions in the e-commerce adoption process within SMEs: technological, organisational, and environmental. To test the postulated hypotheses, the study employs a logistic regression specification.

Findings. The results highlight that, in terms of the technological dimension, the lack of funds/financing exerts a significant negative influence on e-commerce adoption. Investments in ICT, software, consulting, R&D, and innovation are exceptionally effective, and any constraints in these areas could exert a detrimental impact on e-commerce adoption. Constraints in digital competencies, sales forecasting, and the lack of entrepreneurial motivation associated with personal and professional development negatively affect the adoption of e-commerce by SMEs. In the environmental dimension, any reduction in the status of leading rivalry, cooperation with clients, and rivals constitutes a barrier to e-commerce adoption.

Practical and Social Implications. The outcomes of this study carry a wide range of managerial implications. Investing in human assets and education, particularly in training, is an essential component of any action plan aimed at addressing the obstacles to the adoption of e-commerce by SMEs. The importance of financing, including that of access to funds and their availability in the ecosystem, is highlighted. The findings from this study further underscore the significance of interaction and collaboration with other stakeholders. SMEs should aim to support the establishment of these networks and to integrate them into their existing organization.

Originality of the study. The empirical study employs a dataset obtained from a representative survey of the SME sector in Spain.

1. Introduction

The modern rise of e-commerce has resulted in a fundamental change in global marketplaces. This innovative framework, based on technical advancements, has ushered in a new paradigm of business, and companies are leveraging online markets to remain competitive. In terms of definition, e-commerce is the activity of purchasing and trading items or services through the Internet (Turban et al., 2010), and it could be visualised as a game-changing platform for increasing international competition and encouraging business expansion (Ha, 2020; Susanty et al., 2020). In this regard, technological advancements, along with the development of user-friendly e-commerce platforms, have made it easier for SMEs to establish a digital identity. E-commerce enables SMEs to reach a global audience while incurring only a fraction of the expense of standard operations. However, SMEs continue to trail behind large companies in terms of e-commerce adoption (Alam et al., 2011; Govindaraju et al., 2015) due to their limited capacity and the high costs associated with integrating digital technologies (Scupola, 2009). In 2022, the percentage of companies engaged in e-commerce activities in Spain varied significantly in terms of company size: 62.53% for large companies (with 250 employees or more), 39.64% for medium-sized companies (ranging from 50 to 249 employees), 27.10% for small companies (with at least 10 employees but fewer than 50), and a mere 14.16% for microenterprises (Instituto Nacional de Estadística, 2023). It is therefore evident that firm size serves as a limiting factor in e-commerce adoption. Nevertheless, it is crucial to conduct further research to identify the specific factors that contribute to the low adoption rates among SMEs. This will enable the development of policy initiatives aimed at facilitating their access to this critical channel of distribution.

The aim of this paper involves ascertaining the possible obstacles and enablers that affect the adoption of e-commerce in SMEs. The prior literature has adopted various theoretical frameworks: the Technological Acceptance Model (TAM) (Rauniar et al., 2014), which focuses on the use of technology; the Theory of Planned Behaviour (TPB) (Cheng, 2019), which is a psychological theory linked to behaviour; and the Theory of Reasoned Action (TRA) (Vallerand et al., 1992), which also focuses on human action. The literature identifies three major concerns regarding SMEs' hesitancy regarding e-commerce adoption and usage: a lack of achievement, stagnancy in e-commerce awareness, and the impact of such stagnancy (Salwani et al., 2009; Akram et al., 2019; Saridakis et al., 2019).

In contrast to previous studies, our approach to this issue is grounded in the Technological, Organisational, and Environmental (TOE) model, with particular emphasis on the environmental dimension. Engagement with other ecosystem stakeholders is crucial. Unlike the existing literature, which predominantly highlights technological determinants, our study therefore underscores the significance of the environmental dimension. We stress the vital importance of interaction and collaboration with other stakeholders as pivotal factors within this context.

An additional shortcoming of the previous literature is found in its predominantly qualitative nature, with only limited quantitative evidence available. To address this gap, our empirical study utilises a dataset consisting of 802 SMEs in Spain. This dataset was collected through a survey conducted in the second quarter of 2022, and our sampling approach was designed to ensure its representation of the entire Spanish SME sector. To test the hypotheses postulated, the representative study uses a logistic regression specification.

The findings of this study carry direct implications for business management that can foster the e-commerce adoption of SMEs. The results outlined in this paper underscore the significance of digital skills and business cooperation. SMEs should actively strive to foster connections with partners and integrate themselves into networks. Furthermore, our findings suggest that both achieving a leading status in competitive actions and entrepreneurs' motivation for personal and professional development exert a positive influence on e-commerce adoption. Likewise, the results highlight that the increase in funds/financing is a necessary component of any action plan to address the challenge of e-commerce adoption. Moreover, it is critical for SMEs to engage in R&D activities and innovation, since these could have a direct relationship with investment in ICT, software, and consultancy, thereby favouring the adoption of e-commerce. This engagement is also connected to the financing factor.

The remainder of the paper is organised as follows. The theoretical foundation of this study is presented in Section 2, along with a review of the body of previous research and the research hypotheses. The collected data and the techniques employed in this study are described in Section 3. The results are introduced and discussed in Section 4. The paper ends with a conclusion section that summarises the main findings and derives certain management and policy implications.

2. Literature review

2.1 Theoretical Background

According to previous studies, scholars have been attentively investigating the emergence and implementation of e-commerce (Nogoev et al., 2011; Akram et al., 2019). It is commonly accepted that e-commerce technology offers numerous tangible opportunities and advantages since it helps companies close the gap between themselves and their clients, save time, reduce expenses, and increase income (Al-Qirim, 2007; Saridakis et al., 2019). The major and principal benefits indicated by the existing literature include increased cost-effectiveness, a rise in sales, performance improvements, faster processing, a broader market presence, and enhanced customer satisfaction (Turban, 2010). In general terms, technological development has a direct and substantial impact on an SME's operational, commercial, and organisational effectiveness and, in particular, e-commerce is a key factor for SMEs

to acquire a competitive advantage (Ledwaba et al., 2019).

The transition from classic trade to digital platforms poses a significant challenge for SMEs (Wang et al., 2011) since the digital world presents increased rivalry and competition. In this regard, this environment creates more pressure than does the traditional environment (Zhu, 2004). Large enterprises are leading the way in the development of e-commerce use for their businesses, while SMEs are typically slow to adopt this technology (Van Akkeren et al., 2003; Alam et al., 2011; Govindaraju et al., 2015) due to their constrained capacity and the high cost of integrating digital technologies (Scupola, 2009). Consequently, access to resources constitutes an essential component in the adoption of digital technologies (Abebe, 2014).

On the other hand, previous studies have also explored factors that may serve as obstacles and enablers for the adoption of e-commerce. In this regard, the prior literature mentions several aspects: the role of government (Raed et al., 2021); the technological awareness of entrepreneurs/managers (Zheng et al., 2004); their managerial expertise (Chuang et al., 2007); trust in e-commerce channels (Inna and Murat, 2023); limited resources, particularly financial (Scupola, 2009); and the level of technological readiness (Alam et al., 2011; Abou-Shouk et al., 2016).

E-commerce has become increasingly important for companies, and on-line channels enable new prospects, low fixed costs, increased competitive advantages, comprehensive product positioning, and expanded market opportunities (Lefebvre, 2005; Al-Qirim, 2007; Saridakis et al., 2019). At the firm level, the existing literature mentions the importance of the level of technology in small enterprises, and emphasises the significant role of readiness in e-commerce adoption (Abou-Shouk et al., 2016). Furthermore, one of the most studied factors in the literature is that of the firm's resources, especially regarding limited financial resources as being a significant obstacle (Scupola, 2009; Saridakis et al., 2019). Additionally, when it comes to the individual level, researchers state that the expertise level of managers and entrepreneurs in management (Chuang et al., 2007) and their technological awareness (Zheng et al., 2004) play a crucial role in the adoption of this technology.

In this vein, the Covid pandemic was a game-changer, where e-commerce boomed by 19% in the global environment (Statista, 2022a). Since this pandemic exerted a huge impact on worldwide competition between firms, SMEs should reframe their mindset in operating their businesses by incorporating new technologies (Winarsih et al., 2020). It can therefore be assumed that the epidemic has provided opportunities for innovation in e-commerce that SMEs should be made aware of.

Overall, the previous literature mainly focuses on technological determinants of e-commerce for SMEs and, more precisely, on the resources of the firm in this respect (Scupola, 2009; Abebe, 2014; Saridakis et al., 2019). However, along with the technological dimension, our analysis also involves the organisational and environmental dimensions. In this regard, and in contrast to previous studies, the importance of the environmental dimension is acknowledged by highlighting the significance of interaction and collaboration with other actors.

2.2 Research Framework

In the e-commerce literature, several models of Technological Acceptance (TAM) (Rauniar et al., 2014), including the Theory of Planned Behaviour (TPB) (Cheng, 2019) and the Theory of Reasoned Action (TRA) (Vallerand et al., 1992), as well as the Technological, Organisational, and Environmental Framework (TOE), have been studied and implemented. From among these models, we have chosen the TOE model (see Fig. 1 below) as the theoretical foundation for our research, first and foremost because it explores not only technical aspects but also investigates organisational and environmental factors. It is widely acknowledged that a framework with multiple aspects can provide superior analytical effectiveness compared to that of a framework focusing on only one aspect (Molla & Licker, 2005). Moreover, this approach is recognised as adopting a dynamic viewpoint that suggests modifications within an enterprise are driven not only by individuals within the firm but also by the firm's characteristics (Hameed et al., 2012). In a prior study, the TOE framework has been employed to examine the moderating impact of entrepreneurial orientation (EO) on the correlation between technological, organisational, and environmental variables and e-commerce adoption in micro-enterprises (Li et al., 2022). Despite the aforementioned positive features, this model also faces criticism for its lack of consideration of the individual characteristics of entrepreneurs/managers and employees (Ghobakhloo & Tang, 2013).

2.3 Research hypotheses

In this section, the research hypotheses to be tested in the empirical part of this study are presented and classified in the light of the research framework proposed in Section 2.2 (Figure 1). These three key categories are the technological dimension, the organisational dimension, and the environmental dimension.

A - Technological Dimension

The technological dimension corresponds to the collection of technologies, resources, compatibility, and costs that influence e-commerce technology adoption. Financing and a lack of funds play a significant role in this process, where any constraint in these financial resources could make SMEs cautious about their investment and capital spending. In this regard, financial constraints constitute a major impediment (Scupola, 2009; Saridakis et al., 2019).

Likewise, firm innovativeness, as defined by a proactive orientation towards research and development (R&D) and innovation, plays a crucial role in driving e-commerce adoption among SMEs (Sitong et al., 2010; Ciampi et al., 2021). Companies with stronger innovativeness are more inclined to create new or enhanced products and exhibit a greater motivation to market them internationally through online platforms.

Conversely, SMEs may find it necessary to invest in information and communication technology (ICT), software solutions, and consulting services to facilitate the development of their e-commerce operations (Matlay et al., 2003; Yadiati et al., 2019). This underscores the significance of technological resources in successfully implementing online selling strategies.

Furthermore, numerous studies have also emphasised the advantages of having reliable Internet connectivity (Belloc et al., 2012; Falch and Henten, 2018). Broadband internet usage can enhance SMEs' productivity and streamline their adoption of e-commerce practices (Haller and Lyons, 2015). Consequently, issues related to Internet connectivity have been identified as a significant factor in the success of e-commerce initiatives (Prieger, 2013). In this respect, the following hypotheses are postulated regarding the technological dimension of e-commerce adoption:

H1: A lack of funds hinders the adoption of e-commerce by SMEs.

H2: Difficulties in attaining a proper Internet connection (stable, with sufficient capacity and reasonable cost) hinder the adoption of e-commerce by SMEs.

H3: Low innovativeness hinders the adoption of e-commerce by SMEs.

H4: Low investment in ICT, software, and consultancy hinders the adoption of e-commerce by SMEs.

B - Organisational Dimension

The organisational dimension discusses the company's features that might affect the adoption of e-commerce technologies, particularly digital competencies, sales and purchase forecasts, and the desire for personal and professional development of managers/entrepreneurs. According to several previous investigations on e-commerce adoption by SMEs, digital competencies have a significant effect on e-commerce adoption and usability (Hong & Zhu, 2006; Saffu et al., 2008). Similarly, running a sales forecast activity is also necessary to adopt e-commerce (Liu et al., 2019). Staff's ability and knowledge advancement can support and boost the adoption of new technologies, aligned with the concept of "knowledge barriers" (Attewell, 1992; Ciampi et al., 2021). Since SMEs face significant risks and challenges with digitalisation due to inadequate understanding, improved knowledge held by managers/entrepreneurs would reduce the degree of ambiguity associated with new technology adoption (Caldeira and Ward, 2003; Cioppi et al., 2003; Veglio et al., 2020). In this regard, the expertise level of managers and entrepreneurs in management (Chuang et al., 2007) and their technological awareness (Zheng et al., 2004) play a major role in the adoption of this technology.

In this respect, the following hypotheses are postulated regarding the organisational dimension of e-commerce adoption:

H5: Low digital competencies negatively influence the adoption of e-commerce by SMEs.

H6: The absence of sales and purchase forecast activity negatively influences the adoption of e-commerce by SMEs.

H7: A low level of motivation held by managers/entrepreneurs for personal and professional development negatively influences the adoption of e-commerce by SMEs.

C - Environmental Dimension

The environmental dimension encompasses external factors such as cooperation with customers and competitors and rivalry actions (especially those concerning pressure from competitors) that directly influence e-commerce adoption. The level of pressure that a company faces from competitors within its industry is commonly known as competitor pressure. Therefore, in cases where industry competition is more intense, there is a higher likelihood of increased e-commerce adoption, since it provides an additional channel for marketing the firm's products (Zhu & Kraemer, 2005). On the other hand, cooperating with other entities in their business ecosystem, such as suppliers, customers, and competitors, can help SMEs accelerate the adoption of new technologies (Romero & Martínez-Román, 2015; Sussan et al., 2017).

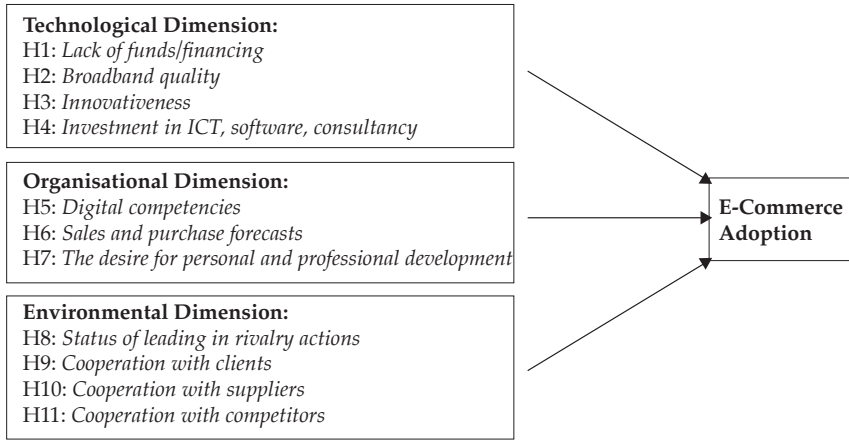
H8: A decreased level in the status of leading in rivalry actions negatively influences the adoption of e-commerce by SMEs.

H9: SMEs that do not cooperate with their clients are less likely to adopt e-commerce.

H10: SMEs that do not cooperate with their suppliers are less likely to adopt e-commerce.

H11: SMEs that do not cooperate with their competitors are less likely to adopt e-commerce.

Fig.1 Research Framework



Source: Authors' own

3. Data and Methodology

3.1 Data and variables

The study is based on a survey of Spanish SMEs with at least one employee and up to 200 workers and is carried out in the second quarter of 2022. Small and medium-sized businesses were chosen at random from the Iberian Balance Sheet Analysis System (SABI) database to participate in the study. By using simple random sampling and considering that the population is binomial ($p=q=0.5$, most unfavourable condition), the stratified sample is representative of the SME population in Spain with an error of 5.0% at a confidence level of 95%. Computer-assisted telephone interviewing (CATI) is the survey method employed. A response rate of 21.5% is recorded in the fieldwork and there is no observed bias between respondents and non-respondents. The final data set for this analysis consists of 802 valid observations.

A - Dependent Variable

The dependent variable considered in this study is the following:

- E-commerce adoption. This variable is a binary indicator that captures whether the company makes any sales of their goods or services via web or mobile applications.

B - Explanatory variables

The explanatory variables considered in this study are the following:

i) Technological dimension

- Lack of funds/financing. The entrepreneurs/managers were asked to indicate the importance of financial constraints as an obstacle to the digitalisation of their businesses. The answers were coded as an ordinal variable that takes values from 0 to 3, whereby 0 implies no constraints, and 3 implies a high level of constraints.
- Broadband quality. The managers interviewed were asked whether they “experience difficulty in attaining a proper Internet connection”. The answers were coded as an ordinal variable that takes values from 0 to 3, whereby 0 indicates a low level of difficulty, and 3 is high.
- Innovativeness. The entrepreneurs/managers interviewed were asked whether their companies place significant emphasis on research and development (R&D) activities and innovation. The answers were coded as an ordinal variable that takes values from 1 to 5, whereby 1 implies none and 5 great importance.
- Investment in ICT, software, and consultancy. The entrepreneurs/managers interviewed were asked to approximate the percentage of total expenditure on information and communication technologies (including computers and peripheral equipment, electronic components, and other ICT goods and components), software and services, as well as ICT consulting, in the period 2019-2021 relative to the entire budget.

ii) Organisational Dimension:

- Digital Competencies. This variable serves as a composite metric to assess the extent of digital skills within businesses. It encompasses ten key competencies, including those related to the usage of email, printer and scanner operation, basic office software, digital certificate, social media, cloud system usage, financial institution platforms, electronic billing, marketing analytics tools, and comprehensive management of business operations through computerised ERP systems. The index is scaled from 0 to 10, reflecting the level of digital competence.

- Sales and purchase forecasts. The entrepreneurs/managers interviewed were asked: "Does your company periodically forecast sales/collections and purchases/payments?" This binary variable takes the value of 1 if the company does indeed forecast (0 otherwise).
- The desire for personal and professional development. This variable indicates to what extent the individuals interviewed became entrepreneurs motivated by personal or professional development. The answers were coded as an ordinal variable using a Likert scale that ranges from 1 to 5, whereby 1 means totally disagree and 5 totally agree.
- Escape unemployment and job insecurity. This variable indicates to what extent the individuals interviewed became entrepreneurs due to necessity-based motivation. The answers were coded as an ordinal variable using a Likert scale that ranges from 1 to 5, whereby 1 means totally disagree and 5 totally agree.
- Risk-taking propensity. The entrepreneurs/managers interviewed were asked whether their companies were inclined to take on high-risk projects (which could potentially yield substantial returns). The answers were coded as an ordinal variable using a Likert scale that ranges from 1 to 5, whereby 1 means totally disagree and 5 totally agree.

iii) Environmental Dimension:

- Status of leading in rivalry actions. The entrepreneurs/managers who were interviewed were requested to express their level of agreement with the following statement concerning their company: "Compared to competitors, it is usually my company that takes the lead in initiating actions to which competitors then respond." The answers were coded as an ordinal variable that takes values from 1 to 5, whereby 1 means totally disagree and 5 totally agree.
- Cooperation with clients. This variable captures cooperation with clients in aspects related to digitalisation. This binary variable takes the value 1 for those companies that have cooperation with clients (0 otherwise).
- Cooperation with suppliers. This variable captures cooperation with suppliers in aspects related to digitalisation. This binary variable takes the value 1 for those companies that have cooperation with suppliers (0 otherwise).
- Cooperation with competitors. This variable captures cooperation with competitors in aspects related to digitalisation. This binary variable takes the value 1 for those companies that have cooperation with competitors (0 otherwise).
- Difficulties in finding cooperation partners, advisors, or suppliers. The entrepreneurs/managers interviewed were asked how im-

portant “difficulties in finding cooperation partners, advisors, or suppliers” were in hindering the digitalisation of their companies. The answers were coded as an ordinal variable that takes values from 0 to 3, whereby 0 implies none, and 3 implies a high level.

- Lack of customer demand/interest. The managers interviewed were asked how important “lack of demand/interest from customers” was in hindering the digitalisation of their companies. The answers were coded as an ordinal variable that takes values from 0 to 3, whereby 0 implies none, and 3 implies a high level.

C - Control Variables

The estimated models incorporate a set of control variables to effectively isolate the impact of the primary explanatory variables.

- Firm size (employees). The analysis incorporates the company’s size, quantified as the number of employees.
- Sectorial dummies: SMEs within the sample were categorised into 4 sectors: industry (manufacturing, water, and energy) construction, trade, and services (which was established as the base category in the model).

Several of the preceding variables were derived from questions included in our survey, taken from the questionnaire employed by the National Institute of Statistics of Spain in their Survey of Information and Communication Technology and Electronic Commerce Usage in Companies (Instituto Nacional de Estadística, 2021).

Regarding the innovativeness, risk-taking, and proactivity variables, the questions used have been adapted from the instrument developed by Covin and Slevin (1989) for the assessment of a firm’s entrepreneurial orientation. Several other variables have also been operationalised in accordance with previous studies (Martínez-Román and Romero, 2017; Fernández-Serrano et al., 2019; Martín-Martín et al., 2022).

Table 1 presents descriptive indicators of our dataset.

Table 1. Descriptive indicators

Variable	Min.	Max.	Mean	Stand. Dev.
<i>Technological dimension</i>				
Lack of funds and financing	0	3	1.026	1.141
Broadband quality	0	3	0.417	0.787
Innovativeness	1	5	3.488	1.288
Investment in ICT, software, consultancy	0	100	11.333	16.626
<i>Organisational dimension</i>				
Digital competencies	1	10	7.830	1.940
Sales and purchase forecasts	1	4	2.879	1.146
Risk-taking propensity	1	5	2.209	1.219
The desire for personal and professional development	1	5	3.831	1.380
Escape unemployment and job insecurity	1	5	2.338	1.449
<i>Environmental dimension</i>				
Status of leading in rivalry actions	1	5	3.001	1.250
Cooperation with clients	0	1	0.247	0.432
Cooperation with suppliers	0	1	0.283	0.451
Cooperation with competitors	0	1	0.111	0.314
Difficulties in finding cooperation partners, advisors, or suppliers.	0	3	0.639	0.918
Lack of customer demand/interest	0	3	0.891	1.048
<i>Control Variables</i>				
Employees	1	200	19.310	27.268
Industry	0	1	0.138	0.345
Construction	0	1	0.131	0.337
Trade	0	1	0.209	0.407
Services	0	1	0.522	0.500

3.2 Econometric methodology

In this study, the logistic regression approach is employed to assess the effect of independent variables on the e-commerce adoption variable. This econometric model is summarised as follows:

$$\ln\left(\frac{p}{1-p}\right) = z = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_kx_k \quad (1)$$

In (1), p stands for the probability that $y = 1$, where y represents the

e-commerce adoption, x_j are the independent variables (explanatory variables), and β_j denote the regression coefficients ($j = 1 \dots k$).

The probability that a company adopts e-commerce as a result of the application of the TOE model, for a given value of x_j , is given by the following expression:

$$p = \frac{\exp\left(\beta_0 + \sum_j \beta_j x_j\right)}{1 + \exp\left(\beta_0 + \sum_j \beta_j x_j\right)} \quad (2)$$

This logistic regression model is estimated using the maximum likelihood method.

4. Findings

The results of e-commerce adoption are presented in Table 2. Concerning the technological dimension, lack of funds/financing has a strong negative influence on the adoption of e-commerce by SMEs (H1). Likewise, both R&D activities and innovation (H3) as well as investments in ICT, software, and consultancy (H4) exhibit noteworthy and positive effects on the adoption of e-commerce. In contrast to H1, H3, and H4, there is no significant effect observed of access to a proper Internet connection in the firm, as mentioned in H2.

Table 2. Logistic regression: E-commerce adoption

	β	S.E.	p-value	Exp(β)
Technological dimension				
Lack of funds and financing	0.245 (***)	0.088	0.005	1.277
Broadband quality	0.028	0.119	0.817	1.028
Innovativeness	0.185 (**)	0.081	0.022	1.204
Investment in ICT, software, consultancy	0.012 (**)	0.006	0.039	1.012
Organisational dimension				
Digital competencies	0.174 (***)	0.056	0.002	1.190
Sales and purchase forecasts	0.201 (**)	0.087	0.021	1.223
Risk-taking propensity	-0.064	0.083	0.443	0.938
The desire for personal and professional development	0.147 (**)	0.072	0.041	1.159
Escape unemployment and job insecurity	-0.030	0.063	0.633	0.970
Environmental dimension				
Status of leading in rivalry actions	0.168 (**)	0.084	0.046	1.183
Cooperation with clients	0.750 (**)	0.295	0.011	2.117
Cooperation with suppliers	-0.402	0.284	0.157	0.669
Cooperation with competitors	0.590 (*)	0.317	0.063	1.803
Difficulties in finding cooperation partners, advisors, or suppliers.	0.315 (***)	0.118	0.008	1.370
Lack of customer demand/interest	-0.092	0.103	0.374	0.912
Control Variables				
Employees	-0.009 (**)	0.004	0.036	0.991
Industry	-0.255	0.280	0.363	0.775
Construction	-0.545 (*)	0.299	0.068	0.580
Trade	0.529 (**)	0.230	0.021	1.697
Constant	-4.612 (***)	0.607	0.000	0.010
Goodness of fit				
-2 Log likelihood		728.186		
Chi-square		144.462		
Nagelkerke R Square		0.268		
% correct predictions		74		

Number of valid observations = 802. S.E. = Standard Error. (*) Statistically-significant at the 0.10 level. (**) Statistically-significant at the 0.05 level. (***) Statistically-significant at the 0.01 level. Cut-off point = 0.50.

