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Innovation in the "forgotten businesses"

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Abstract

Purpose – The objective of this article is to discuss how the research on innovation in the small businesses may be operationalized. This paper discusses the field's concepts, typologies, units of analysis and the general basic assumptions pertaining to the operationalization of innovation research in small businesses.

Design/methodology/approach – The article is an essay, whose format aims to provide the reader with reflections and multiple questions, by instigating the free thinking, the research as well as the construction of different ideas and/or perceptions in a logical and scientific way (Meneghetti, 2011). Thus, a conceptual approach for the operationalization of the innovation research in small businesses is proposed and discussed.

Findings – Most of the innovation literature has ignored the small businesses, so that its core concepts and basic assumptions should be reviewed in an inclusive approach. The authors developed an analytical proposal that consists of a four-step logical approach to researching innovation in small businesses, starting from the innovation's concept as something important and then evolving to discussing how one has to try and see the small business as an object of study.

Originality/value – The value of this paper lies with the attempt to critically bring the small businesses into the spotlight, as study them has practical and theoretical implications that go beyond the field of innovation itself.

Keywords Innovation, Small business, Research, Operationalization, Field

Paper type Research paper

Introduction

The field of innovation has developed strongly in recent decades, guided by the initial precepts of Schumpeter (1939) and disseminated by authors who were interested in outlining those innovation criteria that are suitable for the reality of organizations (Berends, Jelinek, Reymen & Stultiëns, 2014). Many of these criteria, however, were formulated within the context of large and high-technology-based enterprises – as with most startups – and assign a dominant role to such organizations (De Jong & Marsili, 2006; Daneji, Shavarebi & Yap, 2019; Forsman, 2011; Glover, Champion, Daniels & Boocock, 2016).

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The field's and researchers' predilection for big businesses and technological contexts seems to "challenge conventional wisdom", given that the small businesses are responsible for most of the jobs and for economic development worldwide. They also represent 99% of all existing enterprises and are ultimately responsible for the well-being of human societies (Landström Harirchi & Åström, 2012; Öner & Kunday, 2016).

Not surprisingly, the field's preference for big business has meant that any innovation theory that looks at small businesses does so from an R&D viewpoint (De Jong & Marsili, 2006). There is, therefore, an excessive focus on high-technology in studies into small businesses, which are, as we argue, akin to bigger organizations even if they are small (Plotnikova, Romero & Martínez-Román, 2016; Romero & Martínez-Román, 2012; Zaridis & Mousiolis, 2014). Most of the small businesses, which are traditional, "low-tech" enterprises that do not rely on P&D in their efforts to innovate (Plotnikova *et al.*, 2016; Romero & Martínez-Román, 2012; Zaridis & Mousiolis, 2014), end up being ignored in a way that makes the results of their innovation largely unknown (Forsman, 2011; Parida, Oghazi & Cedergren, 2016).

As a result, the literature on innovation has its weaknesses and contains ambiguities that hamper the understanding of the "whats" and "hows" of innovation in practice, especially in the context of small businesses and as to what the operationalization of innovation research pertains (Berends *et al.*, 2014; Birkinshaw, Hamel & Mol, 2008; Fagerberg, Fosaas & Sapprasert, 2012; Ferreira, Fernandes, Alves & Raposo, 2015; Freel, 2005; Garcia & Calantone, 2002; Santamaría, Nieto & Barge-Gil, 2009).

In an attempt to contribute to the development of the innovation field when it comes to small businesses, this paper discusses how innovation research in small businesses can be operationalized. The focus of the discussion lies on small businesses from traditional, less technology-intensive sectors, which do not rely on R&D as the driver of their innovative process. The term "forgotten businesses" refers to such enterprises because innovation literature has largely forgotten this kind of organization, despite the importance of the innovations they have developed, like culinary products made from palm oil, which has created a new market niche involving both producers and chefs of haute cuisine (EcoNordeste, 2019).

Adopting a critical-reflexive approach, we developed a theoretical essay that discusses the aforementioned issues that we found in the innovation field and in small businesses. That being said, our essay aims to provide the reader with meaningful reflections and questions, which can shed new light on the object of study in a logical and scientific way (Meneghetti, 2011). We accordingly propose and discuss a conceptual approach to operationalizing innovation research in small businesses. The article is organized as follows: (1) first, some of the underlying assumptions found in the field of innovation research are revisited; (2) we then look at small "forgotten" businesses in innovation literature, which is dominated by assumptions that are "borrowed" from the context of big, technology-based enterprises; and finally (3) we discuss what future research into innovation and small businesses should look to in order to have a more inclusive approach to small and "forgotten" businesses.

