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Article

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Cogent Business & Management

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Suggested Citation: saad, Muhammedamin Hussien; Hagelaar, Geoffrey; van der Velde, Gerben; Omta, S. W. F. (2021) : Conceptualization of SMEs' business resilience: A systematic literature review, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 8, Iss. 1, pp. 1-33,
<https://doi.org/10.1080/23311975.2021.1938347>

This Version is available at:

<https://hdl.handle.net/10419/245054>

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To cite this article: Muhammedamin Hussen saad, Geoffrey Hagelaar, Gerben van der Velde & S. W. F. Omta | (2021) Conceptualization of SMEs' business resilience: A systematic literature review, Cogent Business & Management, 8:1, 1938347, DOI: [10.1080/23311975.2021.1938347](https://doi.org/10.1080/23311975.2021.1938347)

To link to this article: <https://doi.org/10.1080/23311975.2021.1938347>



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Published online: 14 Jul 2021.



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MANAGEMENT | RESEARCH ARTICLE

Conceptualization of SMEs' business resilience: A systematic literature review

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Received: 19 November 2019
Accepted: 28 May 2021

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Abstract: Attention for business resilience research in the academic world has increased considerably, despite fragmented literature on definitions, measurements, and of variables influencing the concept. Therefore, there is a need to take stock of current knowledge on the areas and structure them to lay the foundation in this field. We also give due attention to the resilience of SMEs in a highly vulnerable setting (i.e., developing countries), as the nature of this settings requires resilience research attention (in terms of rate of recurrence and complexity of disruptions). We deployed a well-structured systematic review procedure. This paper offers (1) an overview of SMEs resilience literature from 2000 to November 2018 comprising 118 articles, and (2) special attention, within that overview, to developing countries. This review concludes that resilience literature is very much varied in its definitions and measurements, and is inconclusive about its influencing factors. Furthermore, little resilience research has focused upon the context of SMEs in developing countries, which is perhaps surprising given the contribution made by these businesses in such a setting. Based on the review results, we describe distinguishing features of resilience; give options to extend the theoretical foundations of research into resilience in the future.

ABOUT THE AUTHOR

Muhammedamin Hussen saad was born in Ethiopia. He was awarded a Bachelor's Degree in Business Management and a Master's Degree in Public Administration from Addis Ababa University. From 2013 to 2014, he attended PhD study in Agricultural Economics at the University of Haramaya, in Ethiopia. In 2014, he was a visiting research scholar at KU Leuven University, Belgium, which created a turning point and an introduction to management studies with Professors Onno and Geoffrey of Wageningen University. Muhammedamin also has practical experience, having served as Assistant Professor and Chairman of the Department of Public Administration at Haramaya University. On 1 April 2015, he enrolled as a PhD candidate in Management Studies (now Business Management and Organization Group), in Wageningen University, with the financial support of the Nuffic program. Muhammedamin research interests include business management, agricultural economics, and entrepreneurship development. He can be reached at aminoojuu@gmail.com.

PUBLIC INTEREST STATEMENT

The present study is an attempt to contribute to the area of SMEs resilience research and provides a comprehensive overview of the state of art of research undertaken in the field so far. Business resilience researches (especially related to SMEs) have made massive strides over the last decades in the aftermath of the 2008/09 world economic recession. Yet there is a still a confusion over the definition and factors influencing resilience. The present study uses a systematic literature review which helps in identification of the intellectual structure of the research area. The analysis presented in this paper would help in the development of shared understanding about the field of SMEs resilience which could possibly in the near term help the practicing academicians, corporate and other stakeholders alike to potentially harness the benefits from the work of renowned authors and in particular approach the research institutions for the purpose of policy making.

Subjects: Science; Social Sciences; Arts & Humanities

Keywords: Business resilience; resilience; SMEs; systematic review; vulnerable contexts; turbulent business environments