Source: Author's own

Regarding the organisational dimension, hypotheses H5, H6, and H7 are supported by the results presented in Table 2. Therefore, any identified

constraints in terms of digital competencies, sales and purchase forecasting, as well as lack of entrepreneurial motivation associated with personal and professional development, would exert a negative influence on the adoption of e-commerce by SMEs.

Lastly, with regard to the environmental aspect, the significance of leading rivalry actions (H8) is statistically evident, which indicates that any reduction in this factor could potentially hinder the adoption of e-commerce. Along the same lines, cooperation with clients (H9) and with competitors (H11) has a positive effect on e-commerce adoption. However, cooperation with suppliers (H10) does not exert a significant effect on the adoption of e-commerce by SMEs. Similarly, the absence of customer demand or interest is not observed to be a significant obstacle to the adoption of e-commerce.

5. Discussion and Conclusion

This paper delves into the examination of potential barriers and facilitators that influence the adoption of e-commerce in SMEs, and into the ways in which these businesses can manage the affordability of this technology. The study aims to address a research gap by assessing barriers to e-commerce adoption in SMEs from a holistic perspective and by considering several factors that have been overlooked in the previous literature. In this regard, unlike the prevailing body of work that predominantly underscores technological influences (Scupola, 2009; Abebe, 2014; Saridakis et al., 2019), we recognise the importance of the environmental aspect in our research. In this way, we emphasise the role of interaction and collaboration with other actors in the ecosystem as key factors in this context.

To achieve this, the TOE theoretical framework (Molla & Licker, 2005) is employed in this paper to understand the impact of three dimensions of enablers: technological (lack of funds/financing, broadband quality, R&D activities and innovation, investment in ICT, software, consultancy); organisational (digital competencies, sales and purchase forecasts, entrepreneurial motivation); and environmental (status of leading rivalry actions and cooperation with clients, suppliers and competitors). The TOE theory presented in this paper as a robust model for the investigation into adoption of e-commerce in SMEs. Importantly, this framework encompasses not only technological contexts but also organisational and environmental contexts, and provides a comprehensive perspective (Hameed et al., 2012).

The investigation postulates quantitative empirical evidence on this topic using a sample representative of the SME sector in Spain. According to the findings, in terms of the technological dimension, financial constraints are confirmed as a major impediment, which was also highlighted by Scupola (2009) and Saridakis (2019). Similarly, investment in ICT, software, consulting, R&D, and innovation is also highly effective, and any constraints could detrimentally impact e-commerce adoption.

Concerning the organisational dimension, in the context of digital competencies, sales and purchase forecasting, and entrepreneurial motivation

associated with personal and professional development, we validate the points raised by Hong & Zhu (2006) regarding the significance of digital competence, by Liu et al. (2019) concerning the essential nature of sales forecasts, and by Martín-Martín et al. (2022) regarding the impact of entrepreneurial motivation on the digitalisation of SMEs.

In the context of the environmental dimension, we recognise the significance of interaction with other actors. In this regard, the challenges associated with cooperation with partners, advisors, or suppliers influence the adoption of e-commerce.

The outcomes of this study yield far-reaching and significant theoretical, managerial, and policy implications. Firstly, with regard to theoretical implications, we recognise the importance of the environmental dimension when analysing the adoption of e-commerce in SMEs. Accordingly, we advocate for the appropriateness of the TOE model in studying this issue, as it explores not only technical aspects but also investigates organisational and environmental factors. This theoretical approach has been under-utilised in the existing literature within this context.

In terms of managerial implications, our findings unequivocally establish that investing in human assets, by specifically enhancing digital knowledge and skills, is a crucial component within any comprehensive action plan to overcome the hurdles hindering SMEs' adoption of e-commerce. Additionally, the results presented in this paper underscore the paramount importance of financial considerations, including access to funds and their availability within the broader ecosystem.

The findings further emphasise the significance of fostering interaction and collaboration with other stakeholders and actors within the industry, and confirm prior studies in similar contexts (Govindaraju et al., 2012; Paganò et al., 2021). It is imperative for SMEs to actively support and nurture the establishment of such networks, by seamlessly integrating them into their existing organisational structures to fully leverage their potential benefits, which aligns with the prior literature (Hussain et al., 2020).

When it comes to policy implications, public administrations could contribute to the objective of investing in human assets through fostering the access of SMEs to training initiatives and external consultancy. Moreover, public administration can play a catalytic role in building and developing digital ecosystems in which SMEs can interact with other actors thereby benefitting from collaborative relationships and the access to external knowledge.

Given the limitations of this research within the context of the COVID-19 period and its impact on e-commerce, several factors should be taken into account. Firstly, the study's findings may be influenced by the unique circumstances and rapid changes experienced during the pandemic (Cueto et al., 2022), which has potentially limited the generalisability of the results to other time periods. Secondly, due to the dynamic nature of the e-commerce landscape during this period, the specific strategies and practices adopted by businesses may have varied significantly, leading to potential heterogeneity in the data. Thirdly, the TOE model encompasses

broader categories, which can potentially oversimplify the complexities of real-world scenarios. In practical application, there may be subcategories that need consideration.

Concerning future research directions, we propose conducting a comprehensive analysis of e-commerce adoption in SMEs, considering both pre- and post-COVID periods. Furthermore, we recommend investigating cybersecurity challenges associated with the adoption of e-commerce in SMEs.

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**A SYSTEMIC SUPPORT TO BUSINESS MODEL INNOVATION:
ENHANCING RESILIENCE-BUILDING PROCESSES
OF SMEs IN TIMES OF CRISIS**

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Abstract

Purpose. The work proposes Dynamic Business Modeling (DBM) to support small and medium enterprises (SMEs) in implementing business model innovation (BMI) to increase their resilience during crises.

Design/methodology/approach. Drawing on System Dynamics and secondary data case studies, DBM is investigated as a way to make changes to business model elements and architecture in response to changing conditions.

Findings. The case-based analysis shows how DBM can help SMEs overcome BMI barriers during crises by enhancing the understanding of the interdependence between financial and non-financial factors.

Practical and social implications. The work shows how DBM can speed up BMI in SMEs, contributing to the scientific discussion by proposing a systemic methodological solution for SMEs to overcome BMI barriers.

Originality of the study. The work offers a qualitative perspective of DBM for SMEs coping with crises through BMI. It serves as groundwork for future applied research on SMEs' BMI.

1. Introduction

In times of crisis, SMEs require additional methodological efforts to overcome their peculiar limits (e.g., limited access to credit lines, lack of strategic capabilities and resources, poor networking capacity) and adequately take on new entrepreneurial challenges and opportunities for survival. These firms represent more than 90% of all businesses worldwide (Latifi et al., 2021); therefore, providing theoretical and practical suggestions to improve their capabilities of dealing with crises has a pivotal relevance for the well-being of our economic and social system. Emerging crises – related to war, pandemics, energy supply, or others – further emphasize the conventional shortages characterizing SMEs, thus increasing complexity and uncertainty in their strategy design and performance management mechanisms (Ruisi, 2022; Fasth et al., 2022). Based on these insights, SME decision-makers could benefit from supplementary methodological support to understand and eventually reorient and innovate their business activities according to SMEs' peculiarities during times of crisis.

Studies have shown that innovating strategies help firms cope better with crises (Archibugi et al., 2013; Osterwalder et al., 2020; Wenzel et al., 2020). Research on business model innovation (BMI) has pointed out the importance for an SME to innovate its business model (BM) by relying on information technology support, business analytics and digitalization (Cosenz & Bivona, 2021; Ghezzi & Cavallo, 2020; Heikkilä et al., 2018; Li, 2020; Andersen et al., 2022; Zamani et al., 2022). These technologies and tools can be catalyzing factors for SMEs to take advantage of new opportunities (Andersen et al., 2022). Innovative digital technologies help businesses respond to adverse conditions by enabling processes and services that can, in turn, become the engine of BMI (Pateli & Giaglis, 2005; Garzella et al., 2021; Zamani et al., 2022; Jabeen et al., 2023). In particular, in the case of SMEs, these technologies can compensate for the lack of other resources by fostering their dynamic capabilities towards BMI (Zamani et al., 2022). Furthermore, innovating seems particularly fit for SMEs. Leveraging their flexibility may better seize new opportunities offered by the changing context than their larger competitors (Pencarelli et al., 2021) by temporarily renewing their business models (BMs).

However, unlike larger companies that can engage in BMIs with lower risks, SMEs must be careful in experimenting with new ideas, as these may be costly or even fatal to SMEs' survival (Cosenz & Bivona, 2021). SME entrepreneurs must develop their managerial skills to better cope with business crises. SMEs should overcome a potential lack of understanding of the complex system they operate in, particularly in times of crisis. To remain competitive, SMEs must learn how to design and implement BMIs.

BM frameworks can provide them with a tool to map value creation pro-

cesses and comprehend how their business responds to internal and external changes (Johnson et al., 2008; Osterwalder et al., 2020; Cosenz & Bivona, 2021). Under these conditions, lean BM frameworks can be helpful tools capable of fostering SMEs' key actors' cognitive and strategic capabilities facilitating innovation-oriented initiatives to improve their SMEs' competitiveness. Among these frameworks, the Business Model Canvas (BMC) proposed by Osterwalder and Pigneur (2010) is particularly useful for designing and understanding BM's strengths and weaknesses.

However, Cosenz and Bivona (2021) highlight a gap in the literature: the partial lack of attention in exploring how BMS and BMIs can support SME's strategic capabilities development. The authors point out that SME value creation processes present different organizational and strategic characteristics and drivers than their larger counterparts. BM researchers have mainly addressed larger companies (Alberti et al., 2018; Demil & Lecocq, 2015). Furthermore, the BMC provides a static perspective of firms functioning and value creation and this limit may prevent SMEs from experimenting and adapting to contextual changes and innovations (Cosenz & Bivona, 2021). According to the authors, as SMEs need to innovate their BMs under more profound uncertainty due to the higher risk they face, a tailored business modeling approach that addresses these challenges is needed.

This paper proposes the Dynamic Business Modeling (DBM) approach (Cosenz, 2017; Cosenz & Noto, 2018; Cosenz & Bivona, 2021) as an innovative method to address these gaps and limits. DBM is proposed as a tool to support SMEs in implementing BMI during times of crisis to increase their resilience. Differently from previous applications (Cosenz, 2017; Cosenz & Noto, 2017; Cosenz & Noto, 2018; Cosenz & Noto, 2018b; Cosenz et al., 2020; Cosenz & Bivona, 2021; Bivona & Cruz, 2021), this paper proposes the adoption of DBM to experiment with BMI strategies oriented to face crises and, in doing this, exploit emerging opportunities. The paper contributes to the ongoing scientific discussion by proposing a technological methodological solution to overcome BMI barriers for SMEs. In doing so, we show and discuss the application of DBM in three case studies. The case-based analysis we propose demonstrates how DBM can be a valuable method for accelerating BMI in SMEs by providing a way to experiment with how different elements of their BM interact with each other. Hence, we show how DBM can be particularly helpful during uncertain and crises. Our work answers the following research question: how can DBM overcome classic BM in supporting SME BMI in times of crisis?

The remainder of this paper is organized as follows: section 2 describes the methodology adopted in this work, and the DBM method, and section 3 provides an overview of the application of the method on three selected case studies. Eventually, in section 4, we discuss the implications of the applied method to SMEs coping with crises and provide some final reflections.

2. Methodology: a case-based perspective of Dynamic Business Modeling

To achieve our aim, we show the functioning of the DBM approach by relying on case studies. The DBM approach has been developed in recent years, drawing on combining an adapted version of the BMC with system dynamics (SD) modeling. SD is an approach to understanding and forecasting the behavior of complex systems using stocks and flows representation. Such a combination aims to overcome several limitations of the BMC as a managerial tool for strategy design, experimentation, and decision support. As such, it has been applied to (i) different market sectors (e.g., clothing e-commerce, luxury fashion multisided platforms, food & beverage), (ii) stages of business development (e.g., startups, SMEs), and (iii) purposes (e.g., BM design, BM innovation, entrepreneurial learning, sustainability). The DBM method is further deepened in the next section.

We demonstrate DBM's capability to support SMEs' BMI using case studies. Case studies are useful research methods that can help answer questions about "how" and "why" things happen in real-life situations (Yin, 2009). Yin (1981) suggests that case studies are particularly helpful when examining a current issue within its real-world setting, especially if it is difficult to distinguish between the issue and its context. Additionally, case studies can explore complex relationships and provide a foundation for developing theories (Flyvbjerg, 2006). According to Lindgreen et al. (2021), using the case study allows researchers to have a holistic view and explore complex social processes, leading them to identify contextual variables that can affect actors' behavior. Considering that the SD approach and the case study method share the characteristic of focusing researchers' efforts on the holism of investigated phenomena, we posit combining DBM and case studies as a proper choice for our investigation. Further, Lindgreen and colleagues (2021) suggest two steps to report case studies' results. They call the first step "within-case analysis" and the second one "across-case analysis." While in the first step, researchers document data from a single case, in the second step, researchers compare data from different cases to identify their differences and similarities. This step can be carried out to test generalizability and determine common patterns across the cases to develop theoretical insights. We will follow these two steps to present our findings.

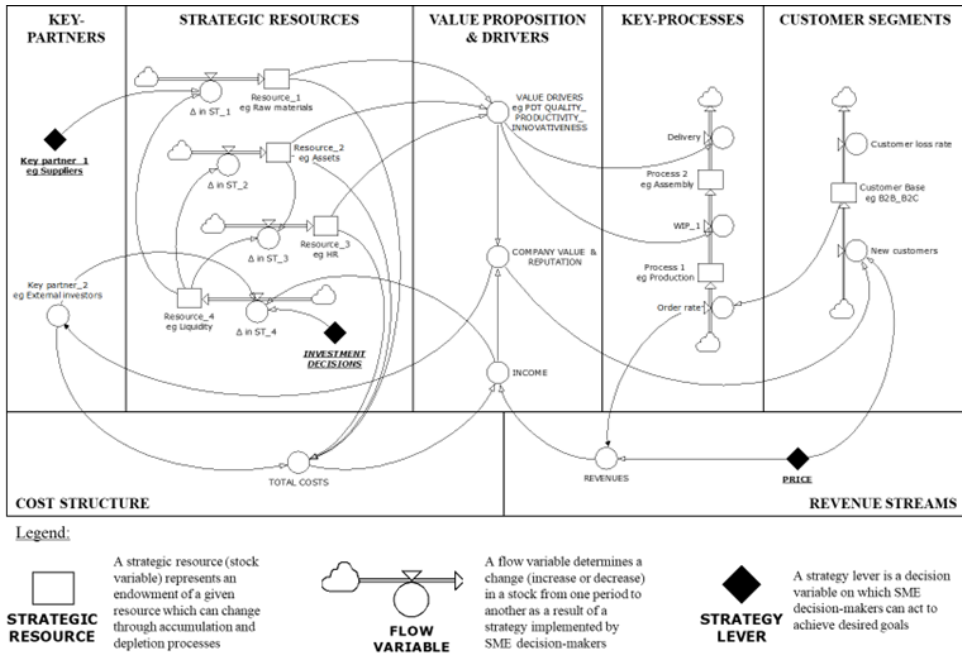
2.1 Method: Dynamic Business Modeling to enhance SMEs' resilience-building processes

Figure 1 outlines a refined version of the DBM framework, skillfully integrating an SD model into a streamlined version of the BMC. This integration results in a more concise BMC, reducing its components from nine to seven, thereby offering a holistic view of the interconnections between value creation, proposition, delivery, and capture.

In the same vein, SD modeling adopts a comprehensive approach, concentrating on weaving feedback loops, processes of resource buildup and depletion, temporal lags, and complex interactions. This approach is pivotal in articulating intricate and evolving feedback mechanisms (Sternan, 2000; Cosenz & Noto, 2016). Subsequent to pinpointing the causal feedback loops, the core elements of the BM are transformed into stock-and-flow structures through the application of SD computer-simulation tools (Groesser & Jovy, 2016). These sophisticated simulation models are instrumental for entrepreneurs, facilitating the simulation of the business system's temporal dynamics and providing a solid foundation for strategic experimentation. The value of simulation methodologies, particularly in navigating organizational systems marked by dynamism, complexity, and uncertainty, has been substantiated through various scholarly studies and practical applications in the realm of strategic management (Davis et al., 2007; Cosenz & Noto, 2016). The strength of these methodologies lies in their capacity to enable strategy formulation and organizational transformation through feedback model experimentation (Forrester, 1958; Sternan, 2000; Bouwman et al., 2020; Snihur et al., 2021).

DBM is not envisioned as a prescriptive model but rather as a heuristic framework, equipping SME entrepreneurs with analytical tools for dissecting intricate business systems and fostering their strategic learning (McDonald & Eisenhardt, 2020). In this light, the DBM approach emerges as a consistent tool for business strategy, particularly in innovating existing BMs by uncovering and examining novel business prospects that surface during turbulent times. By experimenting with alternative strategies within a risk-free and controlled learning setting, SMEs can circumvent the real-world execution of potentially hazardous plans. Instead, they can adopt comprehensive, cost-effective models and simulation scenarios, thereby mitigating risk and fostering innovation.

Fig.1 The Dynamic Business Modeling framework.



Source: Cosenz and Noto, 2018.

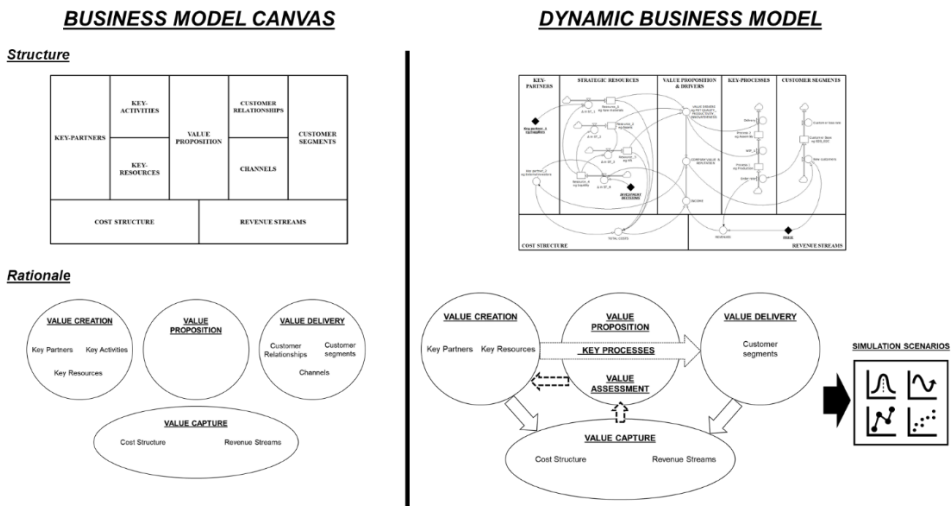
To highlight the potential advantages of using DBM for BMI in SMEs affected by crises, we build upon the comparison with the BMC. The motivation underlying this choice is twofold. First, the BMC is globally recognized as the predominant framework for designing BMs (Miller et al., 2021; Budler et al., 2021). Second, the DBM conceptualization originates from the structural articulation of the BMC.

The BMC is a well-known concise visual tool, largely used on a global scale, to design and share a cognitive representation of value creation, proposition, delivery, and capture related to a specific BM (Osterwalder & Pigneur, 2010; Massa et al., 2017; Tauscher & Abdelkafi, 2017; Massa & Hacklin, 2020). However, despite its widespread popularity, it presents some methodological limitations, making it unsuitable for effective strategy experimentation (Chesbrough, 2010; Demil & Lecocq, 2010; McGrath, 2010; Cosenz & Bivona, 2021). Figure 2 portrays a graphical comparison between the BMC and the DBM approach regarding structure and rationale. Apart from removing two building blocks merged into the wider DBM key processes section (i.e., key activities, customer relationships, and channels -> key processes), both structures appear similar in their outline and premises. They aim to frame value creation, proposition, delivery, and cap-

ture in an inclusive construct.

The different rationale behind these structures is more likely to explain their distinctive core features. The BMC offers a blurred systemic representation of value creation, proposition, delivery, and capture by adopting a static qualitative approach. Such a perspective sets up a loose interaction between them. Lacking a quantitative approach to frame BM elements and related interplays, the BMC is unsuitable to support experimentation for BM scaling purposes. Conversely, the use of SD modeling enables the quantification of these interplays, thus providing a deeper understanding of how the formal strategic architecture – embedded in the BM – is translated into action. Unlike the BMC, the DMB approach relies on a more systemic view anchored to the key processes and related feedback mechanisms for operationalizing resource consumption into outputs delivered to the customer segments. Then, inputs and outputs are considered in economic terms through their conversion into costs and revenues, respectively.

Fig.2 Comparing the BMC with DBM in terms of structure and rationale.



Source: author's elaboration.

According to the above feedback mechanism, the value proposition also includes key performance indicators to assess value drivers and organizational results (e.g., the income resulting from the difference between revenues and costs). As such, it better explains how and if the business creates and captures value, and how this value fuels the strategic resources over time.

The emerging SD model enables simulation scenarios to convey new strategy experimentations, performance diagnosis, and learning. At this stage, each model variable can be quantified differently (e.g., setting up alternative investment allocations) or easily removed, substituted, and integrated (e.g., adding or removing one or more elements in one of the canvas building blocks). Model building and adjustment are quite easy tasks. This is how to realize an effective and robust experimentation process supporting the BMI of SMEs struggling to survive crises.

Table 1 synthesizes the main differences related to the adoption of the BMC and the DBM approach, as described in this section.

Table 1 Distinguishing the core attributes in the use of BMC and DBM.

BUSINESS MODEL CANVAS	DYNAMIC BUSINESS MODEL
Static approach to BM design	A dynamic approach to BM design
A blurred systemic view of value creation, delivery, and capture	A systemic view of value creation, delivery, and capture
Qualitative identification of BM's variables	Quantification of BM's variables and related interplays
No possibility of experimenting	Simulation-based experimentation and scenario analysis
Weak strategic learning	Deep strategic learning
No diagnosis of emerging performances	Diagnostic tool through KPIs
Unsuitable for BM innovation	Possibility to experiment with BM innovations

Source: author's elaboration.

Drawing on the work developed by Clauss et al. (2022), the following section illustrates an application of DBM to evaluate its methodological contribution to experimenting with BMI plans in times of crisis.

2.2 Case studies

We rely on three case studies to provide evidence on how the proposed systemic methodological support to implement BMI could improve SMEs' resilience-building processes.

The case studies analyzed in this section are reported through secondary data; we retrieved them from the work of Clauss et al. (2022). Namely, we carefully read the work of Clauss and colleagues and gained the supplemental material they provided to investigate these cases as possible sources to apply our methodology. The authors identified SMEs affected by the crisis that coped with the adverse situation using an innovation

strategy (Wenzel et al., 2020) and adopting a temporary BMI (Kraus et al., 2020). They collected the data from multiple sources (from internal reports and social media activities to semi-structured interviews and others) following Yin's advice (2009).

The final sample of cases investigated by Clauss et al. (2022) comprises five SMEs. These are firms from different industries and countries (Austria, Germany, and Liechtenstein). The authors labeled the cases as "Case A," "Case B," "Case C," "Case D," and "Case E" for the sake of anonymity. We selected only three case studies from these five to provide a more detailed focus on our methodology. In particular, we decided to focus only on those cases where the company's BM has been partly affected by the crisis. This choice was guided by the willingness to verify DBM supporting capabilities on firms not facing a radical transformation of their business activities.

The table below (Table 2) is a rework of the additional material in Clauss et al. (2022), highlighting the cases we decided to focus on.

Table 2 Selected case studies from Clauss et al. (2022).

Case	Current business model	Temporary business model adjustment	Case summary	Source
A	Producer of beverages/ spirits	Producer of disinfectant	<ul style="list-style-type: none"> - Family-owned firm producing spirits - Mainly B2B sales - COVID-19 leads to B2B sales decrease - Core competencies in production and bottling and contacting a business expert in disinfectant - Producing and selling disinfectants 	Clauss et al. (2022) and Clauss et al. (2022) supplementary material concerning: "Case description" and "Interview guide" ¹
B	Services and Events	Online networking	<ul style="list-style-type: none"> - Event planning and consultancy firm - Hosts annual profitable networking event in person - COVID-19 restrictions on social events - Contact a consulting company - Develop a digital event 	Clauss et al. (2022) and Clauss et al. (2022) supplementary material concerning: "Case description" and "Interview guide"

¹ We retrieved the supplementary material word file at <https://onlinelibrary.wiley.com/article/doi/10.1111/radm.12498> in the supporting information section. The document contains information such as cases' background (backstory/story pre-BMI, country, data sources, type of BM and BMI) and the interview guide divided into "assessment of the situation" and "focus on the temporary BMI." We have combined this material with the results reported in the full article to show the potential advantages of applying our DBM.

E	Producer of food and sale to businesses	Seller of food to customers	<ul style="list-style-type: none"> - Family-owned organic farm - Sells milk and meat B2B - COVID-19 leads to a complete drop in B2B - Adapt a small part of its infrastructure - Sells meat B2C through a digital shop and on the farm 	<p>Clauss et al. (2022) and Clauss et al. (2022) supplementary material concerning: "Case description" and "Interview guide"</p>
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Source: Our reworking from Clauss et al. (2022) additional material.

3. Business model canvases and emerging dynamic business models of the selected cases

3.1 Within case analysis

Case A is about a family-owned firm specializing in producing schnapps and other beverages, with over 200 employees. The company's main business model is B2B sales to retailers and restaurants. Still, they also have a B2C model, selling directly to end consumers through a shop near the production facility and an online shop. The firm's main season is winter, with the most important customers being après-ski bars and ski huts. During the COVID-19 crisis, B2B sales temporarily decreased due to the early end of the winter season, but the online shop received more orders from private customers, leading to an increase in B2C sales.