Revisiting the basic assumptions of the innovation field

Table 1 shows the assumptions discussed in this section.

A great ambiguity in defining innovation: is innovation technological?

A lack of consensus and great ambiguity in defining innovation has led to a diversified innovation field (Crossan & Apaydin, 2010; Damanpour, 2014; Ferreira *et al.*, 2015; Garcia & Calantone, 2002).

Assumption 1	*A great ambiguity on defining innovation: Is innovation technological?*
Weaknesses	(1) Lack of consensus and high ambiguity in the definition of innovation (2) Confusion between the concept and the typology (3) Confusion between the concept and what makes up the innovation process (4) Confusion between the theory and the object of analysis
Assumption 2	*The confusion between innovation and innovativeness: Are they synonymous?*
Weaknesses	(1) Confusion between innovation and innovativeness (2) Lack of clarity as to the unit of analysis used (3) Without the unit of analys we cannot define what innovation is and what is not (4) Confusion between product innovativeness and company innovativeness
Assumption 3	*Multiplicity of typologies: Are some innovations more important than others?*
Weaknesses	(1) Multiplicity of typologies (2) Different types for the same innovation (3) Most common types of innovation are neglected
Assumption 4	*What constitutes the innovation process? Is it R&D?*
Weaknesses	(1) The definition of innovation does not differentiate the generation and adoption of innovation (2) Lack of consensus on the elements that make up the innovation process (3) Focus on the management of technological innovation (4) Companies that do not use R&D are under-researched by the innovation literature

Table 1.
Revisiting the basic assumptions of the innovation field

As a consequence, innovation is defined in different ways depending on the approach that is adopted, with most studies associating it with high-technology and R&D, even if many of the activities that lead to innovation do not depend on either (Hervas-Oliver, Garrigos & Gil-Pechuan, 2011; Keupp, Palmié & Gassmann, 2012).

There seems to be some confusion in the innovation literature between concept and typology and between the concept and what constitutes the innovation process. Technological innovation is a type of innovation and R&D is just one of the many activities that lead to innovation (Damanpour, 2014). Even so, innovation is strongly conceptualized in the literature as being purely technological (Damanpour, 2014). For example, based on a sample of 524 articles published in 10 of the leading journals on business and economics between 1981 and 2008, Crossan & Apaydin (2010) reported that more than half of the articles did not provide clear information about the concept of innovation and were technology-biased. Additionally, in their systematic review of innovation, Keupp *et al.* (2012) reported that out of a sample of 342 articles, 246 also adopted a technological bias.

There also seems to be some confusion between the theory and the object of analysis. Innovation studies were traditionally developed considering large industrial organizations (Damanpour, 2014), and they focused on the technological trajectory of these enterprises. Studies in this context include those by: Dosi (1982), Freeman (1979), Nelson & Winter (1982), Pavitt (1984), Rosenberg (1982) and Utterback & Abernathy (1975). These studies made important contributions to the literature on innovation and were undertaken at a time when the introduction of new technologies in large organizations was a determining factor for economic growth. Such a development trajectory meant that new researchers indiscriminately used attributes of the object of analysis in the theory, which in turn led to innovation assumptions that were excluding in other, different contexts (Freel, 2005).

Given this ambiguity, therefore, what is the concept of innovation? Only in the last two decades has the emphasis on technology been placed in check and have researchers been discussing the real meaning of innovation (Birkinshaw *et al.*, 2008; Ferreira *et al.*, 2015;

Garcia & Calantone, 2002). The answer to this question seems to lie with Schumpeter (1939), who was considered responsible for disseminating innovation as a field of study and defined it as "the introduction of something new or improved, by way of a process of creative destruction, and with an economic result". An innovation, therefore, must necessarily bring something new or better to the company, market, industry or the world and must add value. Further details on what may or may not be considered innovation can be found in the 4th edition of the Oslo Manual (OECD/Eurostat, 2018).

This is the definition we chose to use throughout our discussion, mainly because the specificities of what generates innovation and which were discussed in Schumpeter's works contain technological attributes that come from the context of the time. His discussions, however, always emphasized the essence of the concept of innovation, the role of innovation in economic development and for organizations and its strong connection with the entrepreneur as a destructive and creative agent.