1. Introduction

Resilience research is highly desirable as it addresses the urgency to investigate vulnerable situations in which small and medium-sized enterprises (SMEs¹) act (Ates & Bititci, 2011; Burnard & Bhamra, 2011; Kantur & Say, 2015). Hitherto, there is no unified definition of resilience in the business and management field (Williams & Vorley, 2017). Indeed, several authors highlighted the need for systematically structuring researches in the domain to advance in the general business and specifically the SME field (Tognazzo et al., 2016; N. Williams et al., 2013). SMEs take a significant portion of the GDP and livelihood conditions of millions of people worldwide including developing countries (DCs) (Alberti et al., 2018; Dahles & Susilowati, 2015; Sabatino, 2016; N. Williams et al., 2013). Fostering SMEs is seen as a vital device to tackle the socio-economic problems that bedevil DCs presently, especially through problems of high unemployment and poverty (Page & Söderbom, 2015). Resilience and SMEs each by themselves and their combination, i.e. resilience of SMEs, have been high on the agenda of academics and policymakers in recent years (Alberti et al., 2018) and thus subject to scientific and policy debate (Linnenluecke, 2017; Williams & Vorley, 2017). Hence, scientific and policy interest is present to urge a relevant extension of the body of knowledge, however for reasons of inconclusiveness studying the resilience of SMEs has been labelled as challenging (Dahlberg & Guay, 2015; Tognazzo et al., 2016). This inconclusiveness regarding an agreed-upon definition and measurement of SME's resilience, and influencing variables (Dahlberg & Guay, 2015; Tognazzo et al., 2016), issues essential for doing robust research, hinder building a consistent body of knowledge on SMEs resilience.

With this literature review, we attempt to respond to the call for more resilience research, which in detail generates more understanding from SMEs perspective (Annarelli & Nonino, 2016). Although reviews of literature on resilience of larger organizations (e.g., Annarelli & Nonino, 2016; Bhamra et al., 2011; Linnenluecke, 2017), and in interrelated disciplinary streams, such as from a supply chain point of view (e.g., Kamalahmadi & Parast, 2016) are published, specific SME resilience is to our knowledge not yet explored by means of a review. Also, the mentioned reviews of resilience research tend to focus on specific or event-based disruptions rather than on the recurrent and complex nature of disruptions.

Section 2 outlined the methodological approach adopted for the literature review. In section 2.3, we discussed key results of the study. More specifically this literature review on resilience aims at (1) gaining insight into the multi-faceted aspects of resilience conceptualization in an SME context and formulating a comprehensive definition (2.3). Developing an agreed upon definition of the concept is labelled by Linnenluecke (2017) as a necessary condition to advance research on measurement, strategic initiative and factors building the resilience of SME. (2) Inventorying measurements and methods of SME resilience research to date (2.3). (3) inventorying research methods applied in resilience research (2.3). (4) Identifying and categorizing factors influencing SME's resilience (5) listing theories deployed in SME resilience literature. In section 2.4, we present a brief discussion of the main findings. Section 2.5, finally draws future research directions, limitations, and conclusions of the research.

2. Methods

The review work has the following distinctive features: (1) its focus on SME literature; (2) sources of research from multiple databases (Scopus, Web of Sciences, and Science Direct, Emerald, and Google Scholar); and to make the review more comprehensive, (3) a manual exploration of additional research that may have fallen outside of the initial search, reference and citation checking by focusing on frequently cited papers; (4) the search period covering from 2000 to November 2018. In preparing the sample for this study, we only considered the publications

after year 2000. We further showed that using year 2000 as the starting point is justified, since the concept of resilience (especially SMEs resilience) was not discussed much before 2000; (5) the particular contribution of work on entrepreneurship and resilience in the context of DCs remains limited (Linnenluecke, 2017). Review of literature takes a key position in the hierarchy of scientific evidence-based knowledge generation Tranfield et al. (2003). To ensure that the body of research to be included in our review was sufficiently broad and rigorous, we followed a stepwise systematic review approach. Tranfield et al. (2003) recommended these sequential steps as relevant to conduct a well-structured and evidence-informed literature review. In this study, we used a stepwise approach as developed by Tukamuhabwa et al. (2015): (1) searching, (2) screening, and (3) coding and analyzing. Figure 1 elucidated an overview of the processes undertaken to review the literature.

To minimize bias and to improve the validity of findings, the outline of the approach adopted for searching, screening, coding and analyzing the journal articles, will be presented below. This includes the criteria involved in sourcing relevant literature and the search strings used, which enhances transparency and aids replication (Tukamuhabwa et al., 2015).

2.1. Step 1: searching

Searching the literature is the primary step to accumulate the relevant papers for analysis and then generate insights. In this step, we executed two activities. First, we outlined key search terms/words: “SMEs resilience”, micro-enterprises resilience, “resilient SMEs”, “organizations business resilience”, and “small and medium enterprises resilience” (and the substring of these terms). Second, applying these search terms, we tracked publications from those different sources by pointing the search to “all fields” (i.e. not limiting the search to the title or keywords). This initial search stage resulted in 415 sample papers which were fixed as the basis for the next steps.