In response to the COVID-19-related decrease in B2B sales, the firm started to produce, bottle, and sell disinfectants. Clauss and colleagues highlight that the change in the BM was not structural. They emphasize that the firm took the opportunity from its core spirit of production and bottling competencies. All departments were involved in the transformation of the value proposition. Moreover, the transformation required the support of experts and consultants with expertise in the new market segment.

Based on these pieces of information, the following canvas (Table 3) should represent the BMs of the firm in the crisis period.

Table 3 - Case A BMC.

<p>Key-Partners</p> <ul style="list-style-type: none"> - Raw material suppliers - Family (investors) - Business experts*** 	<p>Key-Activities</p> <ul style="list-style-type: none"> - Producing spirits - Producing, bottling and selling beverages - Producing, bottling, and selling disinfectant*** 	<p>Value Proposition</p> <ul style="list-style-type: none"> - Offer beverages that are pleasant warming and help create a convivial atmosphere - Offer a product that makes people safe in everyday life in the face of the current pandemic emergency*** 	<p>Customer Relationship</p> <ul style="list-style-type: none"> - Word of mouth 	<p>Customer segment</p> <ul style="list-style-type: none"> - B2B: restaurants and retailers, particularly ski huts - and après-ski bars (decreased during the crisis) (<) - B2C (increased during the crisis) (>) - Disinfectant buyers***
<p>Cost structure</p> <ul style="list-style-type: none"> - Fixed costs related to bottling, production and selling processes - Variable costs related to bottling, production and selling processes - Variable costs specifically related to beverages - Variable costs specifically related to disinfectant*** 		<p>Revenue streams</p> <ul style="list-style-type: none"> - B2B beverages revenues (decreased during the crisis) (<) - B2C beverages revenues (increased during the crisis) (>) - Disinfectant revenues*** 		

Legend: (<) Declined element, Removed element, (>) Increasing element, *** New element. No symbol stands for already present element.

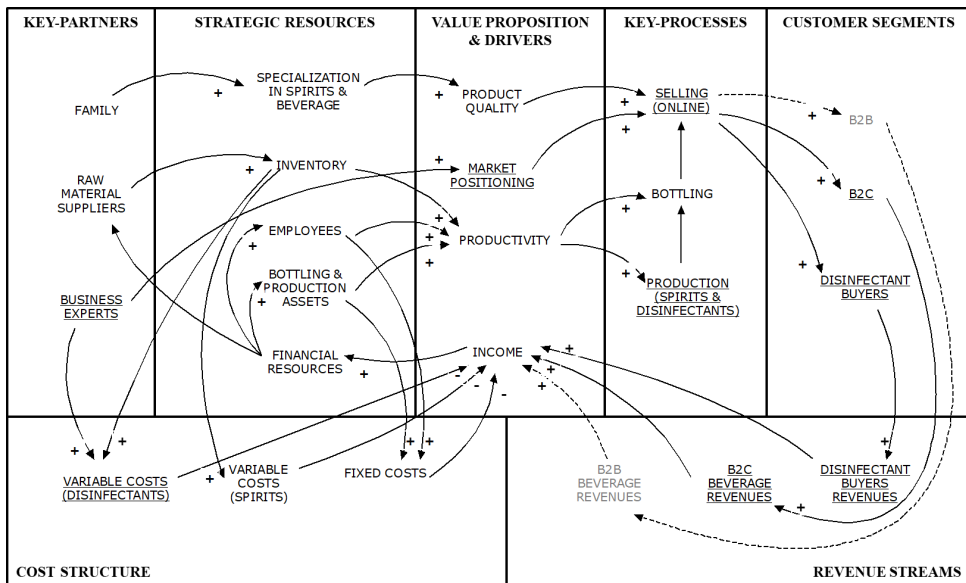
Source: author's elaboration.

Figure 3 converts case A's BMC into the corresponding DBM, thus offering a systemic overview of how the company enhanced its resilience toward crises by seizing new market opportunities. Interestingly, the framework highlights a set of performance drivers (e.g., product quality, productivity, market positioning, income) useful for evaluating the outcomes that could emerge by adopting such a new strategy.

As it can be noted, the new business experts that can offer consulting services are, on the one hand, directly linked to the new variable cost structure. Therefore, these actors represent that classic increase in costs that can

jeopardize the survival of SMEs. On the other hand, new business experts may also positively influence market positioning in the new sector and related sales. This increase in disinfectant sales should compensate for the decrease in B2B revenues. The DBM is a helpful tool in highlighting the underlying patterns of value creation embedded in the BMI. By allowing managers to visualize the connections between the different canvas elements, DBM can create more awareness than static canvas.

Fig.3 Case A DBM.



Source: author's elaboration.

Case B describes a small event planning and consultancy firm in the finance industry that was founded in 2009. The firm employs eleven people, and its annual event has become a profitable opportunity to network with market players, focusing on the networking of asset managers and asset owners. The event takes place on a smaller scale, with only 3-5 individual sponsors allowed to sponsor each event, and the majority of networking is done during unofficial dinners. Due to COVID-19-related border controls and event bans, the firm's annual cash cow event cannot occur. However, the firm already works on multiple business models, one unaffected by the crisis.

The firm was concerned it should refund all the sponsors for being unable to carry out the planned event due to COVID-19 restrictions. Therefore, it contacted a consulting company that developed an event with personal character in a digital space as a substitute for the original event. A handwritten invitation was sent out to participants to create a more personal-

ized and pleasant environment. These were invited to digital rooms where the sponsors presented themselves to develop networks.

The following canvas (Table 4) should represent the BM of Case B in the crisis period.

Table 4 Case B BMC.

Key-Partners	Key-Activities	Value Proposition	Customer Relationship	Customer segment
<ul style="list-style-type: none"> - Sponsors - Consulting firm*** 	<ul style="list-style-type: none"> - Event planning - Consultancy - Online event organization*** - Room booking - Catering 	<ul style="list-style-type: none"> - Offering a stimulating annual event for market players' networking - Offering online events with a personal character addressing the needs of customers and sponsors*** 	<ul style="list-style-type: none"> - Targeted Google Ads 	<ul style="list-style-type: none"> - Asset managers - Asset owners
	<ul style="list-style-type: none"> - Key-Resources - Eleven employees - Expertise in event planning - Reputation - Digital platform*** 		<ul style="list-style-type: none"> - Channels - Direct contact - Handwritten invitation*** - Digital space*** 	
<ul style="list-style-type: none"> - Hospitality costs (travel, lodging, meals, drinks...) - Digital platform costs*** 		<ul style="list-style-type: none"> - Firm's cash cow annual event - Firm's online events*** 		

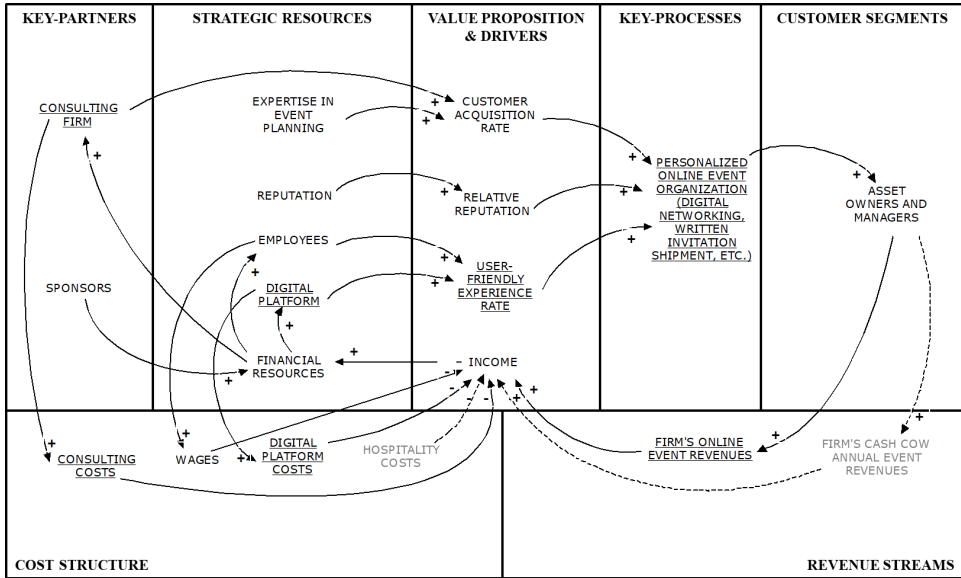
Legend: (<) Declined element, Removed element, (>) Increasing element, *** New element. No symbol stands for already present element.

Source: author's elaboration.

We can start observing the BMI, focusing on the new key partners. The firm was supported by a new partner, particularly a consulting firm. We have a trade-off between consulting costs and new revenues mediated by the customer acquisition rate. Moreover, the income due to the new revenues from the provision of digital events could be invested to improve the functionalities of the digital platform, improving the new business value proposition. The DBM emphasizes the digital platform's pivotal role and the provision of

a user-friendly experience to incentivize new business revenues.

Fig.4 Case B DBM.



Source: author's elaboration.

Case E is about a family-owned organic farm that employs five people and sold milk to a regional dairy and meat only to restaurants before the crisis. The manager, who is 25 years old, took over the farm in 2018, but the former manager still provides support in strategic decisions and operational work. The farm's main customers' activities were strongly affected by the lockdowns during the COVID-19 crisis. This caused a complete drop in B2B demand for meat. As a result, the farm had to find alternative ways to sell its products, as they could still sell their milk. However, since meat sales make up the bulk of the revenue, the farm needed another solution to compensate for the loss of B2B meat sales.

The firm quickly integrated a new BM to sell meat directly to consumers. To implement the BMI, the firm had to adapt only a small part of its infrastructure to sell meat on the farm and through a digital shop. The case study described by Clauss and colleagues can be represented by the following canvas (Table 5).

Table 5 Case E BMC.

Key-Partners <ul style="list-style-type: none"> - Raw material suppliers - Family (investors) - Former manager 	Key-Activities <ul style="list-style-type: none"> - Producing and selling beef and milk - Processing and selling wood and other by products of livestock farming 	Value Proposition <ul style="list-style-type: none"> - Offering high quality organic products to restaurants - Offering high quality organic products to consumers*** 	Customer Relationship <ul style="list-style-type: none"> - Targeted Google Ads 	Customer segment <ul style="list-style-type: none"> - B2B (restaurants) - Regional dairy - B2C***
	Key Resources <ul style="list-style-type: none"> - Five employees - Cattle - Farm assets - E-commerce website*** 		Channels <ul style="list-style-type: none"> - Digital space (digital organic farm shop)*** - Selling meat directly on the farm*** 	
Cost structure <ul style="list-style-type: none"> - Fixed costs for meat and milk production and selling - Variable costs for meat and milk production and selling 		Revenue streams <ul style="list-style-type: none"> - Revenues from selling beef to restaurants - Revenues from selling milk to dairy - Revenues from selling beef directly to consumers*** 		

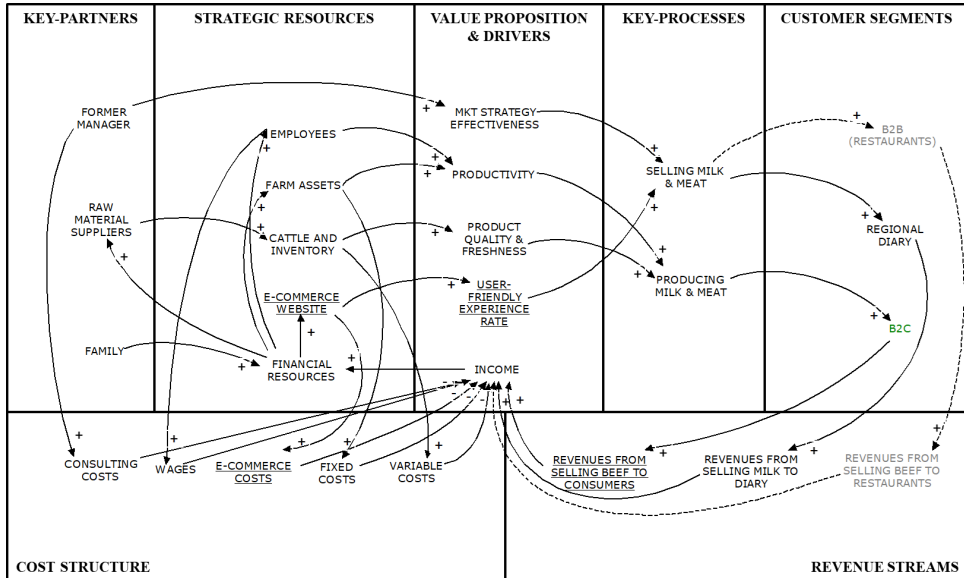
*Legend: (<) Declined element, abc Removed element, (>) Increasing element, *** New element. No symbol stands for already present element.*

Source: author's elaboration.

Eventually, figure 5 illustrates case E's DBM as a third example of how to design, evaluate and implement BMI, thus taking on new entrepreneurial challenges in times of crisis. The first new element we can focus on in the DBM is the e-commerce website. This element will determine a change in the cost structure that should also lead to the value proposition outcome of providing a user-friendly shopping experience. The increase in the user-friendly experience rate should improve the sales rate and consequently increase the revenues from selling beef to consumers, compensating for the B2B loss. Also, in this case, developing and visualizing the DBM may help comprehend the connections between the old and new business elements

and focus on their interactions to implement BMI better.

Fig.5 Case E DBM.



Source: author's elaboration.

3.2 Across case analysis

Our analysis allowed us to identify similarities and differences among the cases considered. In all the cases, we demonstrated that DBMs (Figures 2, 3 and 4) show causal interplays and performance drivers hidden in the traditional BMCs (Tables 3, 4 and 5). In all the cases, we explained how the representation of these causal interplays and performance drivers can provide additional support to frame the BMI as a strategic response to crises. For example, in the first two cases, we start the design of a BMI by focusing on adding new key partners to the current BM. While in the first and second cases, the firms were supported by a new partner (i.e., business experts and consulting firm), in the third case, it was unnecessary. This last firm can focus on changing its mix of efforts on the drivers in the block “strategic resources” by leveraging more on the website.

Two further steps are necessary once these changes have been drawn on the DBM. It should be taken into account that these changes will lead to a change in the cost structure and, further, potential value proposition drivers should be identified. These drivers can be both financial (e.g., “income”) and non-financial (e.g., “user friendly experience rate”). This step needs a good knowledge of the business and a certain level of creativity to

locate good proxies to monitor and make predictions about. Lastly, in all cases, the effects of the potential innovation on the existing and potential key-processes and customers should be considered to forecast the trade-off between costs and revenues.

4. Discussion and conclusions

This paper proposes DBM as a methodological framework for SMEs to overcome barriers to BMI in times of crisis. Crises can worsen conventional shortages in SMEs, adding further complexity and uncertainty to their strategy design and performance management mechanisms. While researchers pointed out that innovating can help firms cope with crises, SMEs must be more cautious than larger companies when experimenting with new ideas, as these may jeopardise their survival. However, although these firms could be more vulnerable than their larger counterparts to increasing costs or decreasing revenues, it is also true that SMEs are more flexible than larger companies. In light of this flexibility, as emphasized by Clauss and colleagues, crises can also present opportunities for SMEs willing to search for them. However, SMEs' decision-makers need supplementary methodological support to take advantage of their flexibility to develop strategies to deal with crises. This paper focuses on DBM as a methodological approach that blends a revised BMC structure with SD modeling. This approach can be applied to SMEs engaged in a BMI process for coping with crises to trace the BMI pathway and enable scenario analysis for strategy evaluation.

The case-based analysis demonstrates how DBM can be a helpful tool for SMEs and contributes to the ongoing scientific discussion by providing a methodological solution to overcome SMEs' BMI barriers. The empirical findings show that DBM provides a lean methodological framework for representing causal interdependencies of financial and non-financial factors. This methodological solution can assist SME entrepreneurs in developing their comprehension of BMI and managerial skills to cope with business crises more effectively. Indeed, DBM can lead to a better understanding of firms' core competencies and potential flexibility, generating positive effects in the long term. In all three cases considered, DBMs highlight the underlying patterns of value creation embedded in BMIs, allowing managers to better conceptualize the connections between the different BM elements. DBM can, therefore, stimulate awareness and comprehension of BMIs better than static canvases. However, drawing up DBM also requires more effort than that requested for their static counterparts. Overall, the paper provides valuable insights into how entrepreneurs can enrich their cognitive schemas through the DBM tool and how SMEs can adapt

and innovate their BMs to increase resilience during crises.

Lastly, this study is not without limitations. First, the methodological application offered in this paper is based on secondary data from previously carried out case studies. We gathered available data from previous research. Considering that the main aim of the paper was to demonstrate the potential superior auxiliary role of DBM compared to classic BM for BMI in SMEs and draw methodological considerations, we found this data sufficiently suitable for our purpose. However, future research should apply the methodology to primary data single and multiple case studies to gain more theoretical insights into the proposed approach. Second, the methodological application adopts a qualitative perspective of DBM that forms instrumental groundwork to develop a simulation model and emerging scenario analysis, thus exploiting the full potential of the proposed approach. A shortage of quantitative input data related to the selected cases limited the possibility of simulating BM behavior over time. However, this provides new windows for future applied research perspectives on this topic. Future research can test DBM using quantitative data and propose this approach to SME entrepreneurs as a gamified BMC to gain their feedback and observations. Indeed, using data, system dynamics allows us to perform simulations to guide actors' decision-making rather than only providing a flow and stock chart, simplifying the reality in which they act.

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UNVEILING THE PATH TO SUCCESS:
AN EXPLORATORY STUDY
ON MIGRANT WOMEN ENTREPRENEURS

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Abstract

Purpose. Building on the theoretical embeddedness construct, this study stresses the joint role that contextual and individual factors play in successful migrant women entrepreneurship, uncovering which factors can sustain migrant women entrepreneurship.

Design/methodology/approach. This paper conducts a multi-case study of a sample of 4 successful migrant women entrepreneurs.

Findings. Results show that when the context denotes resistance towards migrant women entrepreneurs, soft skills, especially “self-esteem” and “self-efficacy” can balance the negative effect of context. This mismatch between personal expectations and received stimulus from context produces a cognitive response that follows an individual perspective based on “self-investment”. Meanwhile, when the context is perceived as favorable to migrant women’s entrepreneurship development, individual factors seem to amplify the contextual factors, creating a centrifugal reaction. In this case, personal expectations and received stimuli from the context match and generate a cognitive response that follows a business perspective based on conceiving firm development strategies.

Practical and Social Implications. Findings can help migrant women entrepreneurs and practitioners (consultants and other entrepreneurs) identify the main factors that can sustain or inhibit entrepreneurial behaviors by anticipating possible concerns and issues and, above all, trying to remove potential context barriers. Moreover, findings also call into action policymakers to promote ad hoc entrepreneurship education programs to strengthen the individual level and contrast possible adverse effects due to hostile contexts.

Originality of the study. Previous studies have investigated the context and the individual levels separately, while this study argues that the two levels coexist and deserve to be jointly analyzed. Additionally, this study focuses on successful migrant women entrepreneurs, considered enlightening because they are embedded in multiple contexts: the country of origin and the host country. By uncovering how they perceive the context (friendly vs. hostile), results show different cognitive responses to overcome difficulties and achieve success.

1. Introduction

Scholarly interest in the field of women entrepreneurship is increasing (Langevang et al. 2015; Laguía et al., 2022), contributing to delineate a quite mature topic, albeit in need of further investigations (De Bruin et al., 2006; Azmat and Fujimoto, 2016; Chatterjee, Shepherd, and Wincent, 2022).

Carter and Marlow (2006) conducted a literature review on female entrepreneurship within the small business sector. Contrary to the perception that female entrepreneurship has been overlooked, they identified over 400 peer-reviewed academic papers and numerous popular articles on the subject. However, their findings underscored the imperative for a more profound comprehension of the intricate interplay between gender and enterprise, emphasizing the necessity for greater focus on theoretical dimensions. Similarly, Ahl (2006) advocates analyzing women's entrepreneurship through novel lenses and perspectives to encapsulate a more comprehensive and nuanced understanding of its various facets. More recently, Paloni and Serafini (2018) questioned methodological issues concerning female entrepreneurship as an individual or collective phenomenon and as a social or natural variable.

In sum, theoretical and methodological approaches deserve more analysis to understand entrepreneurship in general and female entrepreneurship in particular deeply.

The literature is bifurcated into two primary perspectives: the individual standpoint, which examines personal traits and attitudes to identify differentiating characteristics between women entrepreneurs and their male counterparts, and the contextual standpoint, which argues that various contextual factors exert a significant influence on entrepreneurship, albeit in distinct ways for women and men.

Specifically, studies have focused on the micro-level (individual) analysis by identifying personal traits, attitudes, and characteristics that appear positively linked with entrepreneurial careers (Schlaegel and Koenig, 2014; Mitchelmore and Rowley, 2013; Hassan et al., 2020). These factors have been used to explain differences between men and women in undertaking entrepreneurial initiatives. In line with this perspective, women appear more reluctant to set up a new firm or continue a family business than their male counterparts (Anna et al., 2000; Nani and Mathwasa, 2023). Reasons could be retrieved in risk-aversion (Gimenez-Jimenez et al., 2022; Humbert and Brindley, 2015; Gupta et al., 2019), low levels of self-esteem (Goyal and Yadav, 2014), difficulties in receiving finance loans (Muravyev et al., 2009) and lack of self-confidence (Kumbhar, 2013; Kirkwood, 2009). Great attention has been paid to women entrepreneurs in developing countries, investigating the reasons that push women to become entrepreneurs (Lim and Enrick, 2013). Additionally, recent studies highlight that women assume

their individual choice to undertake or continue entrepreneurial initiatives considering the “family dimension” (Cesaroni and Paoloni, 2016).

Other studies focused on contextual rather than individual factors to explain drivers that stimulate or inhibit entrepreneurship and thus also women entrepreneurship (Essers, Doorewaard, and Benschop, 2013; De Vita, Mari, and Poggesi, 2014; Ratter, Dana, and Ramadani, 2017; Ogun-dana et al., 2021). Contextualizing entrepreneurship means challenging the decontextualized standard model, generally associated with high-growth, technology-driven, and venture capital-backed endeavors (Aldrich and Ruef 2018), considering other context-grounded entrepreneurship forms (Welter, 2011). Recently, Welter, Baker, and Wirsching (2019) identified three main waves of contextualizing in the entrepreneurship field: 1) challenging the standard model by exploring the why, what, and how of entrepreneurship; 2) considering subjective elements, the construction, and enactment of contexts; 3) broadening the domain of entrepreneurship research for deeper theorizing, by pointing to diversity in organizational forms, innovation, motivations, places, people, funding, development paths, and contributions to economy and society, considering that the context represents the source of entrepreneurship.

Thus, a general consensus is that contextual factors affect entrepreneurship, entrepreneurial intention, and behavior (Zahra et al., 2014). In line with this, scholars have challenged the topic by leveraging different theoretical perspectives that unfold a diverse tapestry of approaches, each offering interesting insights into the multifaceted nature of entrepreneurial activities. For example, ecologist theorists (see Hannan and Freeman, 1989) provide valuable perspectives on how environmental factors impact entrepreneurial activities by emphasizing competition, entrepreneurial density, and resource availability within a given context. Institutional Theory, as advanced by Scott (2005), extends the analysis to the broader institutional context, considering how cultural norms, laws, and regulations shape entrepreneurial behavior. This theory sheds light on the influence of formal and informal institutions on entrepreneurship.

In a large number of studies, following Granovetter’s suggestions (1985), scholars have demonstrated that contexts can stimulate, delineate, or inhibit entrepreneurship through their specific features, originating territories with unique entrepreneurial characteristics (Floris et al., 2020; Floris and Dettori, 2023). This phenomenon is at the origin of the embeddedness theory and refers to the intricate relational tangle of individual and organizational ties in a defined context (Dacin et al., 1999; Jack & Anderson, 2002) that affect personal life spheres, economic actions, and business activities (Aldrich & Zimmer, 1986; Uzzi, 1997). This lens has been used to investigate women entrepreneurship as a result of the culture, policies, habits, and customs of a specific country (Henry and Lewis, 2023). In this

view, particular emphasis has been placed on investigating context-related factors that inhibit or sustain women entrepreneurship (Panda, 2018; Jamali, 2009).

Drawing on the embeddedness perspective (Granovetter, 1985), our study aligns with the viewpoint of Minniti and Naudè (2010), emphasizing that a comprehensive understanding of women's entrepreneurship requires a simultaneous examination of both individual and contextual dimensions. In this regard, the embeddedness perspective is the most compelling theoretical approach for several reasons. Unlike alternative approaches that often treat these levels in isolation, the embeddedness perspective facilitates a more holistic analysis, allowing us to unravel the intricate interplay between individual traits and contextual factors and providing a nuanced and comprehensive understanding of women's entrepreneurship that extends beyond simplistic dichotomies. This perspective enables us to explore how and why contextual and individual factors interact and influence each other, leading to a more nuanced and contextually grounded analysis. Simultaneously, this theoretical approach empowers us to heed Alvesson and Sandberg's (2011) call for a meaningful contribution to the discourse. We achieve this by introducing innovative research questions and challenging assumptions through a dialectical interrogation of diverse perspectives, explicitly focusing on migrant women's entrepreneurship, which needs to be analyzed under the lens of the multiple embeddedness perspective. Because migrant women entrepreneurs are influenced by multiple embeddedness explicating in different levels, that is, context - positive or negative factors that come from their context of provenience and of migration - and individual, we aim to answer the following research question: How and why do contextual and individual factors act in successful migrant women entrepreneurship?