The confusion between innovation and innovativeness: are they synonymous?

The innovation literature has used the terms "innovation" and "innovativeness" as synonyms (Garcia & Calantone, 2002). On this matter, Garcia & Calantone's (2002) study provides a detailed review of the way "innovation" and "innovativeness" overlap.

Innovativeness is the degree to which an innovation is "novel" (Dulger, Alpay, Bodur & Yilmaz, 2016). Therefore, it represents a continuum of innovation and not innovation itself. The lack of distinction between the terms jeopardizes the operationalization of innovation research, because in order to define the degree of "newness" the unit of analysis adopted in the study has to be defined (Ferreira *et al.*, 2015). The unit of analysis has to do with "new to whom?". Is it new to the customer, the company, the industry or to the world? (Damanpour, 2014).

The studies approach innovation using different units of analysis, and this makes it difficult to compare and classify just how new, or not, an innovation is considered to be, or how innovative a company is considered to be, or not (Berends *et al.*, 2014). In reviews of the innovation field, Crossan & Apaydin (2010) and Damanpour (2014) found not only different units of analysis, but also identified that studies rarely mention the unit of analysis adopted. This has serious implications for innovation research.

First of all, different studies make comparisons between different "things". For example, something that is an innovation for the world or for industry is usually introduced by big businesses or high-technology enterprises, while companies from traditional industries and small businesses are more successful with innovation for the company itself, or for a customer (Boso *et al.*, 2016). In both cases innovativeness must be determined for each unit of analysis and not between units of analysis. Many studies, however, do not make this distinction (Crossan & Apaydin, 2010; Damanpour, 2014) and conclude that big businesses and high-technology enterprises are more innovative than companies from traditional sectors and small businesses, or that the latter do not innovate at all.

This is particularly troublesome for the development of the innovation field related to the study of small businesses and leads to a second implication: if it is not possible to establish a unit of analysis that conceptualizes what innovativeness is, how can one define what innovation is, and what it is not? The confusion between innovation and innovativeness means that researchers look to innovations that are easier to measure, such as technological innovations, which are commonly measured by number of patents and ignore other types of innovation (Boso *et al.*, 2016; Garcia & Calantone, 2002). This reinforces the technological bias of the concept of innovation and leads researchers to deal with innovation in ways that depend on the scientific community they wish "to serve" (Damanpour, 2014).

Another implication lies in the definition of an innovative organization. Researchers have confused product innovation with a company's innovativeness (Garcia & Calantone, 2002). The innovativeness of the company can be conceptualized as the company's propensity: (1) to innovate; (2) to develop new products/services/processes; or (3) to adopt innovations that contribute to the latter. The innovativeness of the product, on the other hand, might be: (1) placing a product in the market; or (2) its adoption (Dulger *et al.*, 2016). In other words, a highly innovative product does not make a company highly innovative, since some companies may become specialists in improving existing products but come up with no other innovations (Hansen, Rasmussen & Nybakk, 2017).

There is also the need to observe the unit of analysis used. From a macro-viewpoint, which focuses on the world or an industry, product innovativeness is to what extent the innovation can generate a paradigm shift in the science, technology, or market structure (Hansen *et al.*, 2017). From a micro-viewpoint, which focuses on the company or customer, it is to what extent innovation can influence the company's marketing and technological resources and its skills, knowledge, capabilities and strategy (Garcia & Calantone, 2002). Defining the unit of analysis used is important for defining for whom the innovation is new and from what perspective it is new and what its typology is. Studies must, therefore, be clear as to the unit of analysis being used and the distinction between innovation and innovativeness.

Multiplicity of typologies: are some innovations more important than others?

The ambiguity with regard to how the terms "innovation" and "innovativeness" are applied also affects the typology of innovation (Garcia & Calantone, 2002). Many of such typologies give different names to the same innovation, or disregard some innovations because of the technological bias or unit of analysis used in the study (Birkinshaw *et al.*, 2008; Damanpour, 2014). As a consequence, innovation studies are conceptually and methodologically highly ambiguous (Damanpour, 2014). What is the real difference between radical, really new, incremental, discontinuous and imitative innovation and between a high, medium and low degree of innovation, if researchers attribute different names to similar types of innovation? This diversity of the degrees of innovativeness has been confused with innovation typologies.

