Resilience through social innovation for sustainable development

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Abstract

Purpose – This study aims to provide an example of the intersections between resilience and innovation within the social economy. It describes the Portuguese context, boosted by a pioneering public policy focused on building resilience through innovation. The sustainable development concept usually sets multilevel relationships among the government, social investors and entrepreneurs. In this sense, the study explores the role of innovation in promoting resilience in initiatives and society that may lead to sustainability.

Design/methodology/approach – The authors collected the primary data through semistructured interviews with social investors and an online survey with the invested or awarded entities from 2015 to 2020. The database represents 43.63% of acknowledged Portuguese social innovative initiatives, describing a complex and multilevel result. The case also provides a unique context for deepening the understanding of popular, relevant, but still underdeveloped concepts.

Findings – The results highlight progress in overcoming social and economic challenges. This progress happens through innovative initiatives aiming to solve social problems that reflect collective interests. The data suggest a context dynamization due to an increase of 31.3% in new initiatives. This increase can potentially represent a consistent investment in resilience and sustainable development.

Originality/value – This paper helps to contextualize and structure information for three fragmented concepts. It relies on their combination to compensate for each other frailties, assuming that innovation can be a crucial factor for boosting sustainable development, making possible the countries' resilience. It also argues that the literature state can result from a paradigm shift, and these features can favor this process toward a better world.

Keywords Social resilience, Social innovation, Sustainable development, Public policy, Paradigm creation, Social economy

Paper type Research paper

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1. Introduction

Nowadays, humanity faces the enormous challenge of changing production and consumption towards sustainable development geared by a social base (Folke *et al.*, 2021; Hossain, Saleh, & Drennan, 2017; Raworth, 2012). Sustainability challenges grow faster than solutions to social problems (Tate & Bals, 2018).

Despite the triple bottom line social flow (that is, people, planet and profit) being less developed in the literature (Tate & Bals, 2018), Hossain *et al.* (2017) argue that the social perspective is broader than addressing a market failure or a specific environmental issue.

Sustainability, as a social purpose, embodies both individual basic needs and the institutional level (Horgan & Dimitrijević, 2018; Tate & Bals, 2018). They happen by present action that interferes with the future concerning choices that will remain available (Seelos & Mair, 2005b). The concept suits the outlook of economics as evolutionary science that develops constrained by past choices and current resources. Outcome analysis relies on past evidence, but the past offers no guarantees or choices. All choices are presently bounded (Winter, 2014). Therefore, the sustainable development goals (SDGs) are worth as a planning parameter (that is, future standpoint) or for impact assessment (that is, past standpoint). Focusing on the present, subject-matter experts should consider process features like innovation (Bristow & Healy, 2018; Clark & Brennan, 2012).

Resilience is usually linked to overcoming challenges while building and reinforcing inherited strengths (Bristow & Healy, 2018; Linnenluecke, 2017). Nevertheless, despite its popularity and presence in the policy rhetoric (Bristow & Healy, 2018), the issue still has yet to reach a consensus (Fougère & Meriläinen, 2021). Resilience can be understood when it takes multiple levels of perspective (in other words, individual, organizational, industries and countries). Its conceptualization varies according to the circumstances (Horgan & Dimitrijević, 2018; Linnenluecke, 2017). However, studies tend to focus on a single level, not addressing multiple relationships, which prevents holistic insights (Linnenluecke, 2017).

Additionally, resilience is correlated with innovation and performance, although this relationship is empirically little explored (Bristow & Healy, 2018; Fougère & Meriläinen, 2021). There is a significant increase in attention and investment in social initiatives (Dupain *et al.*, 2021). Social innovation is likely to be the new accelerator of social change, just as technology was in the 20th century. Services related to social well-being, such as health and education, are already more economically expressive than the sale of automobiles, telecommunications and steel, representatives of the industries that previously drove innovation. Values that involve interaction between stakeholders, such as customization and co-creation, are fundamental to specific strategies and are already examples of successful social innovations (Mulgan, 2006). Innovation links sustainability and resilience (Horgan & Dimitrijević, 2018). There is much research at the organizational level, but the wide range of relationships, such as contexts, environments and countries, are not yet developed (Shaw & de Bruin, 2013).

This paper discusses the role of social innovation in sustainable development (Hossain *et al.*, 2017; Boons & Lüdeke-Freund, 2013), helping to improve the social flow, underdeveloped in the triple bottom line (Tate & Bals, 2018). It also discusses the role of innovation in promoting resilience (Bristow & Healy, 2018), bringing data together in a multi-level approach to highlight multiple relationships and provide holistic insights (Linnenluecke, 2017). This study explores the overlooked intersections of innovation, resilience and sustainable development (Fougère & Meriläinen, 2021; Horgan & Dimitrijević, 2018) through a social lens (Shaw & de Bruin, 2013) as the rise of a paradigm (Mackenzie & House, 1978; Churchill, 1979; Dosi, 1988). It assumes that social innovation is a processual concept that increasingly impacts resilience and sustainable development. It happens because processes are current issues that can be managed (Clark & Brennan, 2012; Lopes, Vieira, Barbosa, & Parente, 2017; Winter, 2014). Therefore, social innovation is the framework that leads the analyses.