To answer this question, we conducted a multi-case study (Eisenhardt, 1989) of a sample of 4 migrant women entrepreneurs. The findings provide interesting and enlightening insights and offer relevant contributions to the literature on migrant women entrepreneurship, highlighting the relevance of the interplay of contextual and individual factors - especially self-esteem and self-efficacy and the effect of this intertwining, that generates two different cognitive responses based on an individual and business perspective. The paper is structured as follows: Section 2 presents the literature review (paragraphs 2.1, 2.2, 2.3). Section 3 addresses the methodology (paragraphs 3.1 and 3.2). In Section 4, the findings are detailed across three paragraphs, focusing on individual level (par. 4.1), context level (par. 4.2), and the interplay (par. 4.3). Section 5 delves into the discussion of results, explaining implications and contributions (par. 5.1) while highlighting limitations (par. 5.2). Lastly, Section 6 concludes the study by summarizing the main contribution and the paper's originality.

2. Literature review

2.1 *The individual and contextual perspectives of women entrepreneurship*

Women entrepreneurship is probably the fastest-growing category of entrepreneurship worldwide and its development has received increasing academic attention (Brush and Cooper, 2012; Cardella, Hernández-Sánchez and Sánchez-García, 2020). There is a strong agreement that women entrepreneurs contribute to entrepreneurial activity (Noguera et al., 2013) and socio-economic development (Hechavarria et al., 2019; Rae, 2015). However, women that decide to create or continue a business are less than their male counterparts (Elam et al., 2019), corroborating the stereotypical concept of “think entrepreneur-think male” (Laguía et al., 2022).

Research on women entrepreneurship primarily falls into two categories: the individual perspective, which analyzes the personal traits of effective entrepreneurs and examines the gender aspect of the entrepreneurship phenomenon, and the contextual perspective, which concentrates on the opportunities and obstacles arising from the environment in which firms operate, and entrepreneurs are situated.

Regarding the individual perspective, scholars have concentrated on identifying individuals' key personal traits to be recognized as entrepreneurs. Specifically, at the individual level, scholars highlight the importance of well-defined soft skills as antecedents and psychological characteristics for achieving entrepreneurial success (Emami et al., 2022). Common psychological traits identified in various studies include the need for achievement (McClelland and Winter, 1969), locus of control (the ability to control events), and a propensity for risk-taking (Gartner, 1988). Furthermore, challenges for women in initiating and managing enterprises are suggested by several studies, with conflicting views on gender advantages. Psychological traits of women entrepreneurs are examined compared to those of men, along with exploring social backgrounds, education, and family influences (Langan-Fox and Roth, 1995; Caputo and Dolinsky, 1998). Women are reported to show limited interest in pursuing entrepreneurial careers (Shinnar et al., 2012) and display lower entrepreneurial skills, knowledge, and ability to establish new firms (Allen et al., 2007).

Additionally, women are often less inclined to undertake self-employed activities (Verheul et al., 2012). Cesaroni and Paoloni (2016) further reveal that family plays a fundamental role in women's individual entrepreneurial choices. The authors identify various types of family influence, including family as an obligation, where women are compelled to become entrepreneurs, shaping their career traits around family expectations; family as a support, providing encouragement, guidance, and emotional support, enhancing women's resilience in their entrepreneurial endeavors; family

as an opportunity, where being part of a business family offers women a career path by fostering individual entrepreneurial pursuits; family as a form of generational continuity, experienced during family firm succession involving both successor and predecessor; and family as a form of sacrifice, where unmarried women entrepreneurs, grappling with conflicting job responsibilities, may opt to forgo having a family due to challenges in balancing work and personal life. This decision is not always voluntary, as women often feel compelled to avoid family responsibilities that are difficult to reconcile with their entrepreneurial pursuits. This predicament disproportionately affects women compared to men, who are generally less impacted by work-life balance issues.

Regarding the contextual perspective, scholars have primarily focused on understanding the factors contributing to differences between men and women in engaging in entrepreneurial initiatives. This emphasis on context arises from recognizing that “context is important for understanding when, how, and why entrepreneurship happens and who becomes involved” (Welter, 2011: 166). This is particularly true concerning the institutional context, encompassing political, economic, and cultural aspects (Shane, 2003). Specifically, regarding political and economic factors, regulatory conditions (Estrin and Mickiewicz, 2011); property rights, and access to economic and financial resources (Brush et al., 2009) appear to influence women entrepreneurial intentions mainly. However, culture has received particular attention because considered the most relevant factor able to inhibit or sustain entrepreneurship (Krueger et al., 2013) by driving entrepreneurial intentions and behavior (Shinnar et al., 2012; Thornton et al., 2011). Culture can be more or less supportive of entrepreneurship (Kibler et al., 2014), that is, more or less apt to promote and stimulate entrepreneurship. In this perspective, culture can generate both positive and negative effects, which may be perceived and experienced differently among members of society. A substantial body of literature has delved into the distinctions between women entrepreneurs and their male counterparts, revealing that women encounter more cultural barriers than men when pursuing entrepreneurial paths (Bullough et al., 2017; Jennings and Brush, 2013). This contributes to the well-established gender disparity in the entrepreneurial domain (Santos et al., 2016). Stereotypes and societal expectations regarding gender roles “are a significant source of these differences between women’s and men’s entrepreneurship” (Liñán et al., 2022: 1052). Such stereotypes link women with household activities, family care, and low-risk ventures (Floris and Dettori, 2021), shaping perceptions of women’s traits that may seem incompatible with entrepreneurial careers. Paoloni and Dumay (2015) recently developed the CAOS model of women entrepreneurs, by jointly considering personal characteristics, context, organizational and managerial aspects, and entrepreneurial motivation. The

authors found a prevalent reliance on networks marked by informal and enduring connections, emphasizing the importance of balancing work and family responsibilities and involving relatives and friends in the network. Women entrepreneurs, in other words, appear to pay particular attention to relational capital, especially in the start-up phase.

In this vein, it becomes evident that relations within the context, cultural norms and societal expectations play a significant role in shaping and defining individual factors, underscoring the influential impact of context on various aspects of individual entrepreneurial behavior.

In other words, women often avoid undertaking entrepreneurial initiatives due to what cultural norms delineate for them. However, entrepreneurial intent, for example, is a predictor of new business setting up and originates in self-esteem, that is, “the extent to which individuals believe in the ability to execute a behavior and what they believe is possible with the skills they possess” (Schlaegel and Koenig, 2014: 300). According to Sedikides and Gress (2003), self-esteem encompasses an individual’s subjective evaluation of their self-worth, feelings of self-respect, and self-confidence, along with the degree to which they harbor positive or negative opinions about themselves. Moreover, self-esteem is interconnected with personal convictions regarding one’s skills, abilities, and social interactions. Self-esteem is undoubtedly a social construct (Eagly et al., 2000) and a personal skill that can be built and improved over a lifetime (Creed et al., 2001; Nungsari et al., 2023), since childhood and adolescence (Floris et al., 2023; Floris and Pillitu, 2019).

Similarly, self-efficacy, as explained by Bandura (1977), pertains to individuals’ confidence in their capacity to achieve predetermined performance levels, thereby influencing events that impact their lives. These beliefs shape individuals’ emotions, thoughts, and self-motivation and influence their behavior. The multifaceted effects of self-efficacy beliefs are realized through four primary processes: cognitive, motivational, affective, and selection processes, generating also organizational effects.

This means that the individual level of analysis depends in part on the context, in particular culture and social norms, but it also depends on the perception individuals have of themselves independently of external expectations and on how much they believe in their own abilities and are willing to invest on emotional and material resources for self-improvement. This clearly emerges empirically because when women decide to start or continue a business they pursue successful results, also in non-supportive contexts (Mozumdar et al., 2022; Rahman et al., 2022; Floris et al., 2020). For this reason, contextual and individual factors must be jointly analyzed to investigate in-depth women entrepreneurship phenomenon, especially when women are migrants and experience constraints and opportunities from multiple contexts.

2.2 Migrant women entrepreneurship

The surge in global migration has substantially fueled entrepreneurial self-employment (Edwards et al., 2006). Although extensively scrutinized in sociology, migration studies, and economic geography, entrepreneurship scholars have yet to thoroughly investigate this phenomenon, thus overlooking its inherent significance (Ram et al., 2017; Jones et al., 2017), especially with reference to migrant women. Only recently has there been a heightened awareness of this research gap (Chreim et al., 2018), signaling a growing recognition of the need for further exploration.

In line with Sinkovics and Reuber (2021: 1), we conceptualize migrant entrepreneurship as the “entrepreneurial activity of foreign-born individuals in a country other than that of their birth”. Recent studies have found that migrant entrepreneurship is a source of social and economic development for both the country of origin and the host country (Kurvet-Käosaar et al., 2019). However, migrant entrepreneurs face challenging issues, especially when women (Bullough et al., 2019; Foss et al., 2019).

Scholars highlight that whether women entrepreneurs experience the “mental load”, that is, an extra burden of responsibility and sometimes a sense of guilt that women face in the household context (Crozier et al., 2004), this negative feeling tends to be heavier in context of migration (Lassalle and Shaw, 2021). Lassalle and Shaw (2021) argue that sometimes women migrants are trailing wives and follow their husbands or male partners into migration, giving up on their career ambition, and setting up their new venture to the background of the household’s migration and settlement priorities. “As trailing wives, women migrant entrepreneurs follow the lead migrants (their husbands) into migration and prioritize their household’s settlement, including children’s education and husband’s career, at the expense of their own career prospects, and subsequently, at the expense of their entrepreneurial activities. For these migrant female entrepreneurs, starting a business is a decision by default, a response to a lack of prioritization of their own careers within the migrant household.” (Lassalle and Shaw, 2021: 1506). At the same time, the authors have found that the context of migration augments the mental load of women migrant entrepreneurs. Like other women, female migrant entrepreneurs are in charge of their household’s domestic duties, but being abroad and far away from relatives, they are alone and cannot count on relatives’ help. This requires flexibility for household duties augmented by the migration context, limits the time and energy women migrant entrepreneurs can dedicate to their entrepreneurial activities, and restricts the scope of their business.

Other studies have identified as possible obstacles human capital, culture, family, institutional aspects, and social capital (Azmat, 2013), as well as access to capital, lack of local knowledge, culture, and language (Dhaliwal,

Scott, and Hussain 2010). In this scenario, migrant women entrepreneurs seem to be victims of a double disadvantage (Dhaliwal, Scott, and Hussain, 2010) or a triple disadvantage (Pio and Essers, 2014). Double disadvantage refers to the concerns stemming from being both migrants and women, while triple considers the case of migration from developing countries (Azmat, 2013). This last case worsens the condition of migrant female entrepreneurs, historically considered the most disadvantaged kind of entrepreneur (Raijman and Semyonov 1997), as they find it more challenging to adapt to the institutional framework, culture, and socio-economic context of developed countries (Drori, Honig, and Ginsberg, 2006; Azmat 2010).

Moreover, migrant women entrepreneurs who come from developing countries experience prejudice from their country of origin more than the host country because of deeply rooted, discriminatory cultural values, attitudes, practices, and the traditions of patriarchal culture (Amine and Staub 2009; Marlow and McAdam 2012)

Indeed, as highlighted by Vershinina et al. (2019), who delved into transnational family businesses, transnational spaces can empower women to identify previously inaccessible opportunities due to the structural constraints of their home countries and the entrenched family businesses. By exercising their agency, transnational migrant women can prioritize their entrepreneurial aspirations without jeopardizing their family ties. In this perspective, the embeddedness perspective lens appears to be the most suitable to investigate the phenomenon.

2.3. Migrant women entrepreneurship through the lens of the embeddedness perspective

There is a broad consensus that firms do not act in isolation (Wigren-Kristoferson et al., 2022). Firms' behaviors, strategies, access to resources, and opportunities are firmly related to the environment in which they are embedded (Jack & Anderson, 2002). As actors within networks, to quote Granovetter (1985: 487), firms "do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive actions are instead embedded in concrete, ongoing systems of social relations". As such, actors such as firms and their economic activities must be analyzed considering the frame of social relations, culture, social structures, local institutions, routines, and customs in which actors operate (Granovetter, 1985). This condition represents the essence of the embeddedness perspective, which refers to the intricate relational tangle of individual and organizational ties in a defined environment or context (Jack & Anderson, 2002) that affect personal life spheres, economic actions, and business activities (Aldrich & Zimmer, 1986; Uzzi, 1997).

Studies on immigrant entrepreneurship that do not focus on gender emphasize the concept of “mixed embeddedness” to highlight the significance of exploring the interplay between the immigrant entrepreneur, the meso-level opportunity structure, and the macro-level institutional framework, underscoring the need to comprehend both the host country and the native context when examining immigrant entrepreneurship (Chreim et al., 2018).

Under the lens of this perspective, migrant women entrepreneurship deserves to be investigated by understanding how, to what extent, and through which main factors context affects its development and dynamic. At the same time, because migrant women entrepreneurs are influenced by factors from the country of origin and the host country, the embeddedness perspective becomes more complex, shifting into multiple embeddedness (Wigren-Kristoferson et al., 2022) that helps to interpret the phenomenon and allowing us to understand the effects of the contexts and the individual level through their intertwined ties. In other words, our understanding of migrant women entrepreneurship needs to consider the multiple contexts and the social structures in which migrant women entrepreneurs are embedded (Welter, 2011; Zahra et al., 2014). Recently, in their literature review on female immigrant entrepreneurs, Chreim et al. (2018) built on the mixed embeddedness perspective, arguing that a comprehensive understanding of immigrant entrepreneurship arises when considering the entrepreneurs’ resources and their integration into the social network of immigrants, as well as their embeddedness in the politico-institutional and socio-economic environment of the host country. This approach encompasses both actors (the migrant entrepreneurs) and the socio-cultural, economic, and political structures shaping the host country and co-ethnic context within which these actors operate. The embeddedness perspective emerges as a suitable way to investigate the topic. Scholars argue that migrant women prefer and find an inclusive and culturally diverse environment, which positively impacts immigrant entrepreneurship (Lidola, 2014). The acceptance and overall encouragement of female immigrant entrepreneurs are shaped by the gender role ideologies and value systems prevalent in the host country (De Vita et al., 2014). On the opposite side, in many contexts, subtle hindrances to the advancement of female immigrant entrepreneurs exist, often arising from biases within the host country population towards conspicuous manifestations of diversity (Pio, 2014). Concerning the context characteristics, migrant women also shape their entrepreneurial orientation and intention (Verduijn and Essers, 2013).

Thus, in light of the multiple embeddedness perspective, this study refers to two main levels - the context (including origin and host countries) and the individual - trying to elucidate how and why contextual and individual factors act in successful migrant women entrepreneurship.

3. Methodology

3.1 *Research design and sample*

Given the unexplored topic, a qualitative methodology for this research was chosen and executed using a multicase approach (Eisenhardt, 1989; Yin, 1994). The qualitative approach is particularly appropriate for this study because the joint observation of the contextual and individual level of analysis of migrant women entrepreneurship requires an in-depth analysis able to penetrate interviewees' resistance. Moreover, using case studies allows for an analysis of real, unique phenomena, that of observing a particular scenario and its interactions within the boundaries of the context wherein they develop and act (Patton, 1990; Yin, 2008). Such studies represent a form of qualified investigation aimed at seeking the 'meaning' of reality in the experiential lives of people and organizations (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Patton, 1990; Yin, 2008). A comparison of case studies is particularly useful in this research study to understand mechanisms through which the intertwined individual and contextual factors act and produce effects in different ways. The choice of women entrepreneurs aligns with Patton's (1990) recommendation that the 'logic and power of purposeful sampling lies in selecting information-rich cases for in-depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research (Patton, 1990). In detail, our selection focused on migrant women entrepreneurs embodying the following traits: (1) serving as both the owner and manager of successful micro and small businesses and (2) establishing their firms in Sardinia. Two primary considerations guided this choice. Firstly, the homogeneity of the Sardinian context, encompassing institutional, cultural, and historical elements, provided a conducive environment for meaningful cross-case comparisons. This was further facilitated by the author's profound knowledge of the context. Secondly, opting for face-to-face interviews was driven by the recognition that it is the most suitable method for acquiring pertinent, sensitive, and confidential information, leveraging the authors' intimate familiarity with the specific nuances of the context. Concerning the reference to "successful" micro and small firms, we considered what was suggested by Toledo-López et al. (2012). Based on prior studies, the authors conceptualize success as a multifaceted achievement beyond financial metrics. Success, as outlined by these authors, encompasses economic gains and attaining non-financial objectives. These include customer satisfaction, adherence to cultural values and traditions, autonomy, creative expression, and a positive impact on the broader community. Adhering to this viewpoint, we reached out to women entrepreneurs who primarily defined their success in terms of non-financial results.

The selection of micro and small enterprises was influenced by the recognition that these types of firms embody the contextual reality (Nichter and Goldmark, 2009) and require exceptional resilience to navigate the distinctive challenges inherent in smaller-scale businesses. Through personal contacts, we approached the first migrant female entrepreneur and then proceeded through snowball sampling, asking our informants to suggest other entrepreneurs with the defined characteristics. This way, we involved four migrant women entrepreneurs to obtain their availability, presenting the study's objective. The sample was adequate and additional cases provided no further knowledge, thus reaching saturation (Suddaby, 2006). Moreover, the sample agrees with Eisenhardt's suggestions (1989, p. 545): ' while there is no ideal number of cases, a number between 4 and 10 cases usually works well'. Table 1 describes the main characteristics of the selected migrant women entrepreneurs and their firms.

Table.1 Sample and details

#	Origin	Age	Education level	Marital status	Child.	Firm activity	Foundation	Length of interview (in minutes)
1	Mexico	41	Master Degree	married	2	image consulting, personal branding	2021	42.31
2	Cuba	46	Master Degree.	single	-	educational services, languages, interpreting	2014	39.41
3	Romania	47	Master Degree	married	-	fixtures, construction	2015	42.14
4	Kirghizstan	46	Master Degree	single	-	catering	2016	39.04

Source: author's elaboration.

3.2 Data collection and data analysis

Our study mainly relied on primary (interviews) and secondary data sources (archives, personal documents, websites, and others). Primary data consisted of four in-depth interviews with migrant women entrepre-

neurs. All interviews helped us understand whether and how context (of origin and host) exerts its influence and how they perceive it as supportive or not. Contemporarily, interviews allowed us to investigate whether and how individual factors interrelate with contextual factors. Each migrant informant was interviewed alone to avoid mutual influence that could have invalidated the sincerity of the accounts. The in-depth interviews were personally conducted, using the native language of the informants and then translated into English. This linguistic approach was facilitated by one author's proficiency in the language, ensuring a nuanced and culturally sensitive interaction. , An interview protocol (Legard et al., 2003) designed to obtain information related to the research question was followed. To define the interview protocol, we conducted a pre-study with a sample of 10 individuals, distinct from the final sample, to assess the proposed questions' effectiveness and gain insights into their meaningful interpretation. These ten individuals were identified among the authors' contacts, with the characteristic of not knowing the topic under study, to simplify the questions as much as possible and avoid using academic terminologies. Thanks to this choice, some questions were changed to improve their comprehensibility. The final list of items (refer to Appendix A) intentionally omitted technical terminology from academic literature. The goal was to encourage interviewees to openly and organically share their experiences and personal perspectives, encompassing the entire lifecycle of the firm rather than fixating on specific moments in the life of women's businesses. We used open-ended questions (Eisenhardt, 1989), prompting the informants to provide additional details when their descriptions were brief or when novel strands of narrative emerged. In our thorough investigation, we examined two distinct levels – the individual and the contextual – drawing insights from Johannisson (2010) and Oosterbeek et al. (2010) in relation to the individual level. We concentrated on individual entrepreneurial skills, encompassing facets like self-esteem, self-efficacy, perseverance, autonomy, proactivity, and creativity. Regarding the contextual level, we referenced Noguera et al. (2013) and primarily focused on socio-cultural factors, particularly emphasizing perceived capabilities and opportunities.

All interviews (averaging 40 minutes), conducted from November 2022 to April 2023, were recorded and transcribed into 50 double-spaced pages, mostly within 24 hours. Ethical aspects were considered and respected throughout the study, including having all participants sign a written consent form. The interview procedures were clearly expressed to the respondents before the interviews were conducted. Anonymity was guaranteed to the informants and their firms to encourage openness. Moreover, authorization was obtained from participants to gather data, transcribe interviews and use the collected information for scientific and academic purposes.

We analyzed data using an inductive approach (Eisenhardt, 1989; Eisenhardt et al., 2016). In the first step, we reviewed the primary and secondary data independently, highlighting the material reflecting migrant women entrepreneurs' perceptions of contextual factors. Then, we examined single cases, creating chronologically structured descriptions of each of the four firms with all relevant information. These documents comprised 10 pages per interviewee (a total of 40 pages) and provided a neatly arranged overview of each case. In this step, considering that the interviewees' responses were the most important source of information, two independent coders first read through the interviews and additional materials. Subsequently, they scanned them for emergent themes that appeared important to answer our research question (Reay & Zhang, 2014). In the second step, we followed the recommendations of Eisenhardt (1989) and conducted a cross-case analysis to identify common patterns and contradictions across the sample (Eisenhardt & Graebner, 2007). We iterated amongst case pairs to sharpen similarities and differences and form tentative relationships between constructs.

Furthermore, we shifted between empirical evidence and theory. As the theoretical framework grew more explicit, we compared it further with the literature to highlight similarities with and differences from prior research, strengthening internal validity and refining constructs and relationships (Eisenhardt & Graebner, 2007). Following this process, we surprisingly noted that the four interviewees experienced the intertwining between context and individual level in different ways. In the third step, we interpreted the data, achieving a strong match between the cases and emergent theory (Denzin & Lincoln, 2006; Eisenhardt, 1989). When the process was complete, we developed our emergent theoretical framework (Eisenhardt & Graebner, 2007) grounded on analyzed data that suggested the emergence of two different responses that we labeled "individual perspective" and "business perspective".

4. Findings

Analyzing data, we noted that migrant female entrepreneurs paid attention to common themes, showing similarities and differences in how they express their individual levels, perceive contextual factors, and formulate their responses to difficulties.

In the following, we introduce the individual and contextual levels separately, and finally, we concentrate on their intertwined relationships.

4.1. *The individual level of analysis*

At the individual level, the prevalent themes of “self-esteem” and “self-efficacy” encompass various entrepreneurial skills, with autonomy being a notable component of self-esteem. This signifies that autonomy, reflecting the capacity for independent decision-making, is embedded within an individual’s sense of worth. Conversely, perseverance, proactivity, and creativity are integrated into self-efficacy, highlighting their dependence on a person’s belief in their capabilities. In summary, autonomy contributes to self-esteem, as emerges from the following quotes, emphasizing the importance of self-directed decisions, while perseverance, proactivity, and creativity thrive within the self-efficacy framework, emphasizing confidence in one’s entrepreneurial abilities.

“The awareness that I can help other women in my job excites me” (Case 1);

“I take pride in my abilities and contributions, knowing that my skills make a meaningful impact on my team’s success and uplift those around me.” (Case 1)

“When we see that our customers grow and grow, we feel even more joy and pride, because we realize that what we did, we did really well.” (Case 2);

“Celebrating the success of our clients is not just a testament to our proficiency but a source of pride. Witnessing their growth reinforces my belief in the value we bring, boosting my self-esteem and conviction in the impact of our endeavors.” (Case 3)

“Respect, listening, and relationship with clients and employees are the foundation of my work: it has always been greatly appreciated” (Case 3);

“I had clear ideas on my business idea: I knew what I wanted and also that it would take time to reach my goals” (Case 4).

The selected quotes highlight that the four migrant women entrepreneurs possess a quite high level of self-esteem and this helps them to achieve success in their entrepreneurial initiatives.

Concerning self-efficacy, which sounds to include perseverance, proactivity, and creativity, the migrant women entrepreneurs have sustained that:

“When the pandemic broke out, I thought, I had to do something, I couldn’t stay and do nothing. So, I started my entrepreneurial journey...” (Case 1);

“I’ve learned that true success stems from the unwavering belief in my capacity to learn, adapt, and conquer any endeavor I undertake.” (Case 2)

“There aren’t many jobs here, but I didn’t want to start from scratch, considering the sacrifice I made for my professional training” (Case 2);

“I have worked hard for my company: without expectations, but with the awareness of having given the best of me” (Case 3);

“In the face of challenges, my belief in my own capabilities fuels my determination to overcome obstacles and carve out success.” (Case 3)

“It was a long time before I could start my business: for years I did two jobs to get the necessary permits, but I never abandoned my dream” (Case 4)

“I approach each task with the confidence that my skills and knowledge will guide me to triumph, turning challenges into stepping stones for achievement.” (Case 4)

What emerges is the ability of the interviewees to rely on their own strengths to overcome the difficulties they encounter during their business activity. Result orientation and determination to achieve defined and ambitious goals, which we refer to as self-efficacy are very important factors in the success of these migrant entrepreneurs.

4.2. The context level of analysis

Referring to the context level, we noted two different perceptions, neutral or positive, and hostile, in terms of perceived opportunities and capabilities.

In the following, we selected interesting quotes highlighting how context is experienced as neutral or positive and, on the opposite side, when perceived as negative.

Concerning the first case, migrant women entrepreneurs told that:

“At first people consider my field of activity very superficial, but, when they see everything underneath, they rely completely and advise me to their acquaintances. That makes me very happy.” (Case 1)

“Here I am very well-liked; It’s nice to see your professionalism recognized, especially by the most distrustful customers.” (Case 2);

“In such a positive context, I’ve had the opportunity to grow my business in ways I never imagined. Diversity has been the key to my success here.” (Case 2)

“The support of the operators and the inhabitants of the area in which I operate has been very valuable, for me; if there is no acceptance, it is not possible to realize your enterprise. You may have golden hands, but without it, you can’t grow.” (Case 4)

“As a migrant entrepreneur, I’ve found a context that embraced my entrepreneurial vision with openness and support. The growth of my business has been made possible by this inclusive community.” (Case 4)

When the context is perceived as neutral or even welcoming and therefore positive, the interviewees perceive a sort of security and serenity in their activity and do not report particular issues.