Innovation typologies have different perspectives (see Table 2). For example, the classification of radical or incremental innovation, as given by Rosenberg (1982), relates to the impact of innovations. Radical or discontinuous innovations are responsible for intense breakdowns or ruptures, while incremental or continuous innovations continue the change process (Rosenberg, 1982). However, an innovation may be radical for the industry, but not for the world, just as it may be incremental for the company and not be considered an innovation for the industry (Damanpour, 2014). Therefore, the framing of an innovation within a given typology and the definition of what this specific type of innovation is are directly related to the unit of analysis.

Garcia & Calantone (2002) use the evolution of the market for typewriters – from manual to electrical – to exemplify how the same product may be classified under different typologies depending on the author consulted. They can be classified as: (1) radical, because it involves industrial discontinuity and new competitors (Utterback & Abernathy, 1975); or (2) incremental, because it adds new radical resources to an already existing innovation (Rothwell & Gardiner, 1985)

In addition to the diversity of typologies, there is a predilection for technological innovations in the innovation literature (Damanpour, 2014; Volberda, Van Den Bosch & Heij, 2013), as previously discussed. While technology may be understood as body of

Authors	Typology	Perspective
Schumpeter (1939)	(1) Introduction of a new good (2) Introduction of a few production method (3) Opening to new markets (4) Conquering a new source of raw materials (5) Establishing a new organization	New combinations
Rosenberg (1982)	(1) Radical (2) Incremental	Impact
Pavitt (1984)	(1) Innovation of product (2) Innovation of process (3) Innovation of position (4) Innovation of paradigm	Strategy
O'Reilly and Tushman (1997)	(1) Incremental (2) Architectural (3) Discontinuous	Organizational Architecture
Chesbrough (2003)	(1) Closed innovation (2) Open innovation	Use of Knowledge Sources
Christensen (2003)	(1) Sustaining innovation (2) Disruptive innovation	Market transformation
Tether (2003)	(1) As an accomplishment or achievement (2) According to consequences or impacts arising from its realization (3) Arising from the ability to innovate	Level of Innovation
Clausen *et al.* (2011)	(1) *Ad hoc* innovation (2) Based on the supplier (3) Driven by the market (4) Strong internal R&D (5) Innovative science	Firms' pursuing Strategies

Table 2.
Typologies of innovation

knowledge aimed at solving problems (Dosi, 1982), it is commonly associated with technical sophistication (Damanpour, 2014). Such a bias makes it seem as if the majority of businesses generate technological innovation, or that this type of innovation is more important than others (Santamaría *et al.*, 2009; Volberda, *et al.*, 2013), when most innovations are not, in fact, technological (Garcia & Calantone, 2002; Santamaría *et al.*, 2009). As a consequence, more common types of innovation are neglected by the literature, even though they are responsible for a large part of the competitiveness of organizations (Crossan & Apaydin, 2010; Damanpour, 2014).

What constitutes the innovation process? Is it R&D?

There is no consensus in the literature as to what constitutes the innovation process (Berends *et al.*, 2014; Ferreira *et al.*, 2015; Freel, 2005; Garcia & Calantone, 2002). This lack of agreement is a reflection of the obscurity of the concepts, typologies and units of analysis found in the studies. Without a clear constitutive definition, the elements that comprise the innovation process become specific to each organization, so that generalizing them to include other contexts is wrong (Ferreira *et al.*, 2015). As a consequence, there are two implications: (1) the definition of the innovation process does not consider the difference between generating and adopting an innovation; and (2) it mainly focuses on the management of technological innovation (Damanpour, 2014).

The generation and adoption of innovation involve different actions and, therefore, cannot be treated in the innovation literature as having the same meaning

(Damanpour, 2014). On the one hand, the generation of innovation has to do with the creation of innovations (Christensen, 2003; Tidd, Bessant & Pavitt, 2008), while on the other, the adoption of innovation has to do with the incorporation of innovations (Rogers, 2010). Creating and incorporating require different innovation efforts. An organization may become expert at incorporating innovations, but may be unable to create them. It may also develop internal and/or external competences that enable it to create an innovation, but that may not allow it to incorporate it properly. The disassociation between these elements is important when it comes to guiding the innovation process that is appropriate to each situation (Damanpour, 2014).