The study describes the Portuguese case to contextualize the theory, providing evidence on how social innovation increases resilience for sustainable development (Verschuren, 2003). This study also updates the context under analysis, presenting previous reports and studies on Portugal compared to the case that emphasizes innovation rather than a broad economic sector description. Portugal is considered a benchmark in data production and support for the development of social innovation (Almeida & Santos, 2017; CASES, 2019).

2. Theoretical background

2.1 Innovation for sustainable development and resilience

Innovation is an organizational phenomenon that goes beyond the creation of new things and encompasses the improvement of production processes or new ways of value creation (Fagerberg, 2004; Dosi, 1988). Both production and consumption must be geared toward sustainability, providing a safe place for society to thrive instead of growth goals that only deplete the planet (Folke *et al.*, 2021; Hossain *et al.*, 2017; Raworth, 2012). To achieve these ethical goals, social problems must be addressed, mainly because they are worsening (Tate & Bals, 2018). If social goals can encompass environmental goals and guide the economic ones, maybe emphasizing it can be a considerable contribution to sustainability (Hossain *et al.*, 2017), taking the opposite way that led the world to today's hardships (Tate & Bals, 2018; Raworth, 2012; Horgan & Dimitrijević, 2018). Resilience can be achieved through innovation and convergence linked to rigidity that prevents changes (Fougère & Meriläinen, 2021; Linnenluecke, 2017).

In general, resilience can be understood as an inherent characteristic related to the adaptative capacity to respond and recover more quickly. It has been chiefly used as a desirable quality that evolves from endurance, perseverance and strength (Linnenluecke, 2017). However, not all resiliencies are positive (Horgan & Dimitrijević, 2018). Fougère and Meriläinen (2021) alert that innovation and resilience can also be contradictory concepts. Innovative disruption can cause unintended consequences, preventing the stability related to resilience. Not every rupture is beneficial to society. For example, if innovation is adopted to increase productivity, it may also reinforce the structures that caused the social problem, heightening inequality rather than solving it. The locus of the change and the narrative concerning responsibility are crucial. The boundary between benefit and harm is slight (Fougère & Meriläinen, 2021; Horgan & Dimitrijević, 2018).

There are many flops when considering initiatives toward disadvantaged people, mainly when the initiative occurs in a transnational context or deals with diverse ethnicities. The disadvantaged side can be misunderstood through analytical lenses that emphasize hegemonic paradigms. The factors that limit the social benefit can also constrain or bias the innovation course (Koehne, Woodward, & Honig, 2022). They can manifest as cognitive dissonance that denies what needs to be done to correct a problematic situation. The resilience of the status quo prevents evolution (Horgan & Dimitrijević, 2018).

In short, resilience is linked to innovation (Bristow & Healy, 2018), and both depend on path dependence that allows building strengths and weaknesses (Fougère & Meriläinen, 2021; Leonard-Barton, 1992). However, resilience is more of a trait than a process (Linnenluecke, 2017), whereas sustainable development can be a goal (i.e. SDGs) or a dynamic (Seelos & Mair, 2005b; Tate & Bals, 2018). More studies are still needed to deepen the understanding of these three elements (Fougère & Meriläinen, 2021).

Past decisions shape future conditions but neither the past nor the future can be managed in the present (Winter, 2014). The present can be accessed through the features of the process, such as innovation (Clark & Brennan, 2012), primarily through its problem-solving method (Lopes *et al.*, 2017). The search for innovation is shaped by the human needs to increase productivity or improve the supply of goods and services (Fagerberg, 2004; Horgan & Dimitrijević, 2018). Innovation involves problems that are generally ill-structured and

without an obvious solution within the available knowledge. Research skills are needed to organize the problem, define a solution and test it (Dosi, 1988). The solution is usually evolutionary, resulting in the refinement of several attempts and the combination with other innovations (Dosi, 1988; Fagerberg, 2004).

Although social innovation is also a market phenomenon, its purpose is society (Mulgan, 2006). This innovation approaches social problems differently (Moulaert, Mehmood, MacCallum, & Leubolt, 2017), perceiving them as endogenous to social relations (Murray, Caulier-Grice, & Mulgan, 2010). It emphasizes the change in relationships, social participation and adoption of new habits, business models, and processes (Moulaert *et al.*, 2017; Lopes *et al.*, 2017; Mulgan, 2006). Therefore, it can be better understood through the paradigm concept.

2.2 Building a sustainable paradigm

Paradigms are complex and essential structures that allow knowledge and innovation (Mackenzie & House, 1978; Dosi, 1988). They are also generic standpoints that constrain perceptions and guide practices (Miller, 1991), establishing what is seen as good or bad (Dosi, 1988). Therefore, paradigms can explain the issue of the benefit of innovation and resilience (Fougère & Meriläinen, 2021; Horgan & Dimitrijević, 2018; Linnenluecke, 2017) because it drives interests, investment, interpretations and research (Dosi, 1988). Therefore, it establishes what is or is not relevant due to the randomness of the observation of phenomena (Mackenzie & House, 1978).

When a paradigm is established around innovation, uncertainties are reduced and a focus is created, allowing the accumulation of knowledge (Dosi, 1988). However, it is difficult to predict the formation of a paradigm. It depends on a selection process based on the governments' interests and the institutions that make up the economy. It also depends on social acceptance and assimilation in trial-and-error processes (Dosi, 1988; Horgan & Dimitrijević, 2018). A paradigm combines different sources and forms of knowledge to become consensual among group members (Mackenzie & House, 1978; Dosi, 1988). However, there is a risk of building consensus around wrong ideas. They cannot be the most efficient option or be based on false assumptions (Mackenzie & House, 1978). Miller (1991) warns that when the social sciences do not challenge their paradigms, they risk losing critical thinking. Fougère and Meriläinen (2021) share Miller's concerns, facing the dialectic between theory and practice of initiatives aimed at innovation and resilience.