Concerning the second case, the migrant woman entrepreneur that reported this negative feeling, expressed that:

“Here in Sardinia doing business is not very easy: there is a lot of distrust towards foreign entrepreneurs and especially Romanians.” (Case 3)

“I feel this island is hostile; there are numerous barriers, and the scarcity of available resources creates a challenging environment for growing my business.” (Case 3)

“In this adverse context, bringing my entrepreneurial venture to the forefront is challenging.” (Case 3)

In this case, the hostility of the context is experienced with concern by the woman who, despite having a successful entrepreneurial activity, is nonetheless worried about its future.

4.3. *The interplay between individual and context levels*

Carrying out our cross-case analysis and, thus, jointly analyzing the two levels, we noted that the interplay between individual and context levels generates two different responses based on an “individual perspective” and on a “business perspective”.

Specifically, when the context is perceived as hostile (only in one case), the individual level enhances its relevance by stimulating a response based on an “individual perspective” necessary to face the context’s negative challenges. This means that the migrant women entrepreneur, experiencing negative feelings from the context, builds her success by investing efforts and resources in the achievement of personal high skills, knowledge, and abilities. In other words, the response is a sort of “self-investment”, as emerges from the following meaningful quotes:

“I still have language problems and customers often correct me. I do my best to improve: I read a lot and I even tried to attend Italian courses, even if it is not easy to organize with working hours.” (Case 3)

“Sometimes customers think I’m trying to cheat them because I’m Romanian, but I try my best to learn everything about my job, so there’s nothing a client can ask me that I don’t know about. It’s very challenging, but if you don’t do that, it doesn’t work.” (Case 3)

“(…) in this adverse context, I refused to let it break my spirit. Instead, it became a driving force, compelling me to improve myself by honing my skills and capabilities, determined to prove my true value.” (Case 3)

Conversely, when the context is perceived as neutral or positive, the individual level tends to reinforce the context level by stimulating a response based on a “business perspective”. This means that migrant women entrepreneurs can focus on delineating and conceiving deliberate strategies to improve their entrepreneurial activity, discovering and spotting new business opportunities.

The following quotes can better explain the concept.

“I am very happy with the context in which I operate and how this has conditioned my initial entrepreneurial idea: leaving my comfort zone has allowed me to improve my professional competitiveness and to open up to new and even more stimulating markets.” (Case 1)

“The context appreciation allowed my self-esteem to soar, and the favorable conditions empowered me to invest in my business. This allowed me to seamlessly meet the evolving needs of increasingly discerning customers.” (Case 1)

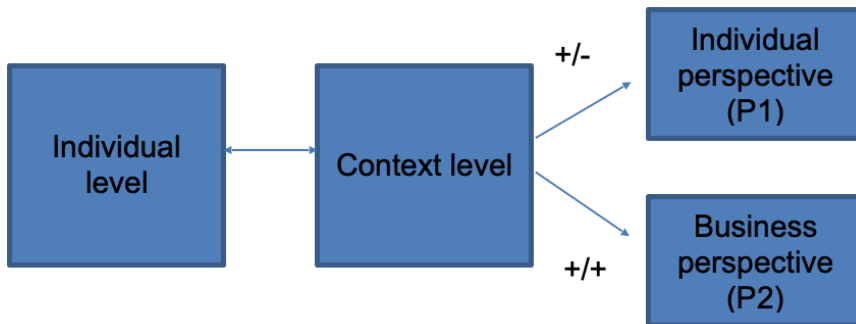
“I have a dream to keep growing and stay here because this is my only home now. Our goal is to buy the place where we are now renting and open a branch in a larger town.” (Case 2)

“People here are wonderful, but if I worked in another region, I think things would be better for my restaurant. I’d love to expand, but I don’t do long-term programs right now.” (Case 4)

“With a steadfast determination to expand my business, I aspire to transcend the island boundaries and reach new horizons. My vision extends beyond local borders, fueled by a relentless commitment to grow and make a meaningful impact on a global scale.” (Case 4)

Figure 1 summarizes the concepts:

Fig.1 The interpretive model



Source: author’s elaboration

As a result of our data interpretation, it is possible to suggest the following propositions:

P1. When the individual level is strong, and the perception of the context is negative, migrant women entrepreneurs tend to formulate a cognitive response based on an individual perspective

P2. When the individual level is strong, and the perception of the context is neutral or positive, migrant women entrepreneurs tend to formulate a cognitive response based on a business perspective

5. Discussions

This study, grounded in the embeddedness perspective with a specific focus on multiple embeddedness, delves into the coexistence of individual and contextual factors in the success of migrant women entrepreneurship. By employing a multi-case approach with a sample of four migrant female entrepreneurs, our analysis highlights the crucial role of self-esteem and self-efficacy at the individual level in achieving success. In contrast, other investigated entrepreneurial skills, such as perseverance, autonomy, proactivity, and creativity, did not emerge individually but manifested within self-esteem and self-efficacy.

Despite the importance of individual factors, the context level introduces a dichotomy, with perceptions ranging from neutrality or positivity to hostility, both in terms of perceived capabilities and opportunities. The intricate interplay between these levels demonstrates that when the individual level is robust and well-structured, particularly when migrant women entrepreneurs exhibit high levels of self-esteem and self-efficacy, the significance of the context level diminishes, even in the face of perceived hostility.

In instances where the context is perceived as hostile, our findings show a distinctive cognitive response characterized by an individual perspective. This involves a focus on enhancing personal skills and knowledge to garner external approval, thereby mitigating potential negative effects arising from the unfavorable context—a phenomenon termed “internal empowerment.” Conversely, when both the individual and contextual levels are favorable, migrant women entrepreneurs shift their cognitive response toward a business perspective. In this scenario, they allocate resources to explore, identify, and capitalize on business opportunities, concentrating on the formulation of development strategies. This dual-level analysis offers a nuanced understanding of the dynamic interplay between individual and contextual factors, shedding light on the diverse cognitive responses and adaptive strategies employed by successful migrant women entrepreneurs.

5.1. *Implications and contributions*

The findings of our study show insightful scholarly and practical contributions, the study significantly enriches the literature in three critical dimensions for scholars.

First, we departed from Ahl’s (2006) framework by examining women’s entrepreneurship through novel lenses, particularly focusing on the context of migrant women’s entrepreneurship amidst the increasing global

migration trend. This was prompted by a recognized gap in the existing literature, especially within entrepreneurship studies (Ram et al., 2017; Jones et al., 2017; Chreim et al., 2018). Consequently, our study actively contributes to the ongoing discourse in this field.

Additionally, following the suggestions of Minniti and Naudè (2010), this paper delved into the intricate interplay between individual and contextual dimensions. Specifically, we elucidate a nuanced understanding of migrant women's entrepreneurship by investigating the pivotal role of self-esteem and self-efficacy in countering negative perceived contextual factors. This outcome extends Johannisson's (2010) and Oosterbeek et al. (2010) findings regarding entrepreneurial skills. Our study reveals that, in our sample, self-esteem encompasses autonomy, while self-efficacy encompasses perseverance, proactivity, and creativity, none of which emerge as distinct entrepreneurial skills. This revelation contributes to a more profound comprehension of the multifaceted influences shaping entrepreneurial endeavors.

Secondly, our study builds upon the findings of Noguera et al. (2013), revealing that two distinct cognitive responses emerge when examining perceived contextual opportunities and capabilities in conjunction with the individual level. On the one hand, an individual perspective surfaces, fueled by self-investment, particularly evident in hostile contexts where individual factors actively counteract negative contextual effects, specifically those related to negatively perceived opportunities. On the other hand, a business perspective takes form, marked by intentional, strategic actions. This becomes particularly pronounced in neutral or friendly contexts where individual factors collaboratively amplify positive contextual effects, perceived positively in terms of both capabilities and opportunities. This dual perspective enhances the granularity of our understanding of how entrepreneurial decisions and behaviors unfold across diverse environments.

Thirdly, our intentional decision to position our study within the framework of mixed embeddedness holds significant importance. This perspective, aligned with prior studies (Chreim, 2018; Livola, 2014; De Vita et al., 2014), and currently undervalued in entrepreneurship studies, enables us to examine female immigrant entrepreneurship comprehensively and opens avenues to enrich the discourse in this research domain. By delving into the intricate interplay of entrepreneurial actors and their integration into social networks, along with the politico-institutional and socio-economic fabric of the host country, our aim is to offer a more nuanced understanding of the complexities inherent in female immigrant entrepreneurship.

Furthermore, we assert that the mixed embeddedness perspective provides a unique lens for researchers to explore the multifaceted dimensions of this phenomenon. It enriches our study and encourages further explora-

tion into the dynamic interactions between immigrant entrepreneurs and their socio-cultural contexts. This approach calls upon scholars to embrace the depth and richness that mixed embeddedness can bring to the forefront of discussions on female immigrant entrepreneurship.

From a practical standpoint, our findings hold the potential to catalyze transformative shifts within the entrepreneurial landscape. Migrant women entrepreneurs, practitioners, consultants, and their peers stand to benefit not only from practical solutions but also from the opportunity to redefine and elevate their entrepreneurial strategies.

By proactively engaging with the identified key factors, these individuals can position themselves as innovators and change-makers, fostering resilience and adaptability in the face of challenges. This proactive approach dismantles existing barriers and sets the stage for pioneering solutions that contribute to a more dynamic and inclusive entrepreneurial ecosystem.

For policymakers, the study presents a compelling argument for strategic investment in tailored entrepreneurship education programs. Such programs have the power to not only uplift the individual capabilities of migrant women entrepreneurs but also to shape a broader narrative of empowerment and inclusivity. By championing these initiatives, policymakers can play a pivotal role in shaping the future of entrepreneurship, reinforcing their commitment to social and economic progress.

Ultimately, the study's call to action addresses immediate concerns and fosters a paradigm shift in how we perceive and support migrant women entrepreneurs. The collective implementation of these recommendations has the potential to create a ripple effect, positively influencing the entrepreneurial landscape on both individual and systemic levels. This vision aligns with a future where diverse voices, talents, and perspectives converge to create a truly thriving and inclusive entrepreneurial environment.

5.2. Limitations

This study provides valuable insights into the factors influencing successful entrepreneurship among migrant women. However, it is important to acknowledge and address several limitations that may impact our findings. These limitations should be viewed as a suitable starting point for new studies, allowing for a contemporary exploration and refinement of the research in this field.

Firstly, the limited sample size represents a significant constraint. While our findings provide valuable insights, the generalizability of these conclusions is inherently limited by the relatively small sample. Future studies with more extensive and more diverse samples can enhance the external validity of our findings, facilitating a more comprehensive understanding of the factors at play in migrant women entrepreneurship.

Secondly, a notable limitation lies in omitting an analysis of the effects of company size. While comprehensive in many aspects, our study neglects to explore the potential impacts that variations in company size can have on the identified factors influencing migrant women entrepreneurship. Incorporating company size as a variable in future research endeavors would provide a more nuanced understanding of how the identified factors interact within businesses of different magnitudes.

Thirdly, the intentional regional focus of our sample, a choice made by the authors, may affect the generalizability of our conclusions to broader contexts. Cultural, economic, and social nuances unique to this particular region may influence entrepreneurial dynamics differently from other locations. Therefore, caution is warranted when extending our results to migrant women entrepreneurs in diverse regional or cultural settings.

Furthermore, future research endeavors could explore the development of measurable indexes and indicators to assess the validity and reliability of the suggested propositions. This approach would not only strengthen the empirical foundation of our study but also contribute to establishing standardized metrics for evaluating similar phenomena in diverse contexts.

Additionally, we recommend that subsequent studies consider adopting a longitudinal approach within the same sample to investigate the potential influence of time on the identified factors. Examining these dynamics over an extended period would provide valuable insights into the temporal evolution of the factors influencing successful migrant women entrepreneurship. In summary, while our study offers a valuable starting point, these limitations underscore the need for continued exploration and refinement in future research efforts.

6. Conclusions

In seeking to unravel the factors underpinning successful entrepreneurship among migrant women, this study has illuminated the intricate interplay between individual and contextual elements, giving rise to distinct cognitive responses characterized by both an 'individual perspective' and a 'business perspective.' Notably, our exploration delves into the realm of female entrepreneurship through a micro-economic and corporate lens, a departure from the more commonplace discourse that predominantly frames the issue within the context of inclusion. Our focus extends beyond the broader debate surrounding inclusion to a nuanced examination of the peculiarities within business models, as exemplified by the case at hand.

A key strength of this study lies in its novelty within the landscape of business economics literature. The investigation navigates through un-

charted territories, shedding light on aspects of migrant women entrepreneurship that have received scant attention in scholarly discourse. By bringing these nuances to the forefront, our findings enrich and expand existing knowledge, paving the way for a more comprehensive understanding of the dynamics at play.

Beyond its scholarly implications, the insights gleaned from our research hold practical significance. The conclusions drawn herein carry the potential to inform and guide policymakers at a supranational level. By embracing a micro-economic and corporate logic in the discourse on female entrepreneurship, policymakers can develop targeted strategies that not only foster the full inclusion of migrants within communities but also address the social challenges stemming from inadequate inclusion. In doing so, these findings offer a valuable resource for shaping policies that promote economic empowerment, social cohesion, and the overall well-being of migrant women entrepreneurs.

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Appendix A – The interview protocol

Part I – Demographic details

Name and Surname
Country of Origin
Age
Educational Background
Marital Status
Children
Company
Sector
Year of Foundation
Revenue

Part II – Introduction

Can you express your personal experience in the business realm?
What are the main motivations that lead to starting your business?
Please explain the company's story (how it started, why, your initial intentions, satisfactions, disappointments, interesting and significant anecdotes, etc.)

Part III – Individual level

Reflecting on your journey, what personal qualities or skills do you think have been crucial for your success?

Self-esteem

How do you perceive your own abilities and effectiveness in running your business?

Autonomy

How confident are you in making decisions and handling tasks independently without needing constant guidance in your business?

Proactivity

Can you share how you take the lead and make things happen in your business, especially when faced with new opportunities or challenges?

Self-efficacy

How confident do you generally feel in your ability to navigate and succeed in the various aspects of your business?

Perseverance

Can you share a story where your perseverance or determination played a significant role in overcoming a challenge?

Creativity

In your business, how self-assured do you feel when it comes to thinking creatively and finding unique solutions to various challenges?

Part IV – Contextual level

Do you believe that your country of origin has influenced your entrepreneurial choice?

Do you think the context in which you operate influences your way of doing business?

Thinking about the environment in which your business operates, what aspects of the community or culture have influenced your approach?

Perceived opportunities

How do you perceive the opportunities available for entrepreneurs like yourself in your community?

Can you share any experiences where you felt supported (or unsupported) by the socio-cultural environment in your business endeavors?

Perceived capabilities

When considering your business and the community, how do you see the relationship between your capabilities and the opportunities you believe exist?

Part V – Main Challenges and Future Vision

Is there anything else you want to share regarding your journey as an entrepreneur or the factors influencing your business?

Do you believe there are challenges in your role as an entrepreneur? If yes, how do you deal with them?

How do you see your company in 5 years?

How do you see yourself in 5 years?

OTHER RESEARCH ARTICLES



**BEYOND SIZE:
TRACING THE DEVELOPMENT OF A STARTUP
AND MEDIUM SIZED COMPANY RELATIONSHIP
AND THE INFLUENCE
ON THE BUSINESS NETWORK**

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Abstract

Purpose. This research attempts to examine the development of a relationship between a startup and a medium-sized company, as concentrating on how it progresses from a basic buyer-seller interaction to a strategic partnership. The key goal is to understand the details of this relationship and its effect on the companies' business network.

Design/methodology/approach. This study employed a longitudinal case study methodology, integrating in-depth interviews with key stakeholders from both a startup and a medium-sized company. A thorough knowledge of the relationship growth is achieved by examining the contacts, exchanges, and collaboration that have occurred throughout time.

Findings. The results of this study show that partnering a startup and a medium-sized business is possible when his possible to find a match in terms of strategic direction. The relationship develops and deepens despite the inherent size differences as both sides see the possibility of mutual advantages and make use of their unique capabilities. In order to build a successful cooperation between firms of different sizes, the research underlines the need of a common vision, complementary business strategies.

Practical and Social implications. Despite their inherent disparities in size, this research reveals the practical implications of the interaction between a startup and a medium-sized business. Both sides need to understand the characteristics of these interactions in order to take use of their individual strengths and overcome any possible obstacles. Additionally, this research looks at the social consequences, emphasizing how cooperation and partnership between organizations of different sizes may promote innovation.

Originality of the study. This study is distinctive since it examines the dynamics of resource interaction between two businesses of different sizes. This study adds to the body of knowledge by shedding light on the elements that help a relationship change from a buyer-seller relationship to one that is more like a partnership. It also looks at how this relationship progression affects the connected network of businesses where both companies are active, providing fresh viewpoints on network dynamics in the context of different firm sizes.

1. Introduction

The business network landscape undergoes constant changes, propelled by the dynamics of business relationships. Discussing relationships between businesses, especially those of varying sizes, provides an intriguing avenue for development, innovation, and market expansion. This study contributes to a broader research theme, examining the integration of supply-chain concerns with entrepreneurial challenges, particularly in business interactions (Baraldi, La Rocca, Perna, & Snehota, 2020). Startups and medium-sized businesses, with their unique traits and complementary qualities, form a promising relationship (La Rocca, Ford, & Snehota, 2013).

This research aims to explore the evolution of such interactions, focusing on the progression from a simple buyer-seller relationship to a partnership, irrespective of size differences. Additionally, it examines the impact of this relationship development on the larger business network in which the two companies engage, with a specific focus on the evolving process between a startup and a medium-sized enterprise. This relationship, despite the inherent dimensional differences between the two business realities, provides insights into fostering a collaboration that goes beyond a simple dyadic buyer-seller relationship.

Startups, defined by their entrepreneurial attitude and dynamic capabilities based on digital processes, collaborate with medium-sized businesses possessing established resources, knowledge, and a robust market presence (Aaboen & Aarikka-Stenroos, 2017; Halberstadt et al., 2021; Ribeiro-Soriano & Piñeiro-Chousa, 2021). However, the small size of startups often means they lack a strong distinctive capability in their market context, especially in rigid and concentrated competitive industries like textiles. Accessing key relationships crucial to their success may be challenging due to their nature as startups.

While many studies have explored how startups can interact with larger players, addressing issues such as trust and relationship development, less attention has been given to how startups can evolve to benefit both themselves and their partners. Bridging the gap between startups and medium-sized businesses presents challenges, including size differences, divergent corporate cultures, and competing strategic objectives (La Rocca, Perna, Snehota, & Ciabuschi, 2019).

Understanding how two organizations with different business models, sizes, and competitive positions can pursue parallel growth paths is complex. Therefore, this study employs a longitudinal study method (Pettigrew, 1990) and in-depth interviews to comprehensively explore the evolution of a relationship between a startup and a medium-sized business. By tracking this relationship over time, the study aims to uncover the nuanced nature of the interaction, identify crucial elements influencing its growth,

and investigate how resource interaction mechanisms function between businesses of varying sizes.

Moreover, the research delves into the effects of this relationship's growth on the broader business network. As the bond between the startup and the midsize business deepens, the dynamics and exchanges within their operating network are likely to undergo transformations. Understanding these network-level implications provides valuable insights into organizational relationships and the potential downstream effects of creating strategic partnerships.

2. Literature review

This paper contributes to the ongoing discourse between network-related and entrepreneurship-related studies, focusing particularly on the development and progression of startup businesses. Existing studies recognize the evolutionary process of new businesses as a social rather than individualistic phenomenon, involving intricate business network relationships (Gerli, Tognazzo, & Giubitta, 2012; La Rocca & Snehota, 2014; Pettigrew, 1990).

Across various literature domains such as supply-chain management, strategic management, and industrial marketing, there is a unanimous agreement that businesses can enhance their operations through collaboration with other actors. This collaboration, especially with external actors, is deemed essential for acquiring the resources necessary for startup development (Baraldi et al., 2020).

The objective of this paper underscores the importance of studying how the relationship between structured businesses and startups serves as a critical success factor for the startup itself. This significance arises from the continuous exchange of resources inherent in small business activities. Resource exchange emerges as a pivotal consideration in understanding the relationship between a structured business and a new venture. It manifests in various ways throughout the lifespan of the relationship, evolving from a simple exchange of resources to a more profound connection where both tangible and intangible resources, including skills and capabilities previously absent in either party, are exchanged (Dyer & Singh, 1998; Handfield, 2019; Li, Li, & Cui, 2021).

The literature highlights diverse categories of resources potentially involved in these interactions, encompassing financial, human, technological, and intellectual resources. Over time, the content and manner of interaction change due to factors like trust, investments, and mutual adaptation, influencing cooperation between enterprises. In a buyer-seller relationship, there is a continuous and progressive exchange of resources,

leading to the gradual consolidation of trust. This trust manifests in concrete forms such as the exchange of industry information, joint innovation processes, and the reliability of supply and payments (Bocconcelli et al., 2020; Prenkert et al., 2022).

Businesses in networks can achieve competitive advantage and mutual benefits through the sharing of resources and expertise (Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009; Håkansson & Snehota, 1989). Despite differences in size, the two firms can collaborate and become partners, progressively strengthening their relationship. However, the literature on resource interaction underscores the pivotal role of networks in enhancing resource interaction and creating opportunities for innovation and growth (Cantù, Corsaro, & Snehota, 2012; Lambe, Spekman, & Hunt, 2002).

Moreover, when considering the dynamics of resource interaction, the literature often employs the relationship as the dyadic unit in which this exchange inherently transpires. As emphasized by Håkansson and Snehota (2017), firms do not operate in isolation. Particularly, newly established firms must look to relationships as a source of competitive advantage contributing to their development. Baraldi et al. (2020) assert that firms must engage with other relevant entities to foster business development, acknowledging the necessity of interactions that contribute to success alongside distinctive entrepreneurial traits (Aaboen & Aarikka-Stenroos, 2017; Aaboen, Dubois, & Lind, 2013).

Companies, especially those new to the market, need to establish business relationships with suppliers and customers. This task becomes complex for startups, starting from scratch and having to initiate new relationships amidst imbalances of power, capabilities, and resources to manage these relationships.

The Industrial Marketing and Purchasing (IMP) literature has long recognized the significance of leveraging business networks for the economically sustainable development of new entrepreneurial ventures. The entrepreneurial process is considered a phenomenon embedded in social relationships specific to a network (Aaboen et al., 2013; La Rocca et al., 2019; Parry, 2020; Uzzi, 1997).

However, establishing relationships for a newly opened venture is not a straightforward process. The IMP literature highlights the delicate nature of relationship access for new ventures. Entering a network and managing relationships over time pose challenges for small businesses due to size differences and the difficulty of managing relationships that are not well-established and, therefore, very fragile (Bocconcelli et al., 2020).

To be part of a network, firms not only need to invest heavily in relationship strength but also in developing an identity for their business model and value proposition, making it attractive to more established players in the network (Håkansson & Waluszewski, 2007).

Besides relationship access, the strength of relationships is a crucial element supporting venture development. Baraldi et al. (2020) demonstrate how scientific “discoveries” can lead to entrepreneurial opportunities through combining socio-technical elements into a coherent network of actors. Enterprises, by enforcing one or more relationships, can solidify their ideas by garnering network commitment for realization (Rondi, Sciascia, & De Massis, 2020). However, Perna, Baraldi, and Waluszewski (2015) note that when the relationship between more structured firms and startups becomes so strong that larger firms become part of the innovation process, the former tend to modify them to fit their programs, potentially causing a fundamental change in the startup’s development path.

The IMP literature reflects on how individual actors’ autonomy is limited and constantly mediated by a process of interaction among network businesses, manifested in resource combination and acquiring a position in the network. Joining a pre-existing network requires the new firm to be accepted as a partner in various relationships and acquire an identity among other firms in the relevant business network (La Rocca & Perna, 2014).

Several studies analyzing technology-driven startups originating in science reveal that the enterprise development process is a social phenomenon based on interactions with actors in the business environment of the new enterprise (Pencarelli, 2022). The evolution of the business idea is observed as a non-linear phenomenon representative of continuous interactions among actors influencing its advances and characteristics.

Reflecting on the role of a dyadic relationship between buyer and supplier, due to strong and non-sporadic interactions, becomes essential in understanding the entrepreneurial process’s development. While literature has explored the interaction between network actors, both suppliers and customers, fewer studies have examined the buyer-seller relationship from a dimensional difference perspective. Additionally, the effects of a new relationship with a startup and its impact on the network of ties with other actors require more careful consideration (Tunisini & Bocconcelli, 2013). A relationship between a small and a large firm, for instance, may offer opportunities for suppliers and other network actors but could also pose risks and obstacles for firms not directly participating in the collaboration (Ribeiro-Soriano & Piñeiro-Chousa, 2021).

In light of these considerations, this study aims to reflect on two research questions:

RQ1: How does the dynamic between a medium-sized company and a startup evolve within the context of a buyer-seller relationship?

RQ2: How does the development of the relationship impact on the two companies’ business network?

3. Methodology

3.1 Research Methodology

This study adopts an exploratory research approach, utilizing a longitudinal case study involving two companies: a well-structured medium-to-large business and a startup. The literature section highlights that the development of entrepreneurial ideas involves continuous interactions among multiple actors rather than a linear and immediate process (Easton, 2010; Stake, 1995). Therefore, the longitudinal approach is deemed valuable to understand the evolving interaction between these two enterprises and how this relationship develops over time, influencing the network in which they operate (Aarikka-Stenroos, Jaakkola, Harrison, & Mäkitalo-Keinonen, 2017).

A longitudinal study involves observing the development of a phenomenon at several points in time, providing detailed insights into the dynamics and processes of progress. This methodology proves useful for understanding the behavioral aspects of firms over time and the dynamics involving relevant actors and networks (Aarikka-Stenroos et al., 2017; Pettigrew, 1990).

The case study approach is particularly advantageous for studying the interaction of resources within business connections embedded in networks, where different actors control diverse resources, each with their objectives and incentives (Eisenhardt, 1989; Halinen & Tömroos, 2005). This method has been employed in various studies involving this type of relationship (Baxter & Jack, 2008; Yin, 1994).