Another issue is that the excessive focus on technological innovation has made the R&D activity akin to the innovation process in literature (Damanpour, 2014; Kirner, Kinkel & Jaeger, 2009). The innovation process is not R&D and few businesses use this activity (Ferreira *et al.*, 2015; Garcia & Calantone, 2002; Santamaría *et al.*, 2009). Mapping out the innovation process based on R&D means including companies that tried to innovate and failed and companies that did not try to innovate in the same group (Freel, 2005). This is problematic when it comes to understanding the elements that actually constitute the innovation process. Moreover, companies that do not use R&D in the innovation process end up being under-researched in the innovation literature (Ferreira *et al.*, 2015; Hervas-Oliver *et al.*, 2011; Kirner *et al.*, 2009). This scenario requires a common conceptualization of the innovation process (Ferreira *et al.*, 2015).

A look at small business innovation

Why do small businesses remain on the margins of the innovation field?

"Small firms are regarded as the backbone of the [. . .] economy" (Parida *et al.*, 2016, p. 179). They promote business ideas, social and regional stability, economic variety and competition, and they operate in market niches and are flexible and oriented toward problem-solving (Audrich & Link, 2012; Carland, Hoy, Boulton & Carland, 1984). Despite this, they are considered to be less innovative by innovation literature (De Jong & Marsili, 2006; Santamaría *et al.*, 2009).

This discrepancy has led researchers to question the extent to which the assumptions underlying innovation literature are appropriate to this type of organization (Berend *et al.*, 2014; De Jong & Marsili, 2006). This is because the points of focus of the research into innovation are big businesses and high-technology-based businesses (Forsman, 2011; Glover *et al.*, 2016). Since the innovative activity of small and big companies is related to very different technological and economic environments, it cannot be assessed or measured in the same way (Forsman, 2011; Kirner *et al.*, 2009).

Obviously, this situation is controversial. For example, most of the opportunities in the United States were created by small businesses, not by big ones (Birch, 2000), and by the 1950s the United States and Europe were already beginning to investigate the problems faced by small businesses and their effects on the economy (Carlsson *et al.*, 2013). From a historical and theoretical perspective, the innovation theory originally presented by Schumpeter (1939) placed small businesses at the center of innovation. So, what happened?

In 1911, in his work entitled "The Theory of Economic Development", Schumpeter argued that innovators were people who left the circular flow of existing production to open their own businesses, and that these were small businesses (Audretsch & Link, 2012). He saw small businesses as more conducive to the entrepreneurial spirit. Much criticized and pressured by economists, his position on the innovative advantage of small business began to change in 1939 with his book "Business Cycles", in which he stated that the recursive organizational structure of bigger organizations made it possible to exploit their

entrepreneurial strengths better (Audretsch & Link, 2012). The economic development since then, however, has shown that Schumpeter was right, because small businesses have become more and more responsible for innovations in the market (Audretsch & Link, 2012; Carland *et al.*, 1984; Carlsson *et al.*, 2013, Forsman, 2011).

What are small businesses?

Small businesses are treated as a sector, not because they are cohesive and homogeneous, but because they have managerial similarities and resource limitations that separate them from big businesses (Carland *et al.*, 1984). The multiple definitions, specificities and internal differences that cause heterogeneity among small businesses are commonly ignored by researchers (Zaridis & Mousiolis, 2014). As a result, most of the research is undertaken in small businesses, in which the context does not reflect the true daily lives of such organizations (Carland *et al.*, 1984; Zaridis & Mousiolis, 2014).

The difficulty begins with the concept of the small business. Studies use different definitions and criteria for what a small business is, and these differences make it difficult to operationalize research, because they generate results that are difficult to compare (Zaridis & Mousiolis, 2014). Most studies comparing small businesses from a country perspective do not consider the number of employees, but the economics of the business and its sector, and neither do they specify the small business criterion that is used (Zaridis & Mousiolis, 2014). For example, there are considerable differences in the classifications of what a small business is in the United States, European countries and Brazil.

Another issue is that studies consider small and medium-sized businesses as equals. The structure is one of the aspects that make small businesses a peculiar type of organization (Carland *et al.*, 1984, 2015). Putting small and medium-sized enterprises into the same group means placing companies that are less well-structured and those that are better structured on an equal footing. As a result, researchers tend to use small businesses with organizational characteristics that differ from those of an ordinary small business.