Establishing a paradigm requires institutional openness and weak inertia, expanding innovation flows. Such requirements explain why there are more innovations involving the participation of society in public decisions than coming from political reforms, for example. There is more innovation around preventive health and wellness strategies than around a reform of the hospital system or the pharmaceutical industry (Murray *et al.*, 2010).

Paradigms vie for dominance. The possible innovation in each ecosystem is limited by the paradigm adopted. This dynamic is multidimensional, behaving like an open system, where new opportunities create and are created by competing innovations that affect the economy and society. Consequently, these innovations alter the paradigm selection process. Finally, the relationship between paradigms and contexts explains the random distribution of innovation worldwide (Dosi, 1988). Many innovations are not disseminated due to the context restrictions and the difficulty in overcoming inertia (Dosi, 1988; Fagerberg, 2004; Horgan & Dimitrijević, 2018; Mulgan, 2006).

Social innovation particularly suffers from inertia, as it often depends on creating new structures and building new behaviors (Moulaert *et al.*, 2017; Murray *et al.*, 2010). The patterns established by the dominant paradigm tend to influence the type of institutions and their relationships in the ecosystem, creating inertia as they mature. Therefore, successful innovations show a pattern of irreversibility. These innovations support and are supported by the dominant paradigm (Dosi, 1988).

In short, to change production and consumption patterns sustainably (Folke *et al.*, 2021; Hossain *et al.*, 2017; Raworth, 2012) innovation with social purpose must be developed and spread (Boons & Lüdeke-Freund, 2013; Horgan & Dimitrijević, 2018; Moulaert *et al.*, 2017) to build a paradigm (Shaw & de Bruin, 2013). This innovation can be a game-changer for resilience (Bristow & Healy, 2018). Many twentieth-century innovations are current standards, but they represented profound societal changes when they emerged. For example, ordinary people can drive cars without posing a social risk (Mulgan, 2006).

The concept of innovation is complex and can generate changes at various levels and unpredictable effects (Fougère & Meriläinen, 2021; Lepak, Smith, & Taylor, 2007). Social innovation can occur through small organizations embedded in their contexts by expanding local capacities. It can also take on a larger scale, becoming a stabilizing factor by improving the supply of services of collective interest or triggering creative destruction by changing the foundations of society (Zahra, Gedajlovic, Neubaum, & Shulman, 2009). However, social innovation still has a philosophical character, lacking consensus and data systematization (Horgan & Dimitrijević, 2018; Lopes *et al.*, 2017), making it difficult to discuss it as a transformation tool (Boons & Lüdeke-Freund, 2013).

2.3 Social innovation features for practice

Social innovation discusses organizational and territorial development (Moulaert *et al.*, 2017). To be a lasting innovation, such an innovation must be the most efficient and effective option among all alternatives (Lopes *et al.*, 2017). To solve social problems, it also must endure resource scarcity (Ciccarino, 2021). Social innovation can be efficient and broad scaled or embedded and creative (Zahra *et al.*, 2009).

The research on the topic follows two directions. A technocratic or functionalist view emphasizes the market and the institutional point of view. This strand studies social organizations, entrepreneurial processes and improvement in public services. Inclusion is market productivism addressed as meeting the needs of the bottom of the pyramid (Pozzebon, Tello-Rozas, & Heck, 2021). These studies emphasize improving efficiency and reducing cost and risk (Lopes *et al.*, 2017). Otherwise, there is a democratic strand geared to transformative purposes and collective movements. This perspective challenges the status quo through bottom-up innovations (Pozzebon *et al.*, 2021). It is based on establishing new relationships, accessing new markets and creating new business models or organizations to change patterns and generate social change (Lopes *et al.*, 2017).

Social innovation is related to latent dimensions of the business model, such as scale, embeddedness and social goals' achievement. It is a complex concept that must be analyzed according to the type of social issue, the extent of desired change, stakeholders and ethical concerns (Koehne *et al.*, 2022; Zahra *et al.*, 2009). Social innovation happens through the combination of scarce resources to generate practical, accessible and commercially desirable products and services (Kickul, Griffiths, Bacq, & Garud, 2018).

The complexity of the concept of social innovation requires analysis according to the observed context, conditioning the ability to provide an overview of the phenomenon (Zahra *et al.*, 2009). Therefore, it uses elements of conventional innovation that focus on assessing the innovation itself as if this were a generic extension of its effects. The types of innovation are not contingent on the patterns of interest that motivate them and can even be applied to social innovation (Moulaert *et al.*, 2017; Dosi, 1988).

Innovation doesn't exactly mean newness (Lopes *et al.*, 2017). It can be the refinement of something that already exists (i.e. incremental innovation) or its use in another context (Fagerberg, 2004). It can also be a new way of doing something (i.e. process innovation), a new way of creating and distributing value (e.g. business model innovation), or new resource use (e.g. new resource, new source or new supply) (Schumpeter, 1934).