In industrial marketing and purchasing literature, the single-case study methodology has been widely used to explore the importance of business relationships in entrepreneurship. For instance, La Rocca, Perna, Snehota, and Ciabuschi (2019) examined the role of supplier connections in creating new entrepreneurial ventures. Coviello and Joseph (2012) investigated the impact of business networks on the internationalization of a small software company and Axelsson and Easton (2016) used a single-case study to analyze collaboration practices between a small and a large firm in the context of interorganizational connections in business networks.

These studies demonstrate the advantages of the single-case study methodology in investigating the function of business links in entrepreneurship. It allows for an in-depth analysis of the mechanisms underlying successful collaborations and identifies the influence of relationships on larger business networks.

3.2 Empirical Case Selection

This research focuses on the relational dynamics within a buyer-seller relationship, examining the case of two companies: a medium-sized supplier and a startup customer. Since the startup's foundation, these companies have collaborated, benefiting the startup's development due to the well-established nature of the larger company. Over time, the relationship between these two companies has deepened, evolving into a partnership. This provides insight into how the relationship is maintained and invigorated by specific factors. Importantly, the relationship is optimal for the case study because, in a final stage, the larger company decides to acquire the smaller one, showcasing how the relationship can evolve into a strong bond, consolidating into an acquisition.

For the second part of the study, this case is emblematic for examining network dynamics. The startup, operating as a B2C business, interacts with a multitude of actors both upstream and downstream, distinct from the larger company. The evolution of the relationship has led to changes in the network dynamics within which the two companies operate.

3.3 Data collection and analysis

When delving into business cases, it becomes imperative to consider evolving data sources (Yin, 1994). The primary data source for this study comprised 8 in-depth interviews with representatives of the two companies involved in the relationship, spanning a period of 3 years.

Initially, the interview questions centered on comprehending the business model of both companies, offering detailed insights into their respective business environments. Subsequently, the focus shifted to different stages of the relationship, aiming to extract the developmental dynamics by examining the activities and resources employed within the collaboration. The interviews also sought to discern changes in roles and responsibilities over time. Commencing with inquiries about the companies' needs and how these influenced the decision to engage in the partnership, the interviews aimed to grasp the incentives and goals driving the collaboration. The interviews then transitioned to the genesis of the cooperation, exploring how the partnership originated and evolved since its inception. This provided valuable insights into the foundational elements of the collaboration, challenges encountered, and the strategies employed by the organizations to overcome them. Interviewees were also prompted to articulate how the partnership influenced their company's operations, pinpointing the resources needed for specific activities and identifying necessary changes to these resources.

Ultimately, the interviews turned their attention to the potential inclu-

sion of new actors in the partnership. Following Pettigrew’s (1990) perspective, it is crucial for researchers to acknowledge each actor’s limited access to knowledge, influencing their interpretation of specific processes. Hence, establishing follow-up contacts was deemed important to continually understand evolving perspectives and maintain a nuanced understanding of the ongoing dynamics.

Date	Company	Respondent’s Role	Duration
Oct. 2020	REDA	CEO	70 min
Nov. 2020	LANIERI	CEO	65 min
Jun. 2021	REDA	CEO	30 min
Sep. 2021	REDA	CEO	48 min
Mar. 2022	REDA	CEO	39 min
Mar. 2022	LANIERI	Director	72 min
Apr. 2023	REDA	CEO	52 min
May. 2023	LANIERI	CEO	83 min
Total Amount			459 min (7h 35min)

Table 1: set of interviews with both companies.

The interviews conducted varied in duration, ranging from approximately thirty to eighty minutes, with an average time of 55 minutes, as indicated in the table. Questions posed during these interviews encompassed discussions on the business model, motivations for the partnership, and resources utilized throughout the collaboration, aligning with the goals of the paper. Key points and themes agreed upon by the respondents during the discussions were compiled into a briefing document created after each meeting. Clean copies, following Eisenhardt (1989) recommendation, facilitated the review of previous conversations in light of more recent ones.

In addition to interviews, documents such as internal corporate reports were employed to gather information. The ARA model, focusing on resources, served as a primary tool for structuring and comprehending data (Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009). This framework directed the search for empirical data, guiding the exploration of additional concepts that allowed theoretical lenses to capture the fundamental features of the phenomena under study. The simultaneous overlap of data analysis and collection facilitated the evaluation of data and refinement of the tool for structuring and interpreting the data, showcasing the flexibility of data collection. This approach, referred to as “systematic combining” (Dubois & Gadde, 2014), was employed throughout the case study.

Following data collection, the research adopted a subjective interpretation approach to analyze transcripts, involving the written synthesis and

systematic categorization of recurring themes. Each discussion report was meticulously compared to ensure consistency with respondents' statements without distortion.

The study amalgamated information from respondents' reports to examine the evolving relationship between the startup and the medium-sized business. The primary goal was to identify variables impacting the development of their partnership, emphasizing the fundamental causes of this development, challenges encountered during integration, and the resulting advantages experienced by both parties.

Additionally, the analysis delved into investigating new dynamics at the network level, focusing on any new actors included in the existing network and exploring changes or strengthening of dynamics among current members. By exploring these facets, the study aimed to provide a comprehensive understanding of how the network changed over time and the dynamics impacting the relationship between the startup and the medium-sized business.

4. Case Study

4.1 *Companies' presentation*

To address the research questions, this study centers on a single case study examining the interaction between two textile companies: Reda and Lanieri. Reda, a medium-sized company, specializes in high-quality fabrics and textiles for the fashion and clothing industries. Conversely, Lanieri focuses on custom-made men's clothes, renowned for their quality and excellent customer service, operating as an online store with physical showrooms in major European cities. Both companies navigate challenges in a highly competitive market marked by intricate business relationships and a focus on innovation, driven by their distinct business models.

Reda, an established player in high-end textile manufacturing, specializes in creating top-tier fabrics for the fashion and garment industries. Its product range includes fabrics made from wool, silk, cashmere, and natural fiber blends, catering to domestic and international customers. Operating in a competitive market, Reda prioritizes innovation and sustainability, with a history of excellence fostering strong relationships with clients and suppliers globally. With over 500 employees and annual sales ranging between 100 and 150 million euros, Reda's headquarters are located in the Biella textile district in Italy. The company's commitment to quality and innovation is reflected in its research and development efforts, aimed at creating new products and processes. Customer relationships are a focal point, with close collaboration to tailor solutions to individual require-

ments, ensuring lasting partnerships. Reda's emphasis on sustainability is evident in its participation in environmental programs, including the use of renewable energy sources, recycling, and waste reduction.

Lanieri, founded in 2012, specializes in custom-made men's suits, quickly gaining a reputation for high-quality products and exceptional customer service. The company's suits are personalized to each customer's unique dimensions and preferences, using the finest fabrics from renowned textile manufacturers. Emphasizing sustainability and ethical business practices, Lanieri employs eco-friendly textiles, recycling programs, and waste reduction methods. The company operates as an online retailer, offering customization options through its website and physical showrooms across Europe. Lanieri's innovative business strategy and focus on quality and customization contribute to its success in the competitive men's apparel sector. With a lean organizational structure, Lanieri employs around 50 employees, primarily in Italy, across various roles in design, production, and marketing.

This comprehensive case study explores the distinctive characteristics, challenges, and strategies of both Reda and Lanieri, shedding light on the dynamics of their interaction in the competitive textile industry.

4.2. Case study presentation

Lanieri originated from the vision of two engineers who conceptualized an online platform for crafting bespoke suits using a sophisticated algorithm capable of processing measurements obtained from the comfort of one's home. This initiative took shape within a university incubator at the Polytechnic University of Turin, with funding from Reda and collaboration with another significant textile manufacturer based in Biella. The collaborative journey began with a strong buyer-seller relationship, as Reda and the partnering company supplied fabrics for clothing production.

The relationship deepened as Lanieri gained credibility and access to the competitive textile and clothing context through the support of Reda and the other company. In 2018, the collaboration reached a milestone when Reda decided to acquire Lanieri, envisioning a mutually beneficial path. Bringing Lanieri into Reda's Vallemosso premises aimed not only to enhance internal development but also to integrate digital strategies, a key focus for Reda. However, the onboarding process faced challenges due to the rigid corporate approach, typical of a century-old family business. Despite efforts to adapt, the process proved complex for both the startup and Reda, leading Lanieri to relocate from Reda's premises to co-working spaces in Biella and later to dedicated offices in Milan.

The collaborative journey facilitated the exchange of resources, including financial support, knowledge, and sector-specific skills initially lacking

in the startup. In 2020, witnessing the growth of Lanieri's business volume, Reda decided to initiate a spinoff, creating the company Tailoor. Tailoor focused on refining Lanieri's customization algorithm, involving teams of engineers and experts from the digital and made-to-measure sectors. Additionally, Tailoor aimed to offer its customization software as a service to third-party companies in the luxury sector, extending beyond clothing. The CEO of Tailoor emphasized the platform's versatility, comparing its impact on customization in other businesses to variables like the wheel of a vehicle, the lace of a shoe, or the color of a skateboard. This strategic move showcased the adaptability and innovative spirit born from the collaborative evolution of Lanieri within the broader business network.

5. Findings and discussion

5.1 *Relationship development*

This study delves into the continuous development and fine-tuning of the relationship between Reda and Lanieri, which initially started as a supplier relationship and eventually progressed to a partnership. The collaboration between Reda and Lanieri stands as an illustrative example of a buyer-seller relationship that has proven mutually advantageous for both companies. The developmental trajectory is outlined below, as depicted in the accompanying image, delineating three stages that signify key milestones in the evolution of their partnership relationship.

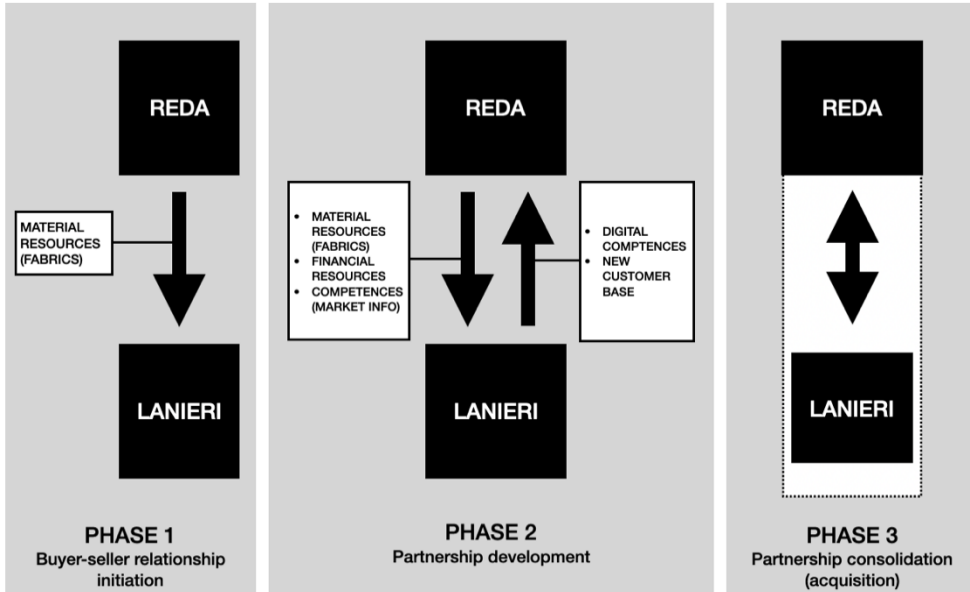
5.1.1 *Buyer-supplier relationship initiation*

In the initial phase, as highlighted in the case history presentation, Reda functioned as a supplier for Lanieri, providing fabrics for the production of its tailor-made garments. This phase of the relationship, typical in the early stages and characterized by a size difference, revolves around a straightforward customer-supplier dynamic involving the exchange of material resources.

During this period, the startup, according to Reda's CEO, faced limitations in core competencies necessary for venturing into the textile-clothing market. The founders, while having a clear goal of creating custom-made clothing, lacked essential expertise, particularly in the complex textile market. The professional background of the founders as engineers, though valuable, was insufficient for the intricacies of the clothing industry.

This assessment aligns with the perspective of Reda's CEO, who emphasizes that Lanieri lacked the necessary dimensional characteristics to effectively collaborate with other fabric producers and garment manufacturers.

Figure 1: Three phase development of the relationship



Despite the challenges stemming from these limitations, the relationship in its early stages began to strengthen due to the heightened exchange of expertise between the two companies. This period marked the initial steps toward a more collaborative and mutually beneficial interaction.

As a supplier, Reda played a pivotal role in providing the foundational materials for Lanieri’s garments, while Lanieri, despite its initial limitations, started to benefit from the expertise shared by Reda. This exchange of knowledge and resources laid the groundwork for the evolution of their relationship beyond a simple customer-supplier dynamic.

5.1.2 Buyer-supplier partnership development

The exchange of expertise between Reda and Lanieri evolved beyond the knowledge sharing, encompassing an exchange of financial resources that aimed at supporting Lanieri’s innovative ventures, including specific projects such as a unique collection exclusively designed for Reda. This progression in their relationship moved beyond a conventional customer-supplier dynamic, fostering an environment characterized by mutual trust and cooperation, eventually verging on a more partnership-oriented model.

The intensification of this relationship, irrespective of their size differences, was made possible by incorporating strategic interests of both organizations beyond the traditional customer-supplier framework. Reda, on one hand, sought to acquire digital skills integral to Lanieri’s business

model, recognizing the significance of digitalization in today's market landscape. Simultaneously, Reda contributed industry-specific skills and well-structured organizational expertise to Lanieri.

As depicted in Figure 1, Reda strategically leveraged its extensive resources as a well-established player in the textile industry, aiming to gain access to digital expertise, expand its customer base, and enhance brand recognition. The accumulated expertise over many years empowered Reda with substantial financial resources, organizational capabilities, and comprehensive knowledge and skills in the textile industry. These resources enabled Reda to invest in innovative technologies, research and development, and sustainable business practices, further enhancing its competitiveness.

Reda's organizational capabilities, including experienced staff and efficient supply chain management, played a crucial role in ensuring smooth operations and delivering high-quality products and services to consumers. In contrast, Lanieri, being a digital company, brought distinctive resources to the relationship, particularly superior digital skills. These skills facilitated the establishment of a robust online presence, innovative marketing methods, and outreach to new customers.

Lanieri's specialization in made-to-measure clothing not only attracted customers but also contributed to Reda's reach by bringing in new clientele. Lanieri's digital expertise played a positive role in modernizing Reda's operations and increasing competitiveness. The Internet platform developed by Lanieri served as a valuable asset, providing access to customers in Europe. The platform, coupled with technology and digital infrastructure investments, streamlined operations, and enabled efficient, personalized services.

Moreover, Lanieri's digital focus allowed for the collection of crucial customer data on preferences and behavior, facilitating continuous improvement in products and services. This digital emphasis proved to be a significant asset for Lanieri, allowing it to quickly establish itself in the highly competitive men's fashion industry and cultivate a loyal customer base. The collaborative exchange of resources and expertise thus created a symbiotic relationship, benefiting both companies in navigating the challenges and opportunities of the evolving business landscape.

5.1.3 Partnership consolidation phase

The relationship between Reda and Lanieri experienced a gradual and reciprocal intensification, marked by an exchange of resources that positioned both companies on a more equal footing over time, transcending their size differences. Reda's CEO, in multiple interviews, emphasized how Lanieri, with its distinctive digital business model and uncommon value proposition in Italy, had evolved into an established partner.

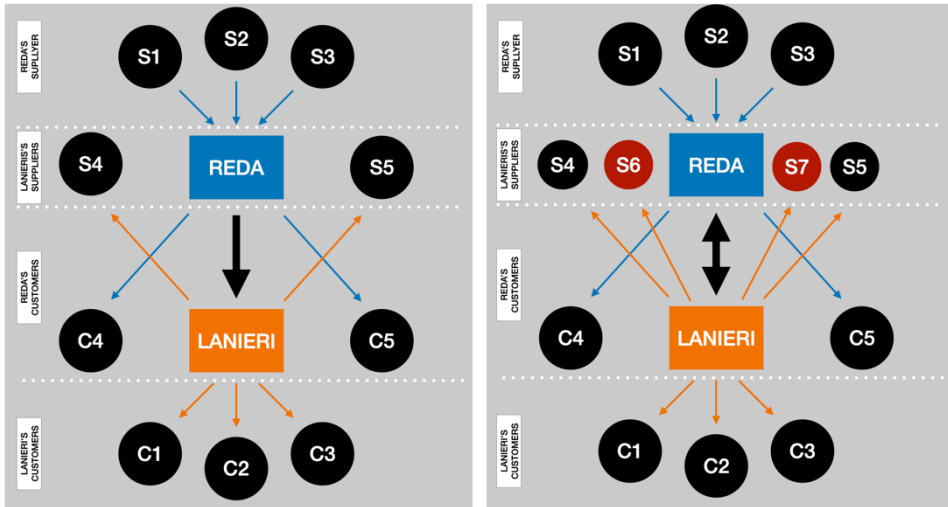
This deepening relationship, coupled with Reda's strategic investment in Lanieri, played a pivotal role in sparking Reda's contemplation of acquiring Lanieri in 2018. According to Lanieri's CEO, the relationship had evolved beyond a mere exchange of resources and expertise. Through the acquisition, Lanieri seamlessly integrated into the Reda Group, aligning itself with an entrepreneurial legacy spanning over a century and contributing to the realization of Reda's strategic goals, uniting textile tradition with digitization.

The acquisition not only served to formalize the existing state-of-the-art collaboration since 2016 but also propelled Lanieri's development. Reda acted not only as a financial supporter but also as a guarantor in the market for Lanieri's endeavors. Simultaneously, Lanieri played a crucial role in advancing Reda's ambition to digitize the company and access a broader customer base through an alternative channel, creating awareness about the brand and the quality of Reda's fabrics. This collaborative synergy solidified their partnership, transcending a transactional relationship and inaugurating a shared journey towards achieving common goals and digital transformation.

5.2 Network implications

This section delves into the repercussions of the evolution and alterations in the relationship between Reda and Lanieri on the network of companies to which these firms are connected. The amalgamation of these two companies has exerted significant and extensive effects on the network within which they function. The collaboration between Reda and Lanieri represents a form of inter-organizational engagement that has given rise to novel perspectives for value generation and innovation, particularly for two organizations operating within distinct industries and with different organizational dimensions.

Figure 2: Network effects of the relationship development



In the initial phase illustrated on the left in Figure 2, it is evident that during the first two stages of relationship consolidation, as discussed in the preceding section, there were no discernible dynamics within the network of the two firms. Reda and Lanieri maintained their separate business networks, and what transpired was the consolidation of their specific relationship. The true impact on the network materialized in the subsequent phase (phase 3, as indicated in the preceding paragraph) when the development of Lanieri prompted Reda to bring not only financial resources but also industry expertise and credibility inherent in a company of Reda’s magnitude, which Lanieri lacked. The strategic acquisition of Lanieri by Reda was not only geared toward Reda’s digitization goals but also instrumental for Lanieri, as it became associated with the Reda group, gaining access to a range of relationships previously beyond its reach. The credibility input from Reda’s acquisition was crucial for Lanieri, as establishing trust is paramount in the textile industry, particularly for apparel manufacturers.

As depicted in Figure 2 on the right side, Lanieri, on the supply side, engaged with two new actors (depicted in the red circles: S6 and S7) following the acquisition, a result of the enhanced level of trust. The evolution of the relationship through acquisition significantly influenced the expansion of both companies’ business networks. Lanieri gained entry into Reda’s network of textile industry suppliers, unlocking new avenues for growth. Concurrently, Reda leveraged Lanieri’s digital expertise and online platform, gaining access to a new customer base (depicted as “Lanieri’s customers” in Figure 2). Through this acquisition, Reda expanded its market share, particularly in the B2C sector, where it had limited exposure previously.

This collaboration not only allowed Reda to diversify its product offerings and reach new customers but also contributed to breaking down the traditional buyer-seller relationship, fostering a more collaborative approach to value creation. The partnership facilitated the expansion of both organizations' networks, fostering more collaborative relationships and creating new opportunities for innovation and learning by leveraging each other's resources and competencies.

Furthermore, since 2021, Reda, emphasizing its investment in the backend running the Lanieri platform, initiated a spinoff called Tailoor. This venture aims to extend the personalization software to other companies, showcasing the software's versatility to cater to a broader customer base outside Reda's existing network. In line with a servitization-oriented business model, Reda intends to offer the platform as a service to third-party companies, enhancing its presence and influence beyond its traditional boundaries.

6. Conclusions

This study delves into the evolution of a relationship between a startup and a mid-sized business, transitioning from a basic buyer-seller configuration to a partnership, and assesses its impact on the overall business network. The findings underscore the dynamics and effects of such collaborations, highlighting the importance of aligning business objectives and leveraging reciprocal resources and networks. The development of the relationship between Reda and Lanieri exemplifies the growth and mutual advantages achievable through collaboration between startups and midsize businesses.

Reda, with a strategic focus on digitalization and a quest for a new consumer base, recognized the value in working with Lanieri. Simultaneously, Reda provided structured management, access to business ties, and market position to Lanieri. This confluence of company goals facilitated the formation of a robust and evolving collaboration. Lanieri, lacking distinctive capabilities in comparison to Reda, benefited significantly from Reda's established business in the industrial context, allowing Lanieri to establish itself in the market. This collaboration accelerated the trust-building process with other companies, crucial for Lanieri's business continuity.

Reda acted as a catalyst, guaranteeing reliability toward other actors in the network by serving as both a supplier and a funder for the startup. This collaboration also had notable consequences for the business network. Both companies gained access to each other's networks, opening up new opportunities. Lanieri's access to Reda's network was pivotal for its business success, emphasizing the value of strategic alliances in accessing new markets, consumers, and resources.

The influence on the network was twofold. Lanieri, supported by Reda's standing, consolidated relationships, diversified its offerings, and improved reliability. In contrast, Reda extended its network downstream, gaining closer contact with the final demand of the market.

From a managerial perspective, the study underscores the value of mid-sized firms focusing on the potential for startups to access existing business relationships, which may have been previously inaccessible. For startups, leveraging their dynamic and innovative capabilities, often not possessed by larger firms, is crucial for developing strong and mutually beneficial partnerships.

While the study provides valuable insights, its limitations, such as the relatively short three-year time frame, should be acknowledged. Future research could extend the study for a more comprehensive understanding of the relationship's long-term impacts and incorporate perspectives from other members of the business network. Exploring the implications of partnership development on the business models of the involved companies and the story of Reda's spinoff could offer additional valuable insights. Overall, the study contributes practical insights into fostering successful collaborations, showcasing their potential to drive innovation, growth, and market expansion for both individual companies and the broader business network

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THE IMPACT OF DIGITALIZATION
ON BUSINESS FUNCTIONS IN MANUFACTURING SMALL
AND MEDIUM-SIZED ENTERPRISES:
AN EMPIRICAL STUDY FROM THE
ENTREPRENEURIAL PERSPECTIVE

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Abstract

Purpose. The paper aims to empirically examine the impact of digitalization on key business functions in small and medium-sized enterprises (SMEs) in Italy, from the entrepreneurial perspective.

Design/methodology/approach. An online survey of 205 Italian manufacturing SMEs was carried out and data were analyzed with hierarchical cluster analysis.

Findings. The analysis shows the existence of six clusters of SMEs that differ in the impact of digitalization on business functions and in the influence of digitalization on customer value.

Practical and Social Implications. The study suggests that companies should simultaneously digitalize all business functions to increase the effectiveness of the digital revolution, enhance customer value creation and invest both in digital managerial culture and skills.

Originality of the study. It focuses on the impact of digitalization on all business functions, which has not yet been empirically investigated as a whole.

1. Introduction

The growth of the World Wide Web, the increasing number of technologies that accompany it (e.g., broadband internet, smartphones, Web 2.0, cloud computing, speech recognition, online payment systems, and cryptocurrencies), the development of e-commerce, the omnipresence of big data and the advent of the new digital technologies connected to the fourth Industrial Revolution (Industry 4.0) clearly point to the need for companies to go digital (Verhoef *et al.*, 2021). Furthermore, social media are changing how companies interact with customers, create products, deliver services, and integrate their IT systems (Lamberton and Stephen, 2016).

The term “Fourth Industrial Revolution” has been commonly adopted to indicate the use of certain technologies (e.g., additive manufacturing, smart factories, Internet of Things [IoT] and cyber-physical systems) that allow achieving increased productivity, production flexibility, more efficient processes and higher product quality (Brondoni and Zaninotto, 2018). Digitalization changes business activities and business models, thus improving integration of machines, processes, employees, and individual products (Grabowska *et al.*, 2020). It also enables new forms of cooperation among companies, leading to new products and services as well as new forms of relationships with customers (Rachinger *et al.*, 2019).

According to some authors (Loebbecke and Picot, 2015; Rachinger *et al.*, 2019), the digital revolution is not only about optimizing internal processes or incorporating new technologies but also – and fundamentally – about changing business models or the way companies capture and create value for customers and themselves.

The ability of SMEs to acquire knowledge is crucial for them to maintain their position in global business growth and job creation (OECD, 2021). However, most SMEs are struggling to benefit from this revolution as it requires changes in companies’ practices through the adoption of specific technologies and the implementation of new capabilities to manage them (Dethine *et al.*, 2020). SMEs lack the resources and managerial vision to understand the impact of digital transformation, and they adopt a gradual approach to digitalization compared to large companies (Bowman *et al.*, 2019).