There is also an excessive focus on small, high-technology businesses and on successful cases as sources of data (Plotnikova *et al.*, 2016; Romero & Martínez-Román, 2012; Zaridis & Mousiolis, 2014). These businesses have characteristics that resemble those of bigger organizations. The bias in this type of context creates generalizations that are difficult to apply in most small businesses and marginalizes the small, ordinary businesses that are found in the most diverse fields of knowledge.

The majority of small businesses found in traditional sectors are "low-tech" and do not use R&D in their innovation process (Plotnikova *et al.*, 2016; Romero & Martínez-Román, 2012; Zaridis & Mousiolis, 2014). Such characteristics, however, are commonly ignored and few discuss the need to look at these organizations. These are the "forgotten businesses" mentioned at the beginning of this paper.

The large number of "forgotten businesses" versus the predilection of the innovation literature suggests that these organizations are not appropriately known or properly studied. A small business is not a miniature big business. Studying these businesses is important for generating appropriate concepts. Once again, it is not a question of certain contexts not being important or relevant. The problem is when these contexts become so dominant that it appears they are the rule when, in fact, they are the exception.

How do small businesses innovate?

As the innovation field is geared toward big businesses and has a strong R&D bias, innovation patterns as currently conceptualized do not apply to most small businesses (Berends *et al.*, 2014; De Jong & Marsili, 2006). Innovation in small business is

fundamentally different from innovation in big business (Forsman, 2011; Kirner *et al.*, 2009). The advantages of big businesses are material, while in small businesses they are behavioral (Rothwell, 1989). This has implications for how these companies innovate.

First, most of the innovation models are based on recursive theories (for example: Salancik & Pfeffer (1978)' resource dependence theory; Porter's (1990) theory of competitive advantage; Barney's (1991) and Grant's (1991) resource-vased view; or Dyer & Singh (1998)'s Relational View of Strategy) and place more emphasis on technological and financial aspects and the use of specific resources in the innovation process (Glover *et al.*, 2016). If the advantages of small businesses are behavioral, then models generated from a material perspective are insufficient for explaining their innovative activity.

Second, in most small businesses the owner is the decision-maker and his/her goals and motivation are interconnected with those of the business (De Jong & Marsili, 2006; Silva *et al.*, 2016; Verhees & Meulenberg, 2004). Innovation actions depend mainly on their will to innovate (Carland *et al.*, 2015). As a result, innovation management in the small business context is more tacit than innovation management in big business (Freel, 2005), and it is not possible to discuss innovation without focusing on the owner because of their unique relationship with the firm (Moraes *et al.*, 2014).

Third, most studies make R&D activity the main determinant of innovation, although small business uses other formats for innovating (Cooper, Peake & Watson, 2016; De Jong & Marsili, 2006; Forsman, 2011; Santamaría *et al.*, 2009). These companies use informal innovation activities that become intermingled with the company's daily activities (Forsman, 2011). This means that the distinction between "conventional" activities and innovation activities is not clear (Forsman, 2011), leading to two final implications: innovation measures and policies.

Innovation in small businesses: discussion and suggestions for future research

Operationalizing research into innovation and into innovation in small business

Misunderstandings in the field of innovation arise from a lack of clarity about the concepts, typologies, units of analysis and what generates innovation. But the main framework discussed in this article is that there is a logical order in which to carry out innovation research (Figure 1). This is because any one innovation assumption has practical and theoretical implications for others.

First, when it comes to defining the concept of innovation, Schumpeter's theory is the least ambiguous in terms of research operationalization. Other concepts, however, may be used provided care is taken. Recommendations might include: (1) explaining the definition of innovation used in the study; (2) using a concept of innovation that is not confused with the typology of innovation, as happens with technological innovation; and (3) looking for a definition that cannot be confused with innovativeness.

Looking for a concept of innovation that considers these criteria is important because it is the concept that determines what will, or will not be considered innovation during the operationalization of the research (Crossan & Apaydin, 2010). As discussed earlier, most studies disregard these criteria. Considering them allows for the consolidation of a

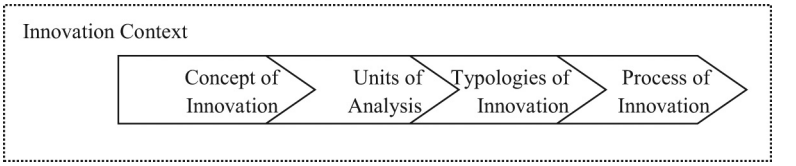

Figure 1.
Operationalization of the innovation research in small businesses

stronger and more cohesive innovation field, as well as the inclusion of contexts that are historically placed at the margins of the innovation field, as is the case with small businesses.