In this sense, innovation can be radical or incremental. Incremental innovation is built from existing concepts and increases organizations' overall performance by extending and improving existing value offerings (Christensen, 1997). Radical innovation represents revolutionary changes favored by the circulation of knowledge (Dosi, 1988). For Schumpeter (1934), radical innovation happens through the creative destruction triggered by entrepreneurship, and it is about the destruction or discontinuity of the old paradigm to create a different market.

Only radical innovations generate disruptive innovations, but not all radical innovations are disruptive. Following the current paradigm means adopting its assumptions, interpretations and practices, favoring knowledge accumulation. The change happens within the paradigm. Disruptive innovation arises when some of these elements are replaced (Miller, 1991). Introducing disruptive innovation causes an overall decline in value, causing incumbent organizations to perform worse (Christensen, 1997). Even in disruptive cases, the state of change is transitory, after its dissemination, it becomes the new standard (Mulgan, 2006).

The more radical an innovation is, the more adjustments it generates, requiring investments and structures to be accommodated socioeconomically (Fagerberg, 2004). Incumbent organizations gain advantages such as resources, learning and experience when the ecosystem favors incremental innovation. However, when the ecosystem changes due to radical innovation, these organizations are at a disadvantage because they are less flexible and adaptable (Audretsch, 1995).

Occasionally, radical innovation is an opportunity niche, not noticeable or exciting for large organizations to explore (Mulgan, 2006; Christensen, 1997). Incumbent firms can also be inhibited by the potential of this innovation to cannibalize a profitable business (Christensen, 1997). Therefore, they are conducted by start-ups (Christensen, 1997), commonly smaller (Audretsch, 1995), as Mulgan (2006) describes as social innovation. Because they are carried out by smaller organizations (Audretsch, 1995), disruptive innovations initially affect few people and may or may not evolve into a mass market, making them riskier (Christensen, 1997).

Audretsch (1995) suggests that the survival and growth capacity of a new organization depend on the importance of innovation in the industry. It is also influenced by the type of organization that runs it. A greater dependence on innovation driven by small organizations makes it harder for new ones to survive. However, those that survive have higher growth and a lower risk of discontinuity. The importance of innovation for the industry and the prevalent innovation type determine who will have the advantage of innovating: incremental innovations tend to give an advantage to incumbent organizations and radical innovations to new entrants.

A typical proxy for evaluating the dynamism of an entrepreneurial ecosystem is the analysis of the rate of new initiatives (that is, with less than three years of existence). New innovative entrepreneurial organizations tend to be less vulnerable to external factors and have higher growth rates as they develop the so-called opportunity entrepreneurship. The value created, even at the level of job creation, is often more relevant. These initiatives need supportive structures, sociocultural endorsement and access to funding to develop, but innovation plays a significant role in their qualification and survival (Levie & Autio, 2008). The need for socioeconomic accommodation of innovation (Fagerberg, 2004) makes it difficult for organizations that create disruptive innovations to disseminate them and achieve adequate scale (Mulgan, 2006). This relationship needs to be better understood in the case of social innovation, as it is about solutions to unresolved problems that grow in more considerable progress than they are addressed (Tate & Bals, 2018).

Context-bound variations can favor or deplete the positive social impact of innovation (Koehne *et al.*, 2022). The country delimitation as a case can limit these factors' variation (Verschuren, 2003), providing insights that link resilience and innovation. This local standpoint for understanding practice is also a way to strengthen social bonds within communities, and it can be a much-needed step back to fit solutions and contexts (Horgan & Dimitrijević, 2018).

3. Methodology

3.1 Research design

Portugal was selected as the study's revealing case (Verschuren, 2003). The country is considered a benchmarking case concerning data production and support for the development of social innovation (Almeida & Santos, 2017). The method is adequate since the aim is context description (Verschuren, 2003), and the available theory is still under development (Bristow & Healy, 2018; Fougère & Meriläinen, 2021; Pozzebon *et al.*, 2021). The research aims to study how social innovation can contribute to sustainable development by presenting a case highlighting this potential relevance in practice.

The study has developed in three areas: First, a systematic literature review identified academic papers and official documents within the scope of Portugal's cohesion policies with the European Union. Secondary data served as a parameter to assess how Portugal is progressing in its investment strategy for social innovation (Remenyi, Williams, Money, & Swartz, 1998). Second, Portuguese social investors were interviewed to provide insights into what is valued and lacking (Lee, Battilana, & Wang, 2014). Finally, the authors surveyed the entrepreneurs from invested social initiatives.

This research strategy helped to overcome the unidimensional focus on a multilevel relationship that prevents holistic insights into social innovation (Horgan & Dimitrijević, 2018), and resilience (Linnenluecke, 2017). It can also help to address the theoretical but overlooked link between both concepts (Bristow & Healy, 2018; Fougère & Meriläinen, 2021). The data were collected through a semistructured interview. The guideline had three blocks of analysis units with open questions: (1) Demographic data about the interviewee; (2) Social investment; (3) Social Innovation Impact in Portugal – *Portugal Inovação Social impact* (PIS); (4) Opinion about invested social initiatives; (5) Social investment criteria. The guideline based on the literature review is in the supplementary materials. The guideline provides evidence about how social innovation increases resilience towards sustainability (Horgan & Dimitrijević, 2018; Tate & Bals, 2018).