Most of the literature on the digitalization of SMEs is focused on the issue of obstacles – especially structural and cultural limits (Überbacher *et al.*, 2020) – on the potential benefits in terms of performance (Pfister and Lehman, 2021) and on the determinants or antecedents of digitalization (Arora and Rathi, 2019; Lee *et al.*, 2020; Raimo *et al.*, 2022). The literature has paid less attention to company changes due to digital transformation from a broader perspective (Jones *et al.*, 2014; Lee *et al.*, 2020; Zamani, 2021) it contributes to the limited literature on micro-enterprise ICT adoption, with a particular focus on sole proprietors. It provides a basis for widening the

theoretical base of the literature pertaining to ICT adoption on two levels. First, a framework is developed which integrates the findings to illustrate the relationships between attitudes towards ICT adoption, endogenous and exogenous influencers of these attitudes and subsequent strategic response in ICT adoption. Second, building upon this framework the article reveals the unique challenges, opportunities and implications of ICT adoption for sole-proprietor micro-enterprises." ,"container-title": "International Small Business Journal: Researching Entrepreneurship", "DOI": "10.1177/0266242612461802", "ISSN": "0266-2426, 1741-2870", "issue": "3", "journalAbbreviation": "International Small Business Journal", "language": "en", "page": "285-306", "source": "DOI.org (Crossref).

In this paper, we propose an empirical study to contribute to filling this gap by proposing a wide angle of analysis: how digitalization impacts the key functions of a business based on the transformations experienced in each function, and how this affects customer value from the entrepreneurial perspective. This perspective has been chosen to make the actual views and intentions of entrepreneurs emerge.

Therefore, the aim of this paper was to identify the impact of digitalization on the key business functions within SMEs and develop a conceptual framework, which was then verified by sending companies a questionnaire. By the impact of digitalization on the key business functions we refer to the adoption of IT and digital technologies by SMEs in order to introduce them in the main (key) business functions.

The first step of the empirical study was to classify SMEs in terms of the impact of digitalization on the key business functions and highlight the differences linked to company size, sector and type, as well as the level of digital innovation. The second step was to analyse how the impact of digitalization on these functions influences the entrepreneur's perception of customer value.

The paper is structured as follows. The first part explains the theoretical background of the changes that take place in companies as a consequence of digitalization; it also describes the transformation of companies' key functions. The next section describes the study's methodology. The analysis of the results is then presented. The last part discusses the findings and presents the conclusions, highlighting the study's theoretical contributions and practical implications, as well as future research directions.

2. Theoretical background

2.1 *The digitalization of SMEs*

While large companies are seizing the opportunities and challenges of digitalization, SMEs lack the managerial vision and resources to fully understand the impact of digitalization and start adopting it properly (Rüßmann *et al.*, 2015). The literature on the digitalization of SMEs has stressed that Industry 4.0 represents a great opportunity to participate in global digital supply chains; however, these companies approach this revolution with caution, fearing that higher process transparency can be detrimental. This technology-led change can also affect the business model of manufacturing companies and their approaches to value creation, value offer and value capture (Mueller *et al.* 2018).

The current status of the research on the relationship between enterprise digitalization and performance can be assessed in industry reports. However, this grey literature lacks links to theoretical frameworks (Teng *et al.*, 2022). For example, the *McKinsey Global Survey* (2022) has noted that, over the past two years, the strategic importance and adoption of new digital technologies in all business areas have accelerated dramatically. Top management, though, reported that companies (of all sizes and sectors) captured less than one-third of the value expected from recent digital transformations in terms of revenue increase and cost reduction. An OECD (2021) study found that the digitalization of SMEs impacted heavily the marketing, finance and administration functions. In Italy, SMEs are characterized by a slight delay in the adoption of emerging technologies, but they are in line with other European countries, like Germany and Denmark, regarding the adoption of additive manufacturing cloud computing and robotics (OECD, 2021).

Bettiol *et al.* (2017) looked at the level of digitalization through the adoption of Industry 4.0 technologies in a sample of small, medium and large Italian companies. They found that half of the sample, not just large businesses, adopted these technologies; they also noted the relevance of marketing in driving the decision to adopt such tools.

According to another study conducted on Italian SMEs (Cucculelli and Lena, 2017), what delays the digitalization of companies are cultural barriers. Entrepreneurs are not willing to innovate. They are used to the traditional manufacturing system and are somewhat concerned about the transformation of their businesses into “smart factories.”

In a study on Italian small tourism hotels, it seems that the instinct and social skills of entrepreneurs, even though it does not know technology, play a key role for the adoption of social media and digital marketing tools (Pencarelli *et al.*, 2015). A more recent study (Pencarelli *et al.*, 2019) on

Italian SMEs in tourism sector stressed the gaps between full exploitation of the web potentialities and the best results obtained by the investigated firms, due to lack of adequate adoption of digital technologies (e.g. Internet and social media) and of culture, competencies and strategies to manage adequately such technologies.

Until now, this transformation has been mainly captured through case studies, and there is a lack of quantitative studies on the topic (Teng et al., 2022). In addition, given the existence of different indicators and evaluation methods to assess the level of adoption of technologies and the impact of digitalization on performance, results are inconsistent (Chavez *et al.*, 2022). Even the more general literature on technology adoption in SMEs highlights that studies are still limited and the need to go beyond exploration and to take an extensive approach and that there is a need to have a broader understanding (Zamani, 2022).

2.2 *The digitalization of business functions*

In this study we define “digitalization” as “the application of IT or digital technologies that allow the optimization of existing business processes through more efficient coordination between functions and activities and/or the creation of additional customer value by improving user experiences” (Pagani and Pardo, 2017). Examples of digitalization include the use of social media for marketing communication and e-commerce for selling products or services. In Verhoef et al. (2021), digitalization is the second step of a three-step process that describes the digital transformation of companies, where the first step, “digitization,” consists of the conversion of analogue information into digital information (e.g., the use of digital applications for internal financial statements) and the third step, “digital transformation,” is the most pervasive phase and describes a company-wide change that leads to the development of new business models (Pagani and Pardo, 2017). Examples of digital transformation include Uber, which distributes the taxi business, and Airbnb, which distributes the hotel business.

The chosen definition of digitalization seems appropriate for SMEs as these companies become digital slowly and, given their legacy, face challenges and obstacles when trying to implement business model innovation aimed at digital transformation (Verhoef *et al.*, 2021). Therefore, SMEs probably start to digitalize their operations with minor changes (i.e., digitization or digitalization) by impacting one or a few functions and/or user experiences before eventually transforming their traditional business into a digital one.

Furthermore, the chosen definition considers a wide range of possible digital technologies that SMEs can adopt. Drawing on the literature, we assume that Industry 4.0 revolution is being driven by nine technological

advances: autonomous robots, simulation, horizontal and vertical system integration, the industrial IoT, cybersecurity, the cloud, additive manufacturing, augmented reality and big data analytics.

With respect to Industry 4.0 technologies, we assume that their adoption is very challenging for SMEs because of limited budgets and IT knowledge (Wieland *et al.*, 2017; Mittal *et al.*, 2018). Existing solutions consist in centrally and complex organized systems, which are costly to adopt (Chavez *et al.*, 2022). Consequently, they don't allow the flexible integration of IT systems as well as the self-organization of manufacturing processes in SMEs (Wieland *et al.*, 2017). Machines, sensors, and IT systems are connected in the value chain and thanks to standard internet-based protocols can analyse data to configure themselves, predict failure and adapt to change (Chavez *et al.*, 2022). Digitalization can strongly impact one, more or even all business functions, thereby optimizing business processes and/or improving customer experience (Verhoef *et al.*, 2021).

To understand the extent to which the digital revolution is impacting business identity, it is important to identify the activities and functions that need to be considered as part of the value chain of a company. Starting with the five primary company activities introduced by Porter (1985), – inbound logistics, operations, outbound logistics, marketing/sales and service – further activities can be included to obtain a clearer picture of a company's structure, regardless of the distinction between primary and support activities made by Porter. It is possible to identify the following activities: R&D, purchasing, production, administration and finance, HR, marketing, sales and customer care, and inbound and outbound logistics.

The value chain concept has been largely adopted in the economics and management literature to identify the sources of competitive advantage (e.g., Robbins *et al.*, 2020; Abecassis-Moedas and Moatti, 2022).

The following sections summarize some key transformations of business activities as a consequence of digital innovation. Even though such innovation impacts all activities, three groups were investigated jointly because of their strong integration with internal processes. The first group consists of production, logistics and purchasing as it includes the area of logistics and operations. The second group relates to HR and administration and finance. The third group contains R&D, marketing and sales, and it includes the relationship with customers. The inclusion of R&D in this group is based on the marketing concept-related perspective (Svensson, 2001), which holds that products/services should be designed by companies starting from the target market's needs. Given the extensive literature on the topic, the transformations described below should not be considered exhaustive.

2.3 *The impact of digitalization on production, logistics and purchasing*

Digitalization may help SMEs to reduce transaction costs by providing better and quicker access to information and improving communication between staff, suppliers and networks. It may also help SMEs to enter global markets through reductions in the costs associated with transport and border operations. Finally, digitalization may significantly enhance the scope to trade services (OECD, 2021).

Industry 4.0 technologies (e.g., cyber-physical systems and IoT) allow machines to communicate with each other and facilitate data collection and analysis, the evaluation of productivity, and the continuous improvement of processes (Blanchet *et al.*, 2014). Manufacturing firms' robotic systems had to automate their production processes and develop fully automatic machines (Cagle *et al.*, 2020). As repairs and defects decrease, the quality of production increases (Varghese and Tandur, 2014).

The development of the Industry 4.0 concept allowed the emergence of new competitive business models based on tighter cooperation among companies situated in value chains (Rüßmann *et al.*, 2015). Consequently, enterprises can be more competitive through the personalization of products and lower production costs (Grabowska *et al.*, 2020). The following transformations in *production* can be identified: higher flexibility through the creation of small lots with large-scale costs, greater competitiveness thanks to the greater functionality deriving from IoT, and more efficient productivity obtained by reducing errors and set-up times (zero-defects production) (Brondoni and Zaninotto, 2018).

Supply chains equipped with the latest cyber-physical solutions ensure fast reorganization of *logistics* and a more flexible adaptation of trade activities. These new forms of supply chains allow businesses to respond to the most personalized customer expectations (Grabowska *et al.*, 2020). In logistics, Industry 4.0 technologies allow a reduction of transportation processes and unnecessary material flows. Furthermore, thanks to the use of data in the supply chain, wrong deliveries, excessive waiting times and damaged products can all be reduced (Kagerman *et al.*, 2013).

Advanced robotic systems allow businesses to improve logistical operations by realizing in-factory remote control transfers, perform store activities using robots and utilize unmanned transportation vehicles for materials transfers. This has increased in-house store communication, boosted the efficiency and productivity of logistics, and increased the monitorability of outputs (Cagle *et al.*, 2020). By managing and controlling inventories online, firms are also able to create orders automatically when their inventories shorten and cut back on inventory costs. Traditional *purchasing* is changing to adapt to this new paradigm. Research on robotic process

automation (RPA) in buyers' practices is still in its infancy.

A recent study found that RPA impacts procurement in operational, organizational and relational terms (Zouari and Viale, 2020). Industry 4.0 technologies allow businesses to improve inventory management, achieve inventory optimization, develop remote control systems and achieve in-house communication (Cagle *et al.*, 2020).

2.4 *The impact of digitalization on HR, administration and finance*

The managerial literature on the impact of digitalization on *HR and administration and finance* is scant. HR functions have been largely affected by the increasing use of employee-related software, IT-enabled HR functions, social networks and mobile solutions, which has had a positive impact on employee performance (Haque and Nishat, 2022). This impact has been most pronounced in recruitment – many companies now rely for this on Facebook, LinkedIn, Skype, videoconferencing, etc. – and in training processes, where new teaching techniques are employed, such as work-related videos, online courses and computerized learning methods. Moreover, the introduction of AI in HR management has facilitated problem-solving and automation of some processes (Lumi, 2020).

Administration and finance, together with marketing, represent the first two functions to be digitalized in SMEs (OECD, 2021). In addition, digitalization facilitates access to resources (including financial ones such as peer-to-peer lending), employee training, and recruitment channels (including government services), which are increasingly being made available online (OECD, 2021). Digitalization impacts many areas of finance, such as risk identification, measurement and management; fraud detection; wealth management; online transactions; customized bond schemes; customer retention and virtual assistants (Zaytsev *et al.*, 2021). AI has a considerable impact on digital financial inclusion by solving the problem of information asymmetry; it also offers customer support and helpdesk service through chatbots, fraud detection and cyber security (Mhlanga, 2020).

2.5 *The impact of digitalization on R&D, marketing and sales*

With respect to *R&D*, the literature highlights that, in the digital era, innovation processes are gradually being compressed and the phases where customer feedback is collected are being anticipated and enhanced (Agostini *et al.*, 2019).

Digital technologies support collaboration, coordination and communication in new product development teams (Nambisan, 2017) and expand the interaction with customers and employees (Bäckström and Lindberg, 2019) thanks to online platforms for collective idea generation and devel-

opment. Thanks to the use of the internet, social media and cloud technologies, open innovation facilitates knowledge sharing, collaboration between companies and consumers; it also encourages open discussions and builds relationships and communities linked by the same needs. For example, artificial reality and augmented reality can increase customer participation in the product design stage (Mourtzis and Doukas, 2012) and in the product development phase of 3D printing with digital design files (Holmstrom and Partanen, 2013).

Digitalization impacts all *marketing* activities (Shkurupska and Litovchenko, 2016; Sunday and Vera, 2018) a substantial number of theories have contributed extensively to information and communication technology (ICT, from informative ones (e.g., analysis of customers and competitors) to strategic ones (market segmentation and brand positioning), as well as marketing tools (Caliskan *et al.*, 2021). Artificial intelligence (AI), machine learning, augmented reality, IoT and robotics strongly affect marketing. For example, they allow market-driven approaches that involve formalized techniques to obtain accurate and timely information on customers, markets, products, competitors and the general business environment (Rosário and Dias, 2022). Big data analysis with AI and machine learning (Ardito *et al.*, 2019a) first, the authors identify the subset of enabling technologies pertaining to the fourth industrial revolution (Industry 4.0 allows one to discover patterns, classify textual data, give insightful inputs based on customer needs/expectations/trends, and manage segmentation and targeting activities more effectively (Kagermann, 2015). Thanks to these technologies, businesses can develop faster buyer-seller relationships in BtoB and B2B, understand customers' needs, predict their behaviours and respond to their desires (Ardito *et al.*, 2019b) first, the authors identify the subset of enabling technologies pertaining to the fourth industrial revolution (Industry 4.0).

Internet-based communication allows consumers to connect instantly with businesses, share feedback and opinions on a product or brand and be directly involved in developing marketing strategies (Cham *et al.*, 2022). Company websites, mobile apps and online communication techniques (e.g., search engine marketing, social media, online public relations, display advertising and email marketing (Cham *et al.*, 2022; Rosario *et al.*, 2022) allow businesses to easily access specific audiences, provide better services to existing customers, attract prospects, develop relationships with customers and improve brand image (Chaffey and Ellis-Chadwick, 2019).

In recent years, digitalization has completely changed *sales*, as the internet now allows businesses to sell and market products and services on e-commerce websites (Rosario *et al.*, 2022). Omnichannel allows customers to receive whatever they want at a preferred time and place. Digitalization influences traditional CRM systems, which have evolved into e-CRM; as

a result, customer relationships are now managed through the internet, web browsers or other electronic touch points (Aluja and Medury, 2010). Due to the reduction in cost for web-based CRM systems, SMEs can access more complex functions, thereby enhancing their ability to communicate and collect information about their customers (Harrigan *et al.*, 2011). Furthermore, internet applications have also contributed to strengthening the communication between a company's salespeople and its partners (Hollenbeck *et al.*, 2009).

2.6 Research questions

The literature shows that investing in digital technologies improves the efficiency of production processes, maximizes product customization (Bettiol *et al.*, 2017), allows for more efficient performances (Agostini *et al.*, 2019), enhances customer-company relationships (Ardito *et al.*, 2019; Caliskan *et al.*, 2020) and improve brand awareness, generation of leads, loyalty and revenues (Lamberton and Stephen, 2016). In other words, digitalization can influence positively all business functions and thus value creation for both customers and businesses. Our empirical study aims to contribute to analysing the impact of digitalization on the key business functions discussed above and on customer value among SMEs. It asks the following research questions:

RQ1. How do SMEs differ in terms of the impact of digitalization on business functions?

RQ2. How does the impact of digitalization on business functions change according to SMEs' position in the supply chain, as well as their size, sector and revenues?

RQ3. How much does the impact of digitalization on business functions relate to customer value creation according to the entrepreneurs?

3. Methodology

3.1 Tools and data collection

In order to answer the research questions, a survey on a sample of Italian manufacturing companies was conducted. The questionnaire, based on the literature on the digital transformation of business functions, consisted of three parts. The first concern the company's profile: company position in the supply chain (B2C, B2B, mixed B2C and B2B), company size (small and

medium), sector (furniture, textile, mechanics, etc.) and revenues.

The second part aimed to identify the impact of digital technologies on eight business functions (Porter, 1985; Robbins *et al.*, 2020; Abecassis-Moedas and Moatti, 2022): R&D, purchasing, production, HR, administration and finance, marketing, sales and customer care, and logistics. Here, the question was “How positive is the impact of digitalization on business functions?”

By positive impact, we mean positive (or successful) effects (or transformations) of the adoption of IT and digital technologies on business functions.

A 7-point Likert scale was used where 1 represented “Not at all positive” and 7 represented “Very positive.” The following definition of digitalization (Rüßmann *et al.*, 2015; Pagani and Pardo, 2017; Verhoef *et al.*, 2021) was included in the questionnaire before the list of items:

Digitalization is the application of IT or digital technologies (e.g., broadband internet, smartphones, Web 2.0, SEO, cloud computing, speech recognition, on-line payment systems and cryptocurrencies) that allow the optimization of business processes through more efficient coordination between functions and activities and/or the creation of additional customer value by improving user experiences.

Digital technologies include Industry 4.0 technologies such as (1) autonomous robots, (2) simulation, (3) horizontal and vertical system integration, (4) industrial IoT, (5) cybersecurity, (6) cloud computing, (7) additive manufacturing, (8) augmented reality and (9) big data analytics.

The items used were the business functions with a brief description of some key transformations that may occur through digitalization taken from the literature (Table 1).

Table 1 - Business functions and key transformations due to digitalization

Business functions	Key transformations due to digitalization	References
R&D	Innovation processes that are better connected to the collection of customer feedback. Use of web-based platforms for collective idea generation and development. Knowledge sharing and collaboration with consumers and customers for open innovation thanks to the use of the internet, social media and cloud technologies. Use of AI and augmented reality for involving customers in the product design stage. Use of 3D printing in the product development phase.	Mourtzis and Doukas, 2012; Holmstrom and Partanen, 2013; Agostini <i>et al.</i> , 2019.
Purchasing	Use of RPA for procurement in operational, organizational and relational activities. Adoption of Industry 4.0 technologies to improve inventory management, develop remote control systems and achieve in-house communication. Online management and control of inventories, as well as the creation of automatic ordering systems when inventories shorten. Use of virtual reality training to improve inventory management.	Cagle <i>et al.</i> , 2020; Zouari, 2020.
Production	Adoption of cyber-physical systems and IoT to make machines communicate with each other, collect and analyse data, and evaluate productivity. Use of robotic systems for production processes. Higher flexibility achieved through the creation of small lots at large-scale costs. Greater competitiveness achieved by adopting IoT for more efficient productivity and the reduction of errors and set-up times.	Blanchet <i>et al.</i> , 2014; Varghese and Tandur, 2014; Brondoni and Zaninotto, 2018; Cagle <i>et al.</i> , 2020.
Logistics	Reorganization of logistics through the use of the latest cyber-physical solutions. Adoption of Industry 4.0 technologies for reducing transportation costs and unnecessary material flows. Advanced use of data for the reduction of wrong deliveries, excessive waiting times and damaged products. Use of robotic systems to improve logistical operations by remote control in-factory transfers. Storage activities conducted via robotics. Introduction of unmanned transportation vehicles in material transfers.	Kagerman <i>et al.</i> , 2015; Cagle <i>et al.</i> , 2020; Grabowska <i>et al.</i> , 2020.
HR	Increased use of employee-related software and IT-enabled HR functions. Use of social networking sites, such as Facebook, LinkedIn, and use of Skype, for recruitment activities. Use of videoconferencing and related new teaching techniques, such as work-related videos, online courses and computerized learning methods, for employee training. Introduction of AI in HR management processes.	Lumi, 2020; Haque and Nishat, 2022.
Administration and finance	Digitalized access to resources, including financial ones (e.g., peer-to-peer lending). Digitalization adopted for risk identification, fraud detection, cyber security, wealth management, online transactions and customized bond schemes. Introduction of AI for managing information asymmetries. Customer support and helpdesk service provided through chatbots.	Mhlanga, 2020; Zaytsev <i>et al.</i> , 2020; OECD, 2021.

Marketing	Innovation regarding analytics and predicting consumer behaviour; augmented reality; technologies for faster channel relationships both in B2C and B2B; and online communication techniques, such as SEM, online PR, display advertising and email marketing. Adoption of innovative solutions to easily access specific audiences, provide the best service to existing customers, attract prospects and develop a strong customer relationship and brand image.	Ardito <i>et al.</i> , 2019b; Chaffey and Ellis-Chadwick, 2019; Faruk <i>et al.</i> , 2021; Rosário and Dias, 2022.
Sales	E-commerce. CRM. Omnichannel strategy. AI for predictive technical assistance.	Cham <i>et al.</i> , 2022; Rosario <i>et al.</i> , 2022.

Source: authors' elaboration.

The third part of the questionnaire aimed to understand the positive influence of digitalization on customer value from the entrepreneurs' perspective. Respondents were again asked to answer using a 7-point Likert scale.

3.2 Sample and data collection

The surveyed manufacturing companies were selected based on their size (SMEs) and type (both B2C and B2B). Regarding size, we applied the EC upper threshold of 250 employees (EC, 2019b), thus excluding micro-enterprises with fewer than 10 employees, as very small companies lack the resources and skills necessary for digitalization.

A list of 2,705 SMEs in the Marche region of Italy was obtained from the database of the local Chamber of Commerce. The list was stratified by province and included businesses with between 11 and 250 employees, and a turnover of up to 50 million euros. It is representative of the population of companies in the region. The questionnaire was sent to these companies via email from July to October 2020 and a useful sample of 205 questionnaires was used.

3.3 Cluster variables

The sampled companies were classified and described according to fourteen criteria. The first eight variables of the clustering indicate the key business functions according to the adopted conceptual framework: R&D, purchasing, production, administration and finance, HR, marketing, sales and customer care, and (inbound and outbound) logistics and warehouse. The last four variables describe the characteristics of the company's profile, as well as its level of innovation and investment in digitalization:

Company type: B2B, B2C, and mixed B2B and B2C.

Company size: small (10–50 employees) and medium (51–250 employees); medium-sized companies were divided into three sub-categories (51–

100, 101–200 and 201–250 employees).

Sector: metal products, leather and similar articles, textiles and clothing, wood and cork, rubber and plastic articles, mineral products, food industry, furniture, computers and electrotechnics, and electronics.

Revenues: five discrete categories calculated in millions of euros (< 1, 1–4, 5–9.9, 10–49.9, > 50).

3.4 Tandem approach for clustering: a pure data-driven view of opinion data

The tandem approach to cluster analysis was the classic and well-known strategy adopted for the clustering of respondents' opinions (Aluja *et al.*, 1999). In the sequential (tandem) approach, the analyst can apply a dimension reduction technique and then subject the low-dimensional orthogonal solution to a clustering algorithm (Lebart *et al.*, 1984).

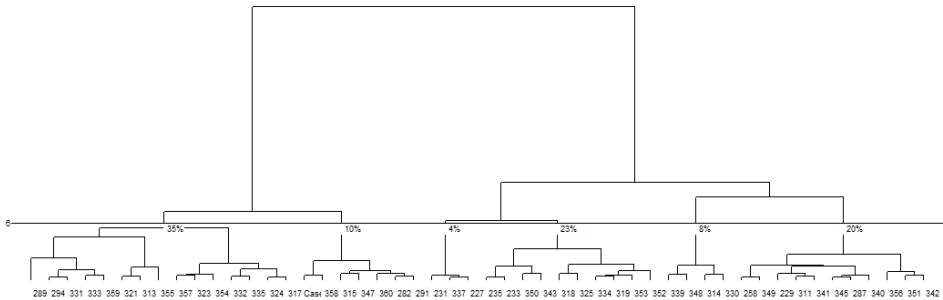
In our paper, the tandem strategy was applied to the answers given to the eight items, which represent as many business activities, on which digital technologies could have had an impact. Diagonalizing the data matrix by using principal component analysis and studying the structure of correlations generated by the respondents relating to the eight items were performed.

A new scale (between -1 and +1) was adopted to reduce bias generated by the subjective use of the scale adopted in the survey.

The importance of the size effect was very strong and emerged from the first principal component, which was correlated to the individual average value for a correlation coefficient that reached 0.9998.

After the size effect was removed and the tandem approach to the new opinion variables was adopted, the dendrogram in Figure I was obtained. Using the finest of the three possible tree-cut levels, six clusters of companies were generated. Multivariate analysis indicated that statistically significant differences existed between the six clusters.

Figure 1. Dendrogram of the hierarchical cluster analysis using the Ward linkage



Source: authors' elaboration.

A statistical description of each of the clusters, using both the variables that algorithmically determined the clustering (active variables) and the descriptors listed above (illustrative variables) was presented. The statistical technique of description is based on the calculation of an adequate test value to measure the probability that the difference between the single cluster and the entire sample is random. We used the t-test for the quantitative variables while for the characterization provided by the single categories of a qualitative variable, a hypergeometric distribution penalized with the dimensions of the single cluster was used (Lebart *et al.*, 1984).

4. Findings

4.1. Sample characteristics and descriptive statistics

The sample consists of 205 manufacturing companies from the Marche region and is stratified by company size and province. Table 2 shows the distribution of companies by type (B2B, B2C, and mixed B2C and B2B), size and sector.