The second step is the unit of analysis. Researchers must explain the unit of analysis they adopted in their study. This stage is important because the lack of clarity regarding the unit of analysis adopted is responsible for much of the ambiguity found in the innovation field (Garcia & Calantone, 2002). It is not possible to carry out research without informing the unit of analysis. Presenting the unit of analysis in innovation studies will enable researchers to: (1) make equal comparisons, thus progressing in their studies of innovativeness and the innovative organization; and (2) use innovation typologies that are appropriate to the innovation context they intend to investigate.

In operationalizing innovation research in small businesses, clearly explaining the unit of analysis enables researchers to consider the fact that such enterprises are found in an innovation environment that is fundamentally different from that of larger, high-technology organizations. Researchers will be able to assess to whom the innovations that are detailed in the different studies are considered new and to what extent they correspond to the innovation context of small businesses.

The third step is the innovation typology. Each typology presents a different perspective because of the concept of innovation and the unit of analysis used (Birkinshaw *et al.*, 2008). Researchers would be successful if they were to look for typologies that comply with the concept of innovation and the unit of analysis used in their study. This allows other researchers to understand the types of innovation found in the study, thus reducing the perception that innovation is only technological and facilitating the comparison between studies, by allowing categorization of the most common typologies. When carrying out innovation research in small businesses, therefore, researchers should consider the most common types and typologies of innovation with a lower technological threshold.

The fourth and last step is the innovation process. Researchers should consider the difference between generating and adopting innovation (Damanpour, 2014) and specify which elements contributed to each situation. This will strengthen the field of innovation by supplying information for explaining why some organizations find it difficult to generate innovations, or are successful in doing so, while others find it easy or difficult to adopt innovations. The role of different innovation activities should also be considered. Researchers should adopt a definition of the process of innovation that covers other innovation activities. It is not a question of adapting the definition of the innovation process to fit the innovation context in small businesses. It is just a fact that most innovations are not the result of R&D activities (Ferreira *et al.*, 2015).

The distinction between generating and adopting innovation and analysis of other innovation activities in the operationalization of research will allow for a more realistic composition of the elements that constitute the innovation process. In the case of small businesses, researchers must also consider that these elements were originally formulated for big businesses and technological environments. This calls for a greater effort with regard to defining what constitutes the innovation process in small business (Daneji *et al.*, 2019; Hosseini & Narayanan, 2014).

Hence, the operationalization of research into innovation, and innovation in small businesses in particular, involves common basic steps. The innovation context will differentiate innovation in small businesses and affect the choice of the most appropriate concept, typology, unit of analysis and innovation process.

The innovation context in small businesses: what to consider?

Small businesses need innovation assumptions that are more appropriate for their innovative contexts (De Jong & Marsili, 2006). First, every theory has a theoretical framework that comes from previous research. This framework provides insights that will serve as the lens for analyzing a given phenomenon and will form the "substantive domain" of the research (Brinberg & McGrath, 1985). Innovation research in small businesses must inevitably have the fields of innovation, entrepreneurship and small business as its three substantive domains. The latter two will provide a complementary view of the peculiarities of the innovation context of these enterprises.

Although the concepts of entrepreneurship and innovation were originally based on Schumpeter's ideas, they evolved in a "surprisingly" disconnected way (Fagerberg *et al.*, 2012; Landström *et al.*, 2012, 2015). This disconnection has given rise to the fields of entrepreneurship and innovation and originated a third field that of small business research (Landström *et al.*, 2015). Integration between the three fields allows for a knowledge base to be formed that is appropriate to the innovation context of small businesses (Landström *et al.*, 2015) and should, therefore, be considered by researchers.

Second, most of the research in small businesses is conducted in enterprises that offer little or no understanding of the daily lives of the majority of such organizations (Carland *et al.*, 1984; Zaridis & Mousiolis, 2014) and leads to conceptual problems that make the field obscure. Care must be taken when generating a theory of innovation for small businesses: (1) the criteria of what a small business is must be explicit; (2) the comparison between small businesses from different countries must observe the definition of each country as to what a small business is; (3) small and medium-sized enterprises must only be researched as equals if the comparison between countries has the same equivalence; (4) researchers must declare the focus on R&D when they study small, high-technology businesses; and (5) researchers and research funders must turn their attention to "forgotten businesses".