Qualitative data were analyzed by pattern matching using the Atlas: ti software, version 7.5. A pattern is something routine that appears systematically both in the literature and in the collected data, showing theoretical saturation. Then, the quantitative analysis provided an additional description complementing the case (Remenyi, 1998).

3.2 Sample and data collection

Secondary data published in official documents and academic papers (CASES, 2019; Ciccarino, Rodrigues, Almeida, & da Silva, 2019; European Commission, 2014; MIES, 2015; SEFORIS, 2015) served as an evaluation parameter (Remenyi *et al.*, 1998). The qualitative analyses also combined eight semistructured in-depth interviews that were conducted between June and December 2019, lasting about 1 hour (Denzin & Lincoln, 2011). The informant's selection considered at least one Portuguese social investor from each country region and tried to balance personal characteristics to limit possible bias, as shown in supplementary materials. The leading Portuguese references in social investment were contacted due to the connections already built by the Portugal Social Innovation Public Policy. The authors used snowballing sampling to complement the interviewee selection (Remenyi *et al.*, 1998) and to increase the acceptance.

The online survey was based on published scales. The questionnaire went through an extensive pretest process carried out in implicit and explicit stages with the collaboration of 56 respondents. The pretest responses were not used as a study sample (Remenyi *et al.*, 1998). The probabilistic sample was collected through an online survey of social entrepreneurs acknowledged by funding or awards from 2015 to 2020 to ensure the social innovation dimension (Lee *et al.*, 2014). The data were collected between November 2019 and February 2020. The resulting database corresponds to 40.45% of the population. The sample was

treated to ensure it was suitable, resulting in 89 valid cases (Hair, Anderson, Tatham, & Black, 2010). The sample also represents 43.63% of the response rate, which is higher than what was reported in benchmarking studies (e.g. 21% - Bacq & Eddleston, 2018).

4. Case discussion

4.1 Context overview before PIS

Although Portuguese initiatives highly depend on government grants (European Commission, 2014), 80% claim to be aligned with economic goals (SEFORIS, 2015). Most of the initiatives are aimed at regional and national impact, pursuing objectives for specific audiences, and influencing strategy, structure, and resource access. Initiatives that operate internationally are leaner and serve a larger target audience by moving fewer resources. They are also intensive in volunteer labor. On the other hand, local organizations maintain a reduced target audience due to their structure and resources (Bernardino and Santos, 2017). The initiatives take few risks, and there is low competitiveness (SEFORIS, 2015). The lack of a results-oriented culture and low productivity represent challenges that can create cash flow problems (MIES, 2015). Furthermore, the low engagement in collaborative networks increases the risks of a lack of resources and difficulty exploring opportunities (CSES - Conta Saté lite da Economia Social, 2013).

4.2 Portuguese investment in social innovation

This session presents an overview that combines official data on Portuguese social innovation, academic publications and interviewed investors' opinions to contextualize the case. The empirical-based parameters made it possible to update the context under analysis compared to the primary data (Remenyi *et al.*, 1998; Lee *et al.*, 2014). Since 2013, the Portuguese government has invested in actions to boost its social economy as the pioneering investment of €150m for the "*Portugal Inovação Social*"(PIS) (Almeida and Santos, 2017; MIES, 2015). The PIS is a public policy whose goal is to promote social innovation.

> The social innovation occurs when the process of social entrepreneurship is successful, that is, when a new social problem response is created. It must be different from conventional innovation, by promoting autonomy and positive social impact, with efficient resources use. (Interviewee 6).

PIS is an innovation, as Portugal was the only European State Member that funded the experimentation of new ideas capable of dealing with social problems.

> The PSI is a unique experience in the world because it is a public policy to support a social instrument and a social innovation. It is the only one organized in this way, with community funds. (Interviewee 1)

The public incentive sought to reinforce weaknesses identified through the analyses performed under the Portugal 2020 partnership agreement and the austerity policy imposed until 2019. The new social targets were innovation and social inclusion, mainly through qualification and the fight against unemployment (Ciccarino *et al.*, 2019). However, the Portuguese social investment strategy favors what emerges from society. There is no specific topic, guidance or constraint on innovation source or scope. "*Social innovation is by definition cross thematic. (. . .) So social innovation serves as a kind of advanced guard for experimentation with public policy. (. . .)*." (Interviewee 1).

The social investment return is a broader opportunity for government innovations by turning some social innovations into public policies. In addition, there is an indirect benefit with the reduction of social costs due to preventive actions that the government would not be able to carry out, besides the direct benefit with the increased offer of services of collective interest.

> This is a big thing because it is somehow stirring organizations in search of more efficient and effective solutions for public services. This is very challenging, being able to work with change or at least contributing to that change is very challenging. (Interviewee 2)

PIS dynamizes a network linking investors and social initiatives. It favors access to investment, supportive relationships and speech alignment. All interviewees acknowledge these benefits.

> When I started in 2016, there was still a very evident gap between the former and the more recent social initiatives in speech and structure. . . there was not still evidence of what social innovation was and what it would allow. Nowadays, they are outdated (. . .) (Investor 1).

The network favors learning and the dissemination of best practices "*which is poorly done in one, will no longer be replicated in another*. . ." (Investor 4), corroborating the innovation literature and favoring the construction of a paradigm through the popularization of the concept of innovation (Murray *et al.*, 2010). The convergence of efforts facilitated by the emerging paradigm provides post-change resilience (Bristow & Healy, 2018; Horgan & Dimitrijević, 2018). It decreases inertia to accommodate the change in a new equilibrium state (Horgan & Dimitrijević, 2018; Murray *et al.*, 2010).