Table 2. Sample characteristics

Company Type		
	N	%
B2B	127	62
B2C	19	9
Mixed B2C and B2B	59	29
Company Size		
Small (11–50 employees)	126	61
Medium (51–100 employees)	55	27
Medium (101–200 employees)	20	10
Medium (201–250 employees)	4	2
Sector		
Metal	33	16
Leather	22	11
Textiles and clothing	19	9
Wood and cork	17	8
Rubber and plastic	15	7
Minerals	15	7
Food	15	7
Furniture	13	6

Computers and electronics	qui	5
Electrical appliances	11	5
Other	25	3
Revenue (million euros)		
< 1	25	12
1–4.9	77	38
5–9.9	34	17
10–49.9	61	30
> 50	8	4
		N = 205

Source: authors' elaboration.

Table 3 shows that the impact of digitalization is about 4 (mean value) on a 1-7 Likert scale and that the gaps between the business functions are slight in the perspective of entrepreneurs. However, marketing, administration and finance, sales perform the highest impact of digitalization on business functions while HR, production and logistics show the lowest impact.

Table 3 – Impact of digitalization on business functions (descriptive statistics)

Business function	Mean (scale 1-7)	Standard Deviation
Purchasing	4.317	1.832
R&D	4.185	1.927
Administration and Finance	4.532	1.760
HR	3.756	1.813
Production	3.980	1.853
Marketing	4.805	1.931
Sales	4.395	2.011
Logistics	4.020	1.970

4.2. Classification of the manufacturing companies through hierarchical cluster analysis

Six different groups of manufacturing companies (Appendix 1) were identified. The table 4 shows the values of the t-test adjusted by the adoption as a hypothesis the simultaneous random extraction of the respondents in a cluster. To put it in other words, equality between the judgment expressed on the single item by the specific cluster and that expressed on average by the entire sample. For test values greater than about 2, the probability that a difference has been observed between the cluster and the sample tends to zero. Hence, that item significantly characterizes (positively or negatively) the cluster (Lebart *et al.*, 1984).

Table 4. A synthesis of the cluster analysis results

Variable	Cluster 1 Smart production, HR and administration factories	Cluster 2 The smartest factories	Cluster 3 The most digitalized companies	Cluster 4 Digitalized sellers and marketers	Cluster 5 Digitalized marketers and administrators	Cluster 6 The most digitalized marketers, R&D and sellers
Purchasing	2.76	-4.55	3.05	3.70	-0.20	-5.09
R&D	-5.10	1.54	3.08	1.61	-5.24	5.31
Production	3.96	4.40	-0.37	-1.10	-4.19	-3.71
Administration and finance	3.10	-3.82	3.03	-0.86	2.75	-3.29
HR	3.43	-1.85	4.74	-6.30	1.75	0.41
Logistics	2.86	1.25	0.31	3.55	-4.60	-4.99
Marketing	-8.64	-4.70	2.43	4.56	2.67	5.91
Sales	-6.37	-4.09	3.16	4.90	-1.66	5.04

Source: authors' elaboration.

Six clusters created with the eight active variables are presented in detail in Appendix 1. The following Table 5 identifies the categorical descriptive variables of each cluster according to a probabilistic ranking criterion.

Table 5. Synthesis of the cluster analysis results (categorical descriptive variables with a significance level greater than 90%)

Cluster	Variable	Characteristic category	Test-value
Cluster 1	Sector	Transport means	1.65
	Revenue (million euros)	1,000,000–4,999,999	1.63
	Company type	B2B	1.37
Cluster 2	Sector	Other products deriving from the processing of non-metallic minerals	1.29
	Sector	Textiles	2.02
	Company size	Small (11–50)	1.58
Cluster 3	Revenue	500,000–999,999	1.41
	Sector	Computers and electronics	1.54
	Revenue	5,000,000–9,999,999	1.36
Cluster 4	Sector	Food industry	1.31
	Company type	B2C and B2B	1.80
	Company type	B2B	1.57
Cluster 5	Company type	B2C and B2B	1.66

Source: authors' elaboration.

Further, an analysis of variance (regression with zero-sum parameters) was performed to validate the hypothesis that entrepreneurs' opinions concerning the importance of digital tools in creating value for customers depend on which of the six clusters the company belongs to. The regression performs a goodness-of-fit index of 16% and the F-test of simultaneous nullity of the parameters has a p-value of less than 0.01 (Table 6). The estimation method adopted the zero-sum parameter approach. Each parameter is either the positive or negative difference from the baseline, which is the average judgment detected in the whole sample on a scale of 1 to 7 compared to the increase in value for the customer.

Table 6 - The impact of digitalization on customer value

Parameter label	Coefficient	Standard deviation	P-value	Test-value
Cluster 3	1.0915	0.515	0.035	2.11
Cluster 6	0.2522	0.264	0.340	0.95
Cluster 4	-0.0229	0.254	0.928	-0.09
Cluster 5	-0.0629	0.370	0.865	-0.17
Cluster 2	-0.5835	0.347	0.094	-1.68
Cluster 1	-0.6744	0.225	0.003	-2.96
Constant	5.5335	0.154	0.000	20.02

Source: authors' elaboration.

The individual clusters based on the active variables or the business functions will be described below. These descriptions are enriched with the information obtained from the four descriptive variables relating to the company's characteristics (size, type, sector and revenues). The impact of digitalization on customer value was also reported for each cluster.

Cluster 1 – Smart production, HR and administration factories

The first and largest cluster represents 35% of the sample ($n = 71$). It was named "Smart production, HR and administration factories" as the impact of digital technologies in this cluster is significant above average on production (3.96), HR (3.43), administration and finance (3.10), logistics (2.86) and purchasing (2.76). The impact on the remaining functions is significant below average: marketing (-8.64), sales (-6.37) and R&D (-5.10). Companies with the following characteristics prevail in the cluster: B2B, transport vehicles and metallurgical products, and revenues between 1 and 5 million euros. The impact of digitalization on value creation for customers from the entrepreneur's perspective is the lowest in the sample (-2.96).

Cluster 2 – The smartest factories

The second cluster is much smaller and represents 10% of the sample ($n = 20$). It is the cluster in which digitalization has the biggest above-average significant impact on production (4.40). The impact on R&D is also above average but not significant. Four functions have a significant below-average impact on marketing (-4.70), purchasing (-4.55), sales (-4.09), and administration and finance (-3.82). The following company characteristics prevail in this cluster: textile sector, small companies, and revenues between 500,000 and 1 million euros. The impact of digitalization on customer value according to the respondents is the lowest (-1.68) in the sample after Cluster 1.

Cluster 3 – The most digitalized companies

Cluster 3 is the smallest as it accounts for 4% of the sample ($n = 8$). It is the cluster with the highest positive impact of digitalization on business functions – above average for all the functions except production. In particular, the impact is significant and above average for HR (4.74), sales (3.16), R&D (3.08), purchasing (3.05), administration and finance (3.03), and marketing (2.43), while it is below average for production. Hence, we labelled this cluster “The most digitalized companies”. With respect to the entire sample, the prevalent company characteristics are the following: food industry, computers and revenues between 5 and 10 million euros. For the respondents in this cluster, digitalization has the biggest above-average impact (2.11) on value creation for customers.

Cluster 4 – Digitalized sellers and marketers

The fourth cluster represents 23% of the sample ($n = 47$) and was labelled “Digitalized sellers and marketers” as the positive impact of digitalization is significant and above average for sales (4.90), marketing (4.56), purchasing (3.70) and logistics (3.55); it is above average for R&D. The remaining functions have negative values, especially a significant below-average impact on HR (-6.30) and a below-average impact on production and administration and finance. In this cluster, the mixed B2C and B2B company types and companies investing up to 30% in digital communication prevail. Sector and company size are not statistically significant. Digitalization impacts value creation slightly above the average (-0.09).

Cluster 5 – Digitalized administrators and marketers

Cluster 5 represents 8% of the entire sample ($n = 17$). Digitalization has a significant above-average impact on administration and finance (2.75)

and marketing (2.67) and an above-average impact on HR. This is why we called this cluster “Digital administrators and marketers.” The impact of digitalization is significant and below average on R&D (-5.24), logistics (-4.60) and production (-4.19) and below average for sales and purchasing. Mixed B2C and B2B companies prevail, while sector and company size are not statistically significant. Finally, the impact of digitalization on customer value is above average (-0.17).

Cluster 6 – The most digitized marketers, R&D and sellers

Finally, Cluster 6 represents 20% of the sample ($n = 42$) and was named “The most digitalized marketers, R&D and sellers” because the impact of digitalization in the cluster is significant and above average for marketing (5.91), R&D (5.31) and sales (5.04). HR shows an above-average positive impact. The four remaining functions show a significant and below-average impact of digitalization: purchasing (-5.09), logistics (-4.99), production (-3.71) and administration and finance (-3.29). In this cluster, sector and company size are not statistically significant variables, while mixed B2C and B2B enterprises and enterprises investing more than 50% of their communications budget in digital communication are prevalent. Finally, after those of Cluster 3, these companies declare the strongest confidence (0.95) regarding the impact of digitalization on customer value.

5. Discussion

By adopting a broad perspective, this study has offered an initial empirical contribution to the research on the impact of digitalization on all the business functions of SMEs. This is an understudied topic in the management literature. Quantitative empirical studies are more focused on large companies (Arnold *et al.*, 2016; Chavez *et al.*, 2020; Radziwon *et al.*, 2020), and broad perspectives are still rare in innovation studies (e.g., Caliskan *et al.*, 2021; Teng *et al.*, 2022; Zimani, 2022). Furthermore, this study explores another interesting and poorly investigated topic in the literature: how business functions relate to digitalization and customer value from the entrepreneurial perspective. Descriptive statistics show that the average value of the impact of digitalization on business functions is around 4 (in a 1-7 Likert scale) and that the gaps between business functions are slight, in the perspective of entrepreneurs. From the analysis, six clusters of companies were identified, highlighting the heterogeneous impact of digitalization on the business functions of SMEs.

Even though every cluster is different, three groups share some similarities. One group can be defined as “Smart factories” (Clusters 1 and 2) to

indicate that digitalization, in the perception of the respondents, has a significant, above-average impact on production and a significant, below-average impact on marketing. In both clusters, which include about half of the sample, the impact on logistics is above average. Regarding purchasing, in Cluster 1 the impact is above average, while in Cluster 2 it is below average.

The second group, labelled “Digital marketers” (Clusters 4, 5 and 6), consists of companies that, in the perception of the respondents, are characterized by above average and significant impact of the internet and digital technologies on marketing and significantly below average impact on production. In Clusters 4 and 6, digitalization has a significant impact on both marketing and sales, though in Cluster 6 the impact is higher and more significant. In Clusters 4 and 6, the impact on administration and finance is below average, but Cluster 4 shows a below-average and significant impact on HR, while in Cluster 6 this is the case for logistics and purchasing. Cluster 5 is a hybrid cluster because marketing and administration/finance are the most digitalized functions but sales have a below-average impact.

The third group contains only Cluster 3. This is characterized by eight companies that are highly above average digitalized in all functions; therefore, it has been termed “The highly digitalized companies.”

The results of this study paint a heterogeneous picture. Only a niche of SMEs is above average digitalized, and digitalization impacts mostly (half of the sample) production and logistics; purchasing is impacted only occasionally. In the other half of the sample, digitalization impacts marketing and sales.

The “smart factories” have mainly digitalized the upstream activities of the value chain, while maintaining a traditional approach to communicating and distributing products. On the contrary, the “digital marketers” have mainly digitalized the downstream functions, while production has not improved in terms of the recent advances in digital technology.

This result is in line with the literature on Italian SMEs, according to which the digital transformation of SMEs is ongoing and incomplete (Betiol *et al.*, 2017; Cucculelli *et al.*, 2019; Osservatori.net, 2022; OECD, 2021).

Although digitalization is a great opportunity, this study shows that most companies approach digitalization with caution (Mueller *et al.*, 2018) most probably because of a lack of managerial vision and resources (Moeuf *et al.*, 2017; Uberbacher *et al.* 2020) or an unclear understanding of its potential benefits (Pfister and Lehman, 2021). Other possible interpretations of a low level of digitalization of the companies examined may be a lack of culture or strategies in the use of digital technologies (Pencarelli *et al.*, 2019). Further, it seems that the entrepreneur may play a key role in the adoption of digital technologies, since he recognizes their importance even if he/she does not know the technology (Pencarelli *et al.*, 2015).

Another significant result of this study concerns the relationship between digitalization, business functions and customer value. According to the entrepreneurs of the “Smart factories” group (Clusters 1 and 2), the impact of digitalization on customer value is low, which reveals a clear focus on efficiency. This cannot necessarily be related to competitiveness, if it is aimed at increasing profits. In the second group, “Digital marketers” (Clusters 4, 5 and 6), the impact on customer value is considered high, especially in Cluster 6, whose companies have invested in digital marketing and sales; however, these businesses remain somewhat traditional with regard to production activities.

The fact that the companies which are more oriented towards digital innovation in downstream activities report increased customer value as a result of digitalization is consistent with the attention paid to demand needs and how they can be accommodated. This reveals a marketing orientation that the “Smart factories” group has not yet acquired, with a consequent approach to technology and more broadly to innovation that is guided more by the technology itself than by real attention to the market. This result also confirms the opinion of most scholars, who underline the positive relationship between digitalization of marketing activities and performance (e.g., Bettiol *et al.*, 2017; Rosario *et al.*, 2022) and consequently the positive influence on value for customers and companies.

6. Conclusions

The results of descriptive statistics show that the average value of the impact of digitalization on business functions is around 4 (in a 1-7 Likert scale) and that the gap between business functions is slight, in the perspective of entrepreneurs.

The results of the hierarchical cluster analysis show an uneven picture. On one hand, there are companies that are very focused on the digitalization of manufacturing processes and all related activities (logistics, purchasing, etc.), with an apparent orientation towards efficiency and profit rather than competitiveness and market development. On the other hand, there are companies that are more focused on digital innovation in marketing and sales, which pay attention above all to the ability to interact effectively with customers and strengthen their position in the market. Only a small number of businesses showed a balanced digitalization of all functions.

Our empirical investigation has also highlighted that a series of differentiation variables must be considered when trying to understand the impact of digitalization, such as size, sector and type of market (B2C or B2B). These variables allow for better segmentation of the complex world of SMEs and invite us to reject homogenizing analyses.

In terms of managerial implications, this study suggests the need for a balanced introduction of digitalization into all company functions; this is the only way to fully exploit the advantages of the digital revolution. Data management and digitalized processes must be equally developed in all the business functions to ensure integration of all the activities of the value chain, both internal and external ones (upstream and downstream). The strategy to be used to bring about this change in companies must primarily leverage elements of managerial culture. Therefore, training aimed at improving the specialist skills present in a company is required, since the lack of these skills often prevents having an integrated vision of the processes. Furthermore, when hiring staff, businesses must look at profiles characterized by the most varied and transversal skills and experiences to more easily allow for cross-fertilization of the different company areas. It is also important for firms to cooperate with external experts in digital technologies (e.g. web agencies) who may contribute to create a favourable environment for employees and facilitate the adoption of adequate digital technologies. Further, to favour digitalization of business functions, adequate software and hardware should be included to upgrade the existing software and hardware systems.

This study is exploratory in nature and the main limitation consists in the small size of the sample and the geographic origin of the companies which do not allow generalizability. Future research in this area should look at different countries. Another limitation is that the business functions may not have been clearly identified in SMEs, and several interviewees may lack adequate awareness of the frontiers of digital innovation. Although a definition of digitalization and examples of the impact of digitalization on business functions were provided, entrepreneurs' answers were highly subjective, and the items in the questionnaire could have been understood and interpreted differently by entrepreneurs based on their managerial and digital cultures. Therefore, future studies should improve the research protocol to guide entrepreneurs' responses more effectively and try to minimize the subjectivity resulting from different perceptions of the company's level of digitalization.

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Appendix 1 – Characterization by continuous variables of the tree's cut "a" clusters into six clusters (90% significance level).

CLUSTER 1 (Weight = 71.00 Count = 71)						
Characteristic variables	Cluster mean	Overall mean	Cluster Std. deviation	Overall Std. deviation	Test-value	Probability
Production	0.150	-0.149	0.675	0.785	3.96	0.000
HR	0.008	-0.241	0.694	0.754	3.43	0.000
Administration and Finance	0.408	0.174	0.633	0.785	3.10	0.001
Logistics	0.134	-0.087	0.699	0.804	2.86	0.002
Purchasing	0.254	0.060	0.574	0.730	2.76	0.003
R&D	-0.339	0.030	0.529	0.751	-5.10	0.000
Sales	-0.343	0.138	0.588	0.786	-6.37	0.000
Marketing	-0.238	0.376	0.592	0.740	-8.64	0.000

CLUSTER 2 (Weight = 20.00 Count = 20)						
Characteristic variables	Cluster mean	Overall mean	Cluster Std. deviation	Overall Std. deviation	Test-value	Probability
Production	0.587	-0.149	0.662	0.785	4.40	0.000
R&D	0.276	0.030	0.790	0.751	1.54	0.062
Logistics	0.126	-0.087	0.785	0.804	1.25	0.106
HR	-0.537	-0.241	0.735	0.754	-1.85	0.032
Administration and Finance	-0.464	0.174	0.596	0.785	-3.82	0.000
Sales	-0.547	0.138	0.690	0.786	-4.09	0.000
Purchasing	-0.647	0.060	0.419	0.730	-4.55	0.000
Marketing	-0.364	0.376	0.691	0.740	-4.70	0.000

CLUSTER 3 (Weight =8.00 Count =8)						
Characteristic variables	Cluster mean	Overall mean	Cluster Std. deviation	Overall Std. deviation	Test-value	Probability
HR	1.000	-0.241	0.000	0.754	4.74	0.000
Sales	1.000	0.138	0.000	0.786	3.16	0.001
R&D	0.833	0.030	0.441	0.751	3.08	0.001

Purchasing	0.833	0.060	0.441	0.730	3.05	0.001
Administration and Finance	1.000	0.174	0.000	0.785	3.03	0.001
Marketing	1.000	0.376	0.000	0.740	2.43	0.008
Logistics	0.000	-0.087	1.000	0.804	0.31	0.378
Production	-0.250	-0.149	0.968	0.785	-0.37	0.355

CLUSTER 4 (Weight = 47.00 Count = 47)						
Characteristic variables	Cluster mean	Overall mean	Cluster Std. deviation	Overall Std. deviation	Test-value	Probability
Sales	0.632	0.138	0.553	0.786	4.90	0.000
Marketing	0.809	0.376	0.394	0.740	4.56	0.000
Purchasing	0.407	0.060	0.660	0.730	3.70	0.000
Logistics	0.279	-0.087	0.689	0.804	3.55	0.000
R&D	0.185	0.030	0.686	0.751	1.61	0.054
Administration and Finance	0.087	0.174	0.771	0.785	-0.86	0.196
Production	-0.260	-0.149	0.707	0.785	-1.10	0.136
HR	-0.850	-0.241	0.284	0.754	-6.30	0.000

CLUSTER 5 (Weight = 17.00 Count = 17)						
Characteristic variables	Cluster mean	Overall mean	Cluster Std. deviation	Overall Std. deviation	Test-value	Probability
Administration and Finance	0.676	0.174	0.579	0.785	2.75	0.003
Marketing	0.835	0.376	0.301	0.740	2.67	0.004
HR	0.067	-0.241	0.782	0.754	1.75	0.040
Purchasing	0.026	0.060	0.709	0.730	-0.20	0.420
Sales	-0.166	0.138	0.712	0.786	-1.66	0.048
Production	-0.915	-0.149	0.251	0.785	-4.19	0.000
Logistics	-0.948	-0.087	0.209	0.804	-4.60	0.000
R&D	-0.886	0.030	0.253	0.751	-5.24	0.000

CLUSTER 6 (Weight = 42.00 Count = 42)						
Characteristic variables	Cluster mean	Overall mean	Cluster Std. deviation	Overall Std. deviation	Test-value	Probability
Marketing	0.979	0.376	0.097	0.740	5.91	0.000
R&D	0.581	0.030	0.587	0.751	5.31	0.000
Sales	0.684	0.138	0.539	0.786	5.04	0.000
HR	-0.198	-0.241	0.685	0.754	0.41	0.342
Administration and Finance	-0.182	0.174	0.840	0.785	-3.29	0.001
Production	-0.551	-0.149	0.667	0.785	-3.71	0.000
Logistics	-0.640	-0.087	0.657	0.804	-4.99	0.000
Purchasing	-0.453	0.060	0.648	0.730	-5.09	0.000



BOOK REVIEW:

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Abstract

The book faces the topic of entrepreneurship, with a focus on creating new successful businesses. After a theoretical framework of the topic, it provides practical indications about the tools to be used and the issues to be considered to develop an entrepreneurial project and bring it to success. The book is full of references to business cases that make it even more interesting to read.

Review

The book consists of thirteen chapters, addressing issues related to the development of an “entrepreneurial way of thinking”. The book is conceived as a hybrid item, an interactive ebook and an exercise book for students with a practical focus on how to do business. It provides a broad perspective on entrepreneurship, highlighting that the success of a business idea is the result of an effective mix of innovation, leadership and communication. “Part of the challenge lies in how we bridge the gap between a great idea and realizing its value, both commercial and social”, as the authors state.

The first chapter deals with the concept of entrepreneurship as a creation of value from an idea; the motivations behind the choice to become entrepreneurs and the main characteristics of entrepreneurs are presented. The concept of innovation is pivotal, both as a creative impulse for new businesses and as a survival imperative for existing businesses. Innovation is a complex process, driven by entrepreneurship. The basic entrepreneurship process involves four phases, to be developed in an organised and cyclical way: recognizing opportunities; finding resources; developing the enterprise; capturing value. This process takes place in a context that influences the process itself, so strategic leadership and clear direction is needed. Networking and entrepreneurial story telling can help new business experiences.

The second chapter is dedicated to social and sustainable entrepreneurship: innovation is about creating value, and an important dimension of this is making the change happen in a direction useful for society. Social entrepreneurship must also be developed according to an organised process: the entrepreneurial challenge becomes even more difficult, as the social goal must be pursued so that it is also sustainable. Social innovation faces some critical challenges, including raising funding, motivating stakeholders and the conflict between social and economic goals. There are, however, investment funds and agencies that can help entrepreneurs in overcoming these difficulties.

The third chapter deals with the theme of entrepreneurial creativity, defined as the use of imagination or original ideas to create something, which in practice can be interpreted as the ability to produce something both new and useful. It is a combination of thinking skills, including association, pattern recognition and divergent and convergent thinking. Its application can range from incremental creativity to radical creativity, from solving simple problems to revolutionary insights. Creativity is not improvisation, but follows a process of recognition/preparation, incubation, intuition and validation/refinement. Entrepreneurial creativity is realized differently depending on the creative style of the subject, the surrounding business environment and activities developed in groups, such as brainstorming.

The fourth chapter provides useful indications to understand where innovations can come from, the so-called “space of opportunities available for innovations”. The sources of innovation can be divided into two large classes, driven by knowledge and in response to a need, although they almost always act in pairs. Entrepreneurs are both “discoverers of opportunities” (response to a need) and “creators of opportunities” (driven by knowledge). The “4Ps” are the compass of innovation (product, process, position, paradigm). Regulation plays an important role in shaping and directing innovative activity.

Chapter five presents the business plan as a complex and organic tool for building the business case. The typical contents of the document are illustrated (description of the idea, market and competition analysis, scenario simulations, risk treatment, economic and financial analysis, evaluation of the potential of the project with financial and qualitative methods), of which the various main sections are analyzed in a clear and effective way.

Chapter six deals with the collection of resources and funding. With regard to resources, reference is made to the recruitment of suppliers and partners, through strategic alliances, joint ventures, licensing, outsourcing; with regard to funding, alternative solutions of self-financing, support from family, fools and friends, business angels, bank credit, government aid, venture capital and crowdfunding are presented. For both purposes, it is necessary to identify the needs, through the so-called resource-based view.

Chapters seven and eight deal with team building and networking, respectively. Team building is analyzed both in reference to human resources within the company and to collaborations with other entrepreneurs and, in general, with people/organizations outside the company. At the individual level, the key is to know how to match leadership styles with the requirements of tasks and types of teams; at the collective level, clear, common and exciting goals, collaborative climate, participation in the decision-making process are needed. The reference context is also decisive. Networking can help entrepreneurs in several ways: by sharing resources; exchanging knowledge and ideas in an open innovation model; providing support; improving learning skills.

The ninth chapter examines factors influencing the success of a new product or service. Some factors are product-specific, while others relate more to the reference context and the organizational process. The formal process for the development of new products/services should consist of some distinct phases (stage-gate process): concept development (with segmentation, experimentation, focus groups; collaborations with customers); product development (with prototyping, design and Quality Function Deployment); pilot testing and commercialization. The phases should be separated by moments of verification and decision. Products and services differ in several aspects, in particular in intangible aspects and perceived benefits,

so the development process will have to take this into account.

Chapter ten examines issues relating to the creation of a new business: motivations and goals; choice of the form in which to set up the enterprise; environmental factors and context for entrepreneurship (incubators and university spin-offs); identification and exploitation of intellectual property. Chapter eleven, moreover, deepens the examination of the initial conditions in the startup phase that contribute to the success and growth of the new venture, highlighting the importance of the ability to exploit external factors that can help achieve this goal. Among these, the most significant are the size of the reference market, the industrial experience of the founders, the value of the social network and the ability to manage the company.

Chapter twelve presents the business model as a framework for describing how value is created and captured. The authors give a definition of business model, present its content (value proposition, reference market, suppliers, key activities, timing, resources) and clarify the reasons that make it useful, providing useful indications for its construction.

The last chapter, finally, briefly traces and consolidates the main topics in the book, also focusing on the importance of learning and managing failure processes.

The book offers a very useful guide for the development of new businesses: for the development of successful businesses it is necessary to use appropriate tools, for planning activities, team building, networking, collecting resources and funding. The book is particularly recommended for new entrepreneurs; moreover, it is rich in successful business cases that make the reading very interesting also for academics and practitioners.

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