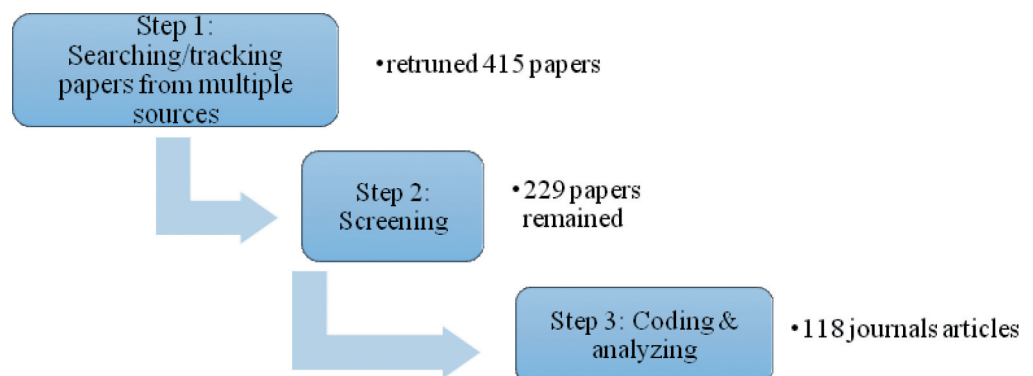
2.2. Step 2: screening

First, we checked and excluded duplicated publications since most of them are combined from multiple sources. Second, we set the criteria for inclusion or exclusion of papers. The general criterion was the relevance of the paper to the topic. For this (a), we checked each paper’s abstract and excluded papers that conceptualized resilience as psycho-entrepreneurial quality because our unit of analysis is firm level. We moved further and (b) closely studied (closer screening) each paper to judge based on definitions, measurements, and factors discussed to influence SMEs resilience. This step reduced the number of papers from 415 to 229.

2.3. Step 3: coding, analyzing and synthesizing

We exported those 229 papers to an excel sheet and then introduced a common code to label papers based on types (proceedings, conference papers, PhD thesis, & journal articles). We found that out of the 229 documents, 118 were articles in scientific journals. We limited our analysis to

Figure 1. Overview of the review process—searching, screening, coding and analyzing the articles.



these journal publications following the recommendation of amongst others Wales et al. (2013). The justification for this section is that articles are subjected to a rigorous peer review process (Miller & Serzan, 1984), and in line with that, that they are generally believed to be of a higher quality than non-journal articles such as book chapters or unpublished works (see Rauch et al., 2009; Wales et al., 2013). Thus, in this study, we used the selected 118 articles as the basis for this paper literature review from which the results are presented in the next section.

3. Results

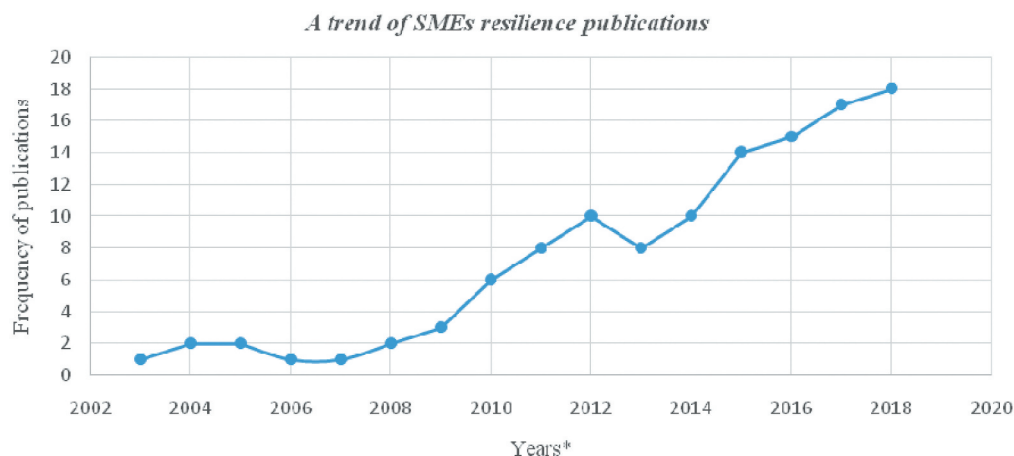
3.1. Extrinsic attributes of publications

The origin of the concept “resilience” dates back to Holling’s publication in 1973 (Holling, 1973) in which he described the concept as the ability of an ecosystem to respond to unexpected environmental changes and return quickly to its original condition. Now, it becomes both a multi-faceted and multidisciplinary concept (Kantur & Say, 2015) employed in various disciplines. In particular, business and management studies show a considerable growth of research on resilience coming from the SME field as well. Figure 2 shows that there was a little variation in the number of articles between the years 2003 until 2008/09. 2008–2009 were the years in which the financial crisis started which seemed a triggering point for resilience articles in SME context (Annarelli & Nonino, 2016). There is a notable increase in the number of SMEs resilience articles after 2008/09 years (see Figure 2).