> The law for the development of the social networks is from 1998 or 99. Therefore, this should already be happening. . . but this network was not mobilized to work. I think that the fact that we are in the field managed to change many mentalities, and social networks are now happening. (Investor 8).

4.3 Social initiatives funded

The survey addressed the financed innovative social initiatives. The most common profile found was that of mature initiatives with more than five years of existence, nonprofit, with regional operations, in line with previous studies (CSES - Conta Saté lite da Economia Social, 2013; SEFORIS, 2015), but the sample is proportionally distributed: 26.1% work locally, 35.2% regionally, 25% nationally and 13.6% internationally. The initiatives, on average, corroborate previous studies (CSES - Conta Saté lite da Economia Social, 2013; Bernardino & Santos, 2014, 2017).

However, there is an increase in new initiatives. Previously, only 7.4% were under three years of age (Bernardino & Santos, 2014), and the survey reports 38.7%. It represents an increase of 31.3%. Such a result can reflect entrepreneurial ecosystem development (Levie & Autio, 2008). The maturity of the initiative is not correlated with its size (Pearson's coefficient, $\alpha > 0.05$), 73% are micro-organizations with up to 10 employees, 20% are small organizations with between 10 and 50 employees and 7% are medium organizations with more than 50 and less than 250 employees. Micro organizations' predominance corroborates previous research (CSES - Conta Saté lite da Economia Social, 2013; Bernardino and Santos, 2014, 2017).

Regarding innovation, the initiatives studied promote an ecosystem with a lot of shared information (mode = 4), with frequent innovations (mode = 4) and high investment in innovation (mode = 4). These characteristics are correlated with a 5% margin of error. In this sample, risk, tolerance and competitiveness are moderate (mode = 3). It is an improved risk-taking toward innovation with an increase in collaborative network engagement that can improve productivity. These features differed from previous studies (CSES - Conta Saté lite da Economia Social, 2013; SEFORIS, 2015) and were endorsed in the interviews.

> And this is interesting: the problems solved by social innovation are not just for the disadvantaged people, they are for all of us. Either because it now makes sense to benefit from it or because the citizen is part of that community. [. . .] These projects where everyone can benefit greatly increase the quality-of-life levels. (Interviewee 4)

> We have many experimental projects, and many of them can fail. And finding truly impactful solutions at the rate which society changes, at the rate which interactions and communication flow, makes the impact issue very relevant. [. . .] So finding solutions that can bring about substantial improvements in people's quality of life quickly and effectively, is a challenge. (Interviewee 2)

All initiatives have some level of innovation, and all innovate in processes. These characteristics are like opportunity entrepreneurship, which has higher success rates and is less vulnerable to external factors (Levie & Autio, 2008). They can also justify the growth of the Portuguese social economy despite periods of crisis (CSES, 2013; MIES, 2015). There is a good amount of radical (34%) and incremental (66%) innovation (Dosi, 1988; Fagerberg, 2004). Even to a lesser extent, radical innovation is a common component presented in 76.1% of the sample's initiatives, and it usually happens in services.

Although there is no correlation, 38.6% of the sample's innovations are carried out by the youngest initiatives (that is less than three years old) and 61.4% by the more mature ones. Initiatives with up to 10 employees are more likely to innovate (72.7%). These numbers can signal the importance of innovation in the Portuguese context and point out some risks. In the long term, the same ecosystem that hinders the survival of new initiatives protects survivors by creating barriers for new entrants. Initiatives that mature show higher growth and less risk of discontinuity. The lack of information about the failure rate and competitive relationships prevents further development of this perspective (Audretsch, 1995).

5. Discussion of Portuguese case

This study's main contribution to theory is the structuring of related concepts among sustainability, resilience and innovation (Fougère & Meriläinen, 2021; Horgan & Dimitrijević, 2018). It is supported by empirical evidence highlighting innovation's role as the process that links such concepts. This goes beyond the regular analysis of innovation as a factor for territorial development (Moulaert *et al.*, 2017). The delimitation of the country organized the theoretical contributions by providing limits and comparison parameters (Koehne *et al.*, 2022; Shaw & de Bruin, 2013).

The results reinforced the social stream, underdeveloped in the triple bottom line (Tate & Bals, 2018), and endorses the correlation between innovation and resilience (Bristow & Healy, 2018). Sustainability and resilience are desired evolutionary features; hence, they are constrained by past choices and current resources (Horgan & Dimitrijević, 2018; Linnenluecke, 2017; Seelos & Mair, 2005a). Outcome analyses rely on past evidence, but the past offers no future guarantees or present choices (Winter, 2014). To keep the focus on the present, the characteristics of the process, such as innovation, must be considered (Bristow & Healy, 2018; Clark & Brennan, 2012).