This last recommendation deserves special attention. Most small businesses form what this article calls "forgotten businesses". So how can one build a good theory of innovation without knowing and analyzing small business characteristics and contexts? Research funders have to encourage studies that focus on these organizations, publishers must launch special issues on the innovative context of small businesses, and researchers should consider this type of organization in their research. This will allow for a leap in the field of innovation.

Finally, innovation in small businesses is influenced by the manager/owner's own inclination to recognize opportunities and act upon them (Cooper *et al.*, 2016). He or she identifies the opportunity and develops it through innovation (Carland *et al.*, 2015). Therefore, innovation research in small businesses must, of necessity, be centered on the manager/owner. As discussed previously, it is not possible to consider innovation in small business without concentrating on the owner, given their unique relationship with the enterprise (Moraes *et al.*, 2014). The owner is at one and the same time, worker, manager and entrepreneur (Plotnikova *et al.*, 2016; Romero & Martínez-Román, 2012). The focus on the manager/owner has implications that guide the innovation activity in small businesses and that are generally disregarded by researchers. Hence, it is necessary to understand the factors that precede the effectiveness of innovation in these companies (Cooper *et al.*, 2016).

These recommendations may be helpful when it comes to developing the field of innovation and especially in regard to the small business as an object of study. For example, the focus on the owner/manager calls for models of innovation of a behavioral nature. That is because in the small business it is the owner/manager and not the organizational structure that supports innovative activities (De Jong & Marsili, 2006; Silva *et al.*, 2016). Each model of

innovation carries underlying theories directing which elements are important when it comes to generating innovations. One suggestion is that that researchers interested in developing new models of innovation that are adequate for the innovative context of small businesses could try and use behavioral theories that focus on the manager/owner as an analysis lens.

Exploring and framing "forgotten businesses" better could generate new insights into socially important applied research and, in doing so each researcher becomes an agent of change capable of strengthening the field of innovation.

Conclusion

In its attempt to contribute to the development of the field of innovation, especially in the context of small businesses, this article has discussed how research of the topic should be operationalized. Generating innovation assumptions that are adequate for small businesses and their context depends on the joint efforts of academia to shed light on "obscure" points related to innovation research as a whole. We hope we have offered reflections that can ultimately result in the production of new and better knowledge on innovation and small businesses.

The considerations about the operationalization of both innovation research and innovation research in small businesses may help reduce the ambiguity currently seen in the field of innovation. As new questions must be asked, the answers should challenge the current paradigm so that newer and better insights can be generated. It is the role of researchers to question whether or not small businesses are innovative, or if the big, high-technology-based enterprise is the ideal type of organization to serve as this article's object of study.

Other issues may also be raised from a critical reflection on small business. For example, the current notion of growth considers that small businesses must either grow in structure or go international (McKelvie, Brattström & Wennberg, 2017). But is this prospect of growth suitable for every small business? From an economic and social perspective, it might be better if it remained small and if people, as producers, could explore the skills they have by way of small businesses (Gartner, Davidsson & Zahra, 2006). How could innovation help in such a growth perspective? Understanding "forgotten businesses" may generate useful and socially applied knowledge and lead researchers to strengthen the innovation field.

From a practical perspective, "forgotten businesses" are responsible for ensuring the development of the most diverse localities and for adding value to their populations. The characteristics of these organizations allow products and services to be offered at the local level that a large enterprise could only offer by way of a monopoly or local "exploitation". This leads researchers to question whether current innovation models actually capture the innovative activity of small businesses, but mainly whether existing innovation policies actually answer their demands. Do policymakers who formulate innovation policies know the reality of small businesses? Do innovation policies consider the role of small businesses in generating socioeconomic benefits for the region where they are located? For example, studies dealing with development and small businesses normally do so from an economic and country-level perspective, thus overshadowing the potential social benefits of innovation and its role in local development.

It's worth mentioning that this study has a theoretical basis that focuses on the field of innovation, and that studies that incorporate the entrepreneurship literature can generate important insights into the theme. Hopefully, the reflections presented here may contribute to the operationalization of innovation research in the context of small businesses.

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