Figure 2 exhibits as well that only a few articles related to organizational (business enterprises) resilience were published between 2002–2005 years. These articles stem from strategic and supply chain perspectives. These findings coincide with reviews of, e.g., Annarelli and Nonino (2016) on supply chain and operation management resilience literature. Kamalahmadi and Parast (2016) note that the challenges and opportunities that highly threatened business companies in low-cost countries were happening between 2002 and 2005 drove those initial researches on enterprise resilience. To conclude, the trend shows the increasing presence of resilience research in an SME context.

The articles were published in a wide range of journals spreading from Q1 to Q4 ranks (see Table A1, in Appendix). In 2003 the Harvard Business Review (e.g., Hamel & Valikangas, 2003), and in 2005 the MIT Sloan Management Review (e.g., Sheffi & Rice, 2005), were among a few journals that started to publish work related to enterprise resilience for the first time. Recently, a rising number of business and management journals also started to publish related articles. For example, European Management Journal (e.g., Lampel et al., 2014); Journal of International Business Studies (e.g., Branzei & Abdelnour, 2010), and Journal of Cleaner Production (e.g., Moore & Manning, 2009) can be mentioned. Among this list of journals (see Table A1, in Appendix), the

Figure 2. SME resilience publications distribution by years (*Based on data until November 2018).



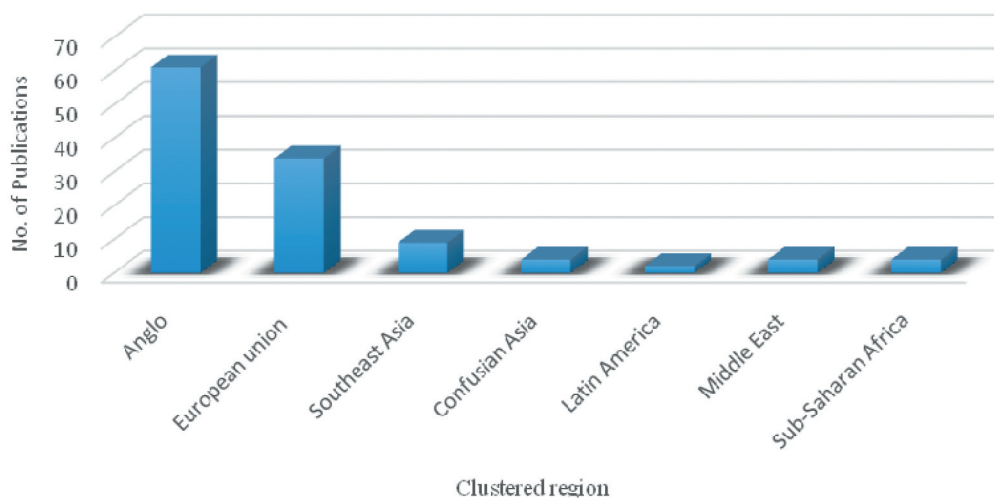
journals of International Production Research and Entrepreneurship & Regional Development have published the highest number of articles related to the topic.

Figure 3 presents a list of societal contexts in which SMEs resilience research has been undertaken. The rising of natural disasters, conflicts, and political crisis states, institutional failures, economic recessions, and human errors to mention a few, have motivated researchers to examine the applicability of resilience, originally theorized in Canada by Hollings (focusing on ecological resilience), within other environments or cultural contexts (Linnenluecke, 2017). Indeed, Dahles and Susilowati (2015), and Linnenluecke (2017) suggested, need to contextualize resilience concept understanding to advance knowledge on SMEs, prompting an investigation of the concept in other environments such as in developing countries. To understand the international variety in SMEs resilience literature, we categorized the existing publications based on the author's researched countries and then aggregated them to clustered regions. Past research recommended global clustering countries based on similarities of culture, geo-demographic factors and history into the same region/cluster. Hence, to cluster countries in this study into different regions, we followed a global countries clustering arrangement as used by Wales et al. (2013). Wales et al. (2013) argued, this clustering of global countries into the different region is "the most recent and also includes several countries not covered elsewhere" (Wales et al., 2013, p. 364).

Our purpose in this part of the review is to evaluate the SMEs resilience research attention in different environments and cultures. Our premises is that having insight in how SMEs act to deal with challenges in different business environments is pertinent to enrich the applicability of the concept in the real world (see Chu, 2015; Tengeh, 2016), and to lay its theoretical foundation in the SME field. Other researchers (e.g., Linnenluecke, 2017) asserted this idea, stating the knowledge that can be gained on business resilience of companies from diverse contexts will help to promote the pluralistic debate in the literature. Moreover, by relying on those limited publications coming from a specific region, it is difficult to generalize on how to build resilience (Dahles & Susilowati, 2015) of SMEs in different areas. This is because (regional) contextual differences that drive the resilience development of SMEs in the different areas need special attention (Littlewood & Holt, 2018).

Figure 3 illustrates the distribution of SMEs resilience publications based on clustered regions. As shown in this figure, the majority of SMEs oriented resilience studies (i.e., 81%) has been conducted in countries in the Anglo and the European Union region clusters. The remaining publications are positioned in Southeast Asian, Confusion, Latin America, the Middle East, and Sub-Saharan African countries. This finding clearly shows that the research on SMEs resilience in developing countries

Figure 3. The distribution of publications by region.²



(DCs), i.e. in Asia, the Middle East, Latin America, Sub-Saharan African countries, has received, hitherto, limited attention.

This finding on the geographic distribution of research is in accord with Linnenluecke (2017) review, who concluded that research on business resilience in general business and management has concentrated on the developed world context. Although there have been a few studies on resilience done generally in DCs, the number of publication on South East Asian countries (i.e., Thailand, Malaysia, and Indonesia) is a notable exception. On those countries, there is in recent times a growing number of studies on the devastating effect of natural disasters threatening SMEs functioning in the tourism sector and ultimately their existence (Biggs et al., 2015).

We studied the literature to understand the factors triggering resilience research in the past. In line with Kantur and Say (2015), we also observed a majority of publications centring on discrete/event-driven disruptions such as to the financial crisis and natural disasters. However, these discrete disruptions can be acute but specific and temporary. Most of the past studies on organizations resilience evaluated these event-driven disruptions and then tried to derive insights on how to improve enterprises resilience in the future (Linnenluecke, 2017). The question raised here is; is it possible to generalize understandings gained from discrete disruptions to persistent and multi-faceted nature of disruptions, which is a phenomenon of developing countries (DCs) business environment (Littlewood & Holt, 2018). According to Dahles and Susilowati (2015), although SMEs, in general, face increasingly troublesome conditions compared to the developed world, the environments in DCs are harsher for them leading to a higher failure rate (Page & Söderbom, 2015). The nature of disruptions threatening SMEs' resilience varies from context to context (Abebrese, 2015; Littlewood & Holt, 2018). Abebrese (2015) argued that SMEs in DCs faced recurrent and multifaceted troubles ranging from natural disasters, political turmoil, and economic crisis, market access challenges, institutional failures and to infrastructural obstacles. Thus, research on the resilience of SME in this turbulent setting is more desirable as it advances our theoretical and practical understanding of the concept in the SME field.

3.2. Defining resilience in an SME context

3.2.1. Factors underlying the fragmented understanding of resilience

Williams and Vorley (2017) make clear that the agreed-upon meaning of the resilience concept remains vague in business literature. (1) Disciplines, (2) research context, (3) nature of disruptions, and (4) companies' size are core factors that underlie this fragmented understanding of the concept of resilience.

3.2.2. Differences in the focus of the disciplines

Researchers in different disciplines have used and followed, different conceptualisations. This idea was asserted by Dahlberg and Guay (2015), who concluded to a lack of common understanding of resilience across subjects, such as ecology, engineering, and social psychology. For example, in the engineering and physical science domain, resilience states that systems or organizations return to their original state after specific disruptions. This return of organisations to the original state after a disruption is, in fact, acknowledging only one equilibrium. However, in other disciplines mainly from social sciences like psychology, the focus of resilience is on organizations' adaption (positive performance) amid continuing and unfolding disruptions. Because disruptions have become ongoing, companies are facing complex daily situations. Understanding the nature of disruptions facing companies from this perspective underlies the presence of multiple equilibria (Linnenluecke, 2017). Researchers in the business domain without contextualising these issues have taken the research on the concept to business and SMEs fields. According to N. Williams et al. (2013), the idea of resilience in entrepreneurship up to now is often used to label firms' economic performance and responsiveness in light of specific shocks, such as financial crisis and recession (see N. Williams et al., 2013, pp: 399). This kind of understanding which restricts the meaning of resilience to the

ability of firms to bounce back from such a specific “disruption”, has been called “engineering resilience” (Conz et al., 2017). This type of resilience conceptualisation is in line with a “machine” view of organisations with simple cause and effect dynamics (Lengnick-Hall et al., 2011; Tognazzo et al., 2016) and limited the meaning of the concept to bouncing back from a specific crisis event. Preferably it does not designate companies’ adaptability and sustenance of positive performance a mid of continuing challenges. Thus, future researchers have to come up with a meaning of resilience capturing all these debates into account in SME literature.

3.2.3. *Research context and complexity of disruptions*

Is resilience triggered by the specific or persistent multifaceted disruptions as well? Relatedly, this is also the second issue for inconsistent use of the concept definition in past research. The nature of disruptions may not only be specific but can also be frequent and a day-to-day phenomenon. They may vary from context to context. Indeed, the firm’s vulnerability to disruptions may contextually differ (Linnenluecke, 2017). Notwithstanding this fact, prior research on resilience has associated the concept to only specific/event-driven/discrete disruptions, e.g., the 2008/09 global financial collapse occurring in the developed world (Torstensson, H. Pal et al., 2014). In developing countries (DCs) business companies face however unfolding and multifaceted disruptions (Linnenluecke, 2017; Tengeh, 2016). These may relate to their external environments, incorporating issues such as political-riot and conflict (Branzei & Abdelnour, 2010); poorly functioning markets and infrastructures (Tukamuhabwa et al., 2015); institutional inefficiencies (Dahles & Susilowati, 2015); and natural environmental challenges (Linnenluecke, 2017). The consequence of this is that how firms manage and respond to chaotic situations facing them, may likely vary (Branzei & Abdelnour, 2010). To understand how SMEs overcome these turbulent business environments, the DCs seem to offer a suitable setting (Littlewood & Holt, 2018).

3.2.4. *Firms’ Vulnerability difference in size*

The definition of resilience can also differ when taking into account the size of companies (Sullivan-Taylor & Branicki, 2011). Concerning the specific SME context of studying resilience, Ates and Bititci (2011) pointed out that, “there has been an implied assumption that organizational theories, processes, and conceptual frameworks developed through researching large organizations, are relevant and directly applicable to SMEs”. However, these authors point to significant differences in the way that SMEs operate and how their vulnerabilities differ compare to those of larger enterprises (Sullivan-Taylor & Branicki, 2011). Becoming resilient may even be more critical for SMEs because they are more vulnerable due to challenges such as accessing finance and restrictions due to their limited size (Branzei & Abdelnour, 2010; Tognazzo et al., 2016). Branzei and Abdelnour (2010) emphasise the latter by pointing to the cascading and aggravating hurdles related to financial and human resources which also makes SMEs more vulnerable to failures (Branzei & Abdelnour, 2010).

In summary, these above-discussed factors are fundamentals to inconsistent use of the concept meaning in the past literature, indicating the need to find common ground to build the theory in business and SME literature. As such, advancements of the concept in business research will likely come by involving these issues. Having clarity of these factors provides an essential foundation to advance research moving forward on business resilience in an SME field.

3.2.5. *A literature search on resilience*

The resilience concept emerged in SME literature by drawing on the diverse perspectives from various disciplines to which the broad concept of resilience is relevant (Akgün & Keskin, 2014). Hitherto, there is no unified definition of resilience in the business and management field (Williams & Vorley, 2017). Indeed, several authors highlighted the need of research attention to advance research on resilience in the general business and specifically the SME field (Tognazzo et al., 2016; N. Williams et al., 2013).

To gain insight into the resilience of SMEs and especially in the characteristics which attributed to resilience, we made a step-wise analysis of resilience definitions as used in research.

The first step was to make an overview of resilience definitions (see below [Table 1](#)). Then, we carefully studied the definitions and developed common characteristics as shown in the following [Table 2](#). Findings shown in the [Table 2](#)³ demonstrate that the definitions used by the following sets of authors (Ates & Bititci, 2011; Biggs et al., 2015; Gunasekaran et al., 2011), have incorporated most of the common characteristics including adaptability, maintaining positive performance (growth), responsiveness, competitiveness and firms ability to minimize vulnerabilities as well as their fast recovery from a disruptive state. These definitions are the most comprehensive in defining resilience in the SME context. However, like all definitions, these authors overlook the aspect of seizing opportunities within disruptions (see the final column in [Table 2](#)). Nevertheless, a growing number of scholars call this aspect fundamental to business organizations resilience definition (Abdullah et al., 2013; Hamel & Valikangas, 2003; Lengnick-Hall et al., 2011).

Concerning the characteristic of seizing business opportunities, Lengnick-Hall et al. (2011) contended that resilience in business organizations looks beyond restoration as it describes the development of new capabilities to deal with disruptions and changing circumstances in the business environment. From this perspective, the capability to identify, recognize and seize business opportunities (Hamel & Valikangas, 2003; Manfield & Newey, 2017) within challenging business environment is a desirable attribute in defining resilience of SME. In other words, a turbulent business environment not only hold threats but also contain opportunities that need to be exploited (Hamel & Valikangas, 2003) to maintain firm continuity and success. This idea is also supported by Branzei and Abdelnour (2010) empirical research in the Darfur region (conflict zone) of Sudan indicating business can flourish to a large extent even under adverse circumstances. In this line, the resilience definition for SMEs without involving the ability to seize business opportunities is incomplete. Moreover, some authors consider this aspect in their operationalization of the concept without mentioning it in their resilience definition. For example, Biggs et al. (2015) attempt to integrate the aspect while operationalizing the resilience construct, though they did not address it in their resilience definition. Based on these research experiences, we argue that this aspect should be part of defining resilience in the SME context.

Furthermore, we studied those tracked definitions especially to understand how the resilience concept has been conceptualized and operationalized in each research. We identified that the literature lacks a clear conceptual approach. This may be due to a lack of research that structures various fragmented understandings of the concept in the existing literature (Kantur & Arzu, 2012). In some literature, performance is considered part of a dependent variable resulting from resilience-enhancing (Lengnick-Hall et al., 2011). This can be referred from the works of (e.g., Akgün & Keskin, 2014; Lengnick-Hall et al., 2011). These authors have conceptualized resilience as a capability (which is formed from a bundle of resources) influencing firm performance. While in others, performance is considered as part of the definition of resilience (Torres et al., 2018). For example, researchers (e.g., Tognazzo et al., 2016; Torstensson, H. Pal et al., 2014) framed resilience as an outcome variable that can be characterized by firm positive financial performance. In some other studies, the financial performance and capability characteristics of resilience have been conceptualized as separate issues. The analogy is that firm capability is explanatory, and the firm performance is an outcome or dependent variable. Kantur and Say (2015), however, highlighted that such disjointed conceptual approaches create confusion about resilience meanings. In this chapter, we conceptualized resilience as an outcome variable containing the aspects mentioned above.

3.2.6. A combined definition

Resilience can be defined by a combination of “a portfolio of capabilities” (Manfield & Newey, 2017). Markman and Venzin (2014) discuss the term resilience addressing diverse managerial constructs including the firm’s performance growth amidst of disruptions. This coincides with the idea (e.g., Biggs, 2011; Biggs et al., 2015) that the term resilience is multidimensional. SMEs resilience is often described in the literature by firm survival, minimizing vulnerability, fast recovery, sustainability,

Table 1. Resilience definitions in SMEs context

Author(s)/year	SME resilience is defined as
(Acquaah et al., 2011)	<i>The capability of firms to persist in the face of substantial changes in the business and economic environment and the ability to withstand disruptions and catastrophic events using various strategies.</i>
(Adnan et al., 2016)	<i>Ability to sustain income and as strategies to develop the spirit of social duty despite cultural and social barriers to women entrepreneurialism.</i>
(Akgün & Keskin, 2014)	<i>The capacity to absorb shocks effectively, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive</i>
(Aleksić et al., 2013)	<i>The ability of an organization to withstand systematic discontinuities as well as the capability to adapt to new risky environments</i>
(Alonso & Bressan, 2015)	<i>The ability to survive, adapt and thrive despite challenges.</i>
(Amann & Jaussaud, 2012)	<i>The ability a firm to take situation-specific, robust and transformative actions when it confronts unexpected and complex events that have the potential to jeopardize its long-term survival and performance</i>
(Sanchis & Poler, 2014)	<i>The capacity to withstand systemic discontinuities and adapt to new risk environments so that the enterprise can uncover and adjust to continually changing risks, endure disruptions and create advantages over less adaptive competitors</i>
(Ates & Bititci, 2011)	<i>The capacity of SMEs to survive, adapt and grow in the face of turbulent change and crisis.</i>
(Biggs et al., 2015)	<i>The capacity of a firm to survive, maintain performance, income, employment, adapt to challenges by minimizing vulnerability situation facing them (i.e., disaster threats)</i>
(Branzei & Abdelnour, 2010)	<i>The psychological mechanisms of positive adaptation and generate income in the face of the terrorism outbreak, escalation, and reduction situations.</i>
(Burnard & Bhamra, 2011)	<i>The ability to resist systematic discontinuities and the capability to adapt to new risk environments.</i>
(Carvalho et al., 2016)	<i>The ability and capacity of an organization to withstand unexpected changes, discontinuities, and environmental risks.</i>
(Castellacci, 2015)	<i>The ability of an organization to adapt to changes in its economic and institutional environment</i>
(Cheese & Cheese, 2016)	<i>The ability to manage vulnerabilities and adaptive response in the turbulent environment</i>
(Chiesi, 2014)	<i>The ability of firms to survival and adaptability and growth despite the global economic recession</i>
(Conz et al., 2017)	<i>The power of small enterprises to renew itself through innovative strategies when it faces unpredictable events.</i>
(Dahles & Susilowati, 2015)	<i>The capacity of the firm to survive, adapt and grow despite natural hazard crisis, political turmoil and economic recession</i>
(Demmer et al., 2011)	<i>The capability of SMEs to survive and thrive in the face of the global economic crisis and hostile competitive situations</i>
(Dumitraşcu & Dumitraşcu, 2016)	<i>The capacity a firm to modify its business models and strategies, depending on the changes that occur in the environments</i>
(Gray & Jones, 2016)	<i>Innovative performance</i>

(Continued)

Table1. (Continued)

Author(s)/year	SME resilience is defined as
(Gunasekaran et al., 2011)	<i>Adaptability, sustainability, vulnerability, responsiveness, and competitiveness in the evolving turbulent global markets.</i>
(Hamel & Valikangas, 2003)	<i>A capacity for continuous reconstruction. Strategic response and fitness to shocks from the outside environment</i>
(Huggins & Thompson, 2015)	<i>Resistance to shocks, renewal, and recovery or bounce back from shocks</i>
(Lampel et al., 2014)	<i>Greater stability in performance despite economic crisis</i>
(Lengnick-Hall et al., 2011)	<i>The ability to survive, adapt and even thrive on disruptive surprises that potentially threaten companies longevity</i>
(Ortiz-de-Mandojana & Bansal, 2016)	<i>The ability to lower financial volatility, record higher sales growth, and higher chances of survival in the long term over 15 periods despite shocks</i>
(Torstensson, H. Pal et al., 2014)	<i>The capability to overcome crisis and constraints that setback success. It is the ability to survive, adapt, and grow</i>
(Pettit et al., 2013)	<i>The balance of capabilities and vulnerabilities to achieve the desired long-term performance.</i>
(Sanchis & Poler, 2014)	<i>Ability to return to normal state of operation despite vulnerabilities and threats that faces the business</i>
(Akgün & Keskin, 2014)	<i>The proactive measures for forward-looking enterprises and the ability to absorb shocks and keep on normal performance</i>
(A. Steiner & Atterton, 2015)	<i>The improvement includes an aspect of income and employment, household assets and savings growth.</i>
(Sullivan-Taylor & Branicki, 2011)	<i>Capability and flexibility to manage the threat and actuality of extreme weather events relative to large companies</i>
(Tengeh, 2016)	<i>The Survival, growth and thriving despite the hostile business environment, such as during economic, social and political instabilities.</i>
(Tognazzo et al., 2016)	<i>The ability to bouncing back, bouncing-forward, and maintenance of functions over time in the face of economic crisis</i>
(Wedawatta & Ingirige, 2016)	<i>The collective of capacity, strategies, and vulnerability in the face of extreme weather events.</i>

performance growth, responsiveness, and development of new capabilities and opportunities within a challenging environment. A number of researchers have synthesized the interrelatedness of these different attributes of resilience (Ates & Bititci, 2011; Wedawatta et al., 2010). For example, Manfield and Newey (2017) show that these attributes or elements of resilience can be combined into capabilities. According to Biggs (2011), vulnerability and adaptive concepts are linked and combined into resilience capability at the organization level. The management of vulnerabilities and responsiveness refers to the adaptation aspect of companies' to changing and complex situations in their environments. The sustainability and competitiveness terms signify keeping positive performance (growth).

From entrepreneurship perspective, these different attributes (characteristics) of resilience can be classified into operational and dynamic capabilities (Manfield & Newey, 2017). While the operational capability focuses on firm growth (growth in financial performance) (Lampel et al., 2014), the

Table 2. Common characteristics of resilience definition identified from existing literature

Author(s)/Year	Survival/ Recovery	Positive performance (Growth)	Adaptability	Vulnerability	Strategies	Time	Competitiveness	Responsiveness	Seizing opportunities	Frequency of elements
(Acquaah et al., 2011)					√		√			2
(Adnan et al., 2016)		√			√					2
(Akgün & Keskin, 2014)	√		√					√		3
(Aleksić et al., 2013)				√						2
(Alonso & Bressan, 2015)	√	√	√							3
(Amann & Jaussaud, 2012)								√		2
(Sanchis & Poler, 2014)			√				√			2
(Ates & Bittici, 2011)	√	√	√		√		√			5
(Biggs et al., 2015