Thus, the context of the case under analysis is updated, presenting previous reports and studies on Portugal in the face of the case that privileges innovation to the detriment of a broad description of the economic sector. Furthermore, it helped address the need for information beyond the organizational context by providing a country-based analysis (Shaw & de Bruin, 2013). This research adopted a particular way of looking at the population when identifying initiatives acknowledged with social investment or awards from 2015 to 2020 (Lee *et al.*, 2014). Thus, it responds to the need for more structured data by providing a database representing 43.63% of Portuguese innovative social initiatives. This methodological decision made it possible to highlight advances in overcoming challenges such as low productivity and innovation (SEFORIS, 2015; MIES, 2015). The results suggest the dynamics of the entrepreneurial ecosystem with the emergence of new initiatives (Levie & Autio, 2008) representing an increase of 31.3% compared to a previous survey (Bernardino & Santos, 2014).

The study also argues that the paradigm concept can help the understanding of innovation, filling a theoretical gap that prevents better knowledge about sustainable opportunities and challenges (Mackenzie & House, 1978; Dosi, 1988). It also diverts attention from the real dilemmas, weakening the innovation outlook for an effective shift toward a sustainable paradigm (Moulaert *et al.*, 2017; Murray *et al.*, 2010; Mulgan, 2006). The case helps to illustrate the discussion.

PIS and its synergy that pervades investors and social initiatives can be seen as a resilience (Bristow & Healy, 2018; Linnenluecke, 2017) due to the social innovation concept (Moulaert *et al.*, 2017). Social innovation was used to unify the strengths of the Portuguese social economy, which stood out during crisis period, also helping to overcome challenges in funding and productivity. Therefore, the case exemplifies a popular theoretical and rhetorical benefit of resilience that lacks empirical evidence (Bristow & Healy, 2018). The case also enhances the analysis perspective by considering the opinion of investors (interviews), social initiatives (survey) and government (secondary data) to deepen the context in an unusual way (Linnenluecke, 2017). As resilience can be achieved through innovation and convergence, it is unclear if formal structures can properly boost resilience through innovation (Fougère & Meriläinen, 2021). However, the Portuguese Case offers a positive example that it is possible. PIS used the social innovation narrative to unify speeches boosting collaboration and investment.

6. Limitations and directions for future research

Because this study is descriptive, it explores theoretical concepts aiming at inspiring further studies that explore the complexities of the relationship between innovation and resilience, and sustainability considering paradigms to explain it. Studies that look at the different types of relationships between social initiatives, their survival and innovation in other ecosystems would also be interesting. The same elements that influenced Portugal favored idiosyncrasies such as the concentration of micro and small initiatives. Furthermore, the selection criteria considered only initiatives that received support, probably leaving the youngest initiatives out of the sample. Replication of the study with other boundaries can expand the analyses initiated here.

References

Almeida, F., & Santos, F. (2017). Portugal Inovação social: Na encruzilhada dos tempos. *CES – Cooperativismo e Economia Social*, *39*, 443–462.

Audretsch, D. B. (1995). Innovation, growth and survival. *International Journal of Industrial Organization Organization*, *13*, 441–457.

Bacq, S., & Eddleston, K. A. (2018). A resource-based view of social entrepreneurship: how stewardship culture benefits scale of social impact. *Journal of Business Ethics*, *152*, 589–611.

Bernardino, S., & Santos, J. de F. (2014). *Empreendedorismo social e desenvolvimento regional*. Évora: 20th APDR Congress.

Bernardino, S., & Santos, J. de F. (2017). Contributos para a definição de um perfil das organizações Sociais em Portugal. *Research Notes on Impact Economy*.

Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: State of the art and steps towards a research agenda. *Journal of Cleaner Production*, *45*, 9–19.

Bristow, G., & Healy, A. (2018). Innovation and regional economic resilience: an exploratory analysis. *The Annals of Regional Science*, *60*(2), 265–284.

CASES - Cooperativa António Sérgio para a Economia Social (2019). Social economy satellite account 2016 and survey on volunteer work 2018.

Christensen, C. M. (1997). *The innovator's dilemma: When new technologies cause great firms to fail*. Boston, MA: Harvard Business School Press.

Churchill, G. A., Jr. (1979). "A paradigm for developing better measures of marketing constructs", Measure and Construct Validity Studies. *Journal of Markenting Research*, *XVI*, 64–73.

Ciccarino, I. D. M. (2021). PIM model for social business investment evaluation. *European Academy of Management - EURAM*, 1-40. ISSN: 2466-7498.

Ciccarino, I. D. M., Rodrigues, S. C. S. F., Almeida, F., & da Silva, J. F. (2019). Post crisis outcomes: How social entrepreneurship and social innovation is thriving in Portugal. *RENT - Research in Entrepreneurship and Small Business*, 1-31. 2219-5572.

Clark, C., & Brennan, L. (2012). Entrepreneurship with social value: a conceptual model for performance measurement. *Academy of Entrepreneurship Journal*, *18*(2).

CSES - Conta Satélite da Economia Social (2013). Available from: https://www.cases.pt/contasatelitedaes/ (accessed 24 February 2019).

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research*. Thousand Oaks, CA: Sage.

Dosi, G. (1988). Sources, procedures, and microeconomic effects of innovation. *Journal of Economic Literature*, *26*(3), 1120–1171.

Dupain, W., Pilia, O., Wunsch, M., Hoffmann, P., Scharpe, K., Mair, J., . . . Bosma, N. (2021). *The state of social enterprise in Europe – European social enterprise monitor 2020-2021*. Euclid Network, Brussels.

European Commission (2014): A map of social enterprises and their eco-systems in defpe country report. Portugal.

Fagerberg, J. (2004). *Innovation: A guide to the literature*. Georgia Institute of Technology. Available from: http://hdl.handle.net/1853/43180

Folke, C., Polasky, S., Rockström, J., Galaz, V., Westley, F., Lamont, M., . . . Walker, B. H. (2021). Our future in the Anthropocene biosphere. *Ambio*, *50*, 834–869.

Fougère, M., & Meriläinen, E. (2021). Exposing three dark sides of social innovation through critical perspectives on resilience. *Industry and Innovation*, *28*(1), 1–18. doi: 10.1080/13662716.2019.1709420.

Hair, J. F. Jr, Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate data analysis* (7th Ed.). New Jersey: Prentice Hall. Available from: www.mvstats.com

Horgan, D., & Dimitrijević, B. (2018). Social innovation systems for building resilient communities. *Urban Science*, *2*(1). doi: 10.3390/urbansci2010013.

Hossain, S., Saleh, M. A., & Drennan, J. (2017). A critical appraisal of the social entrepreneurship paradigm in an international setting. *International Entrepreneurship and Management Journal*, *13*(2), 347–368.

Kickul, J., Griffiths, M., Bacq, S., & Garud, N. (2018). Catalyzing social innovation: Is entrepreneurial bricolage always good? *Entrepreneurship and Regional Development*, *30*(3-4), 407–420.

Koehne, F., Woodward, R., & Honig, B. (2022). The potentials and perils of prosocial power: Transnational social entrepreneurship dynamics in vulnerable places. *Journal of Business Venturing*, *37*(4). doi: 10.1016/j.jbusvent.2022.106206.

Lee, M., Battilana, J., & Wang, T. (2014). Building an infrastructure for empirical research on social enterprise. *Social Entrepreneurship and Research Methods: 9 Research Methodology in Strategy and Management*, *9*, 241–264.

Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, *13*, 111–125, Special Issue: Strategy Process: Managing Corporate Self-Renewal.

Lepak, D. P., Smith, K. G., & Taylor, M. S. (2007). Value creation and value capture: A multilevel perspective. *Academy of Management Review*, *32*, 180–194.

Levie, J., & Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics*, *31*(3), 235–263.

Linnenluecke, M. K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, *19*(1), 4–30.

Lopes, D. P. T., Vieira, N. S., Barbosa, A. C. Q., & Parente, C. (2017). Management innovation and social innovation: Convergences and divergences. *Academia Revista Latinoamericana de Administración*, *30*(4), 474–489.

Mackenzie, K. D., & House, R. (1978). Paradigm development in the social sciences: A proposed research strategy. *Academy of Management Rewew*, *3*(1), 7–23.

MIES – Mapa de Inovação e Empreendedorismo Social (2015). Relatório do Grupo de Trabalho Português para o Investimento Social.

Miller, E. S. (1991). Of economic paradigms, puzzles, problems, and policies; or, is the economy too important to be entrusted to the economists? *Journal of Economic Issues*, *25*(4), 1051–1065.

Moulaert, F., Mehmood, A., MacCallum, D., & Leubolt, B. (2017). *Social innovation as a trigger for transformations: The role of research*. European Commission - Directorate-General for Research and Innovation, Brussels.

Mulgan, G. (2006). *The process of social innovation*. Cambridge, MA: MIT Press – Innovations.

Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. London: Social Innovator Series: Ways to Design, Develop and Grow Social Innovation.

Pozzebon, M., Tello-Rozas, S., & Heck, I. (2021). Nourishing the social innovation debate with the 'social technology' South American research tradition. *International Journal of Voluntary and Nonprofit Organizations*, *32*(3), 663–677.

Raworth, K. (2012). A safe and just space for humanity: Can we live within the doughnut? Oxfam Discussion Papers.

Remenyi, D., Williams, B., Money, A., & Swartz, E. (1998). *Doing research in business and management: An introduction to process and method*. SAGE Publications.

Schumpeter, J. A. (1934). *The theory of economic development an inquiry into profits, capital, credit, interest and the business cycle*. Cambridge, MA: Harvard University Press.

Seelos, C., & Mair, J. (2005a). Social entrepreneurship: Creating new business models to serve the poor. *Business Horizons*, *48*, 241–246.

Seelos, C., & Mair, J. (2005b). Sustainable development: How social entrepreneurs make it happen. Working Paper. IESE Business School – University of Navarra.

SEFORIS (2015). Relatório do país – Portugal. Setembro de 2016.

Shaw, E., & de Bruin, A. (2013). Reconsidering capitalism: The promise of social innovation and social entrepreneurship? *International Small Business Journal*, *31*(7), 737–746.

Tate, W. L., & Bals, L. (2018). Achieving shared triple bottom line (TBL) value creation: Toward a social resource-based view (SRBV) of the firm. *Journal of Business Ethics*, *152*, 803–826.

Verschuren, P. J. M. (2003). Case study as a research strategy: Some ambiguities and opportunities. *International Journal of Social Research Methodology*, *6*(2), 121–139.

Winter, S. G. (2014). The future of evolutionary economics: Can we break out of the beachhead? *Journal of Institutional Economics*, *10*(4), 613–644.

Zahra, S. A., Gedajlovic, E., Neubaum, D. O., & Shulman, J. M. (2009). A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of Business Venturing*, *24*(5), 519–532.

Supplementary material

The supplementary material for this article can be found online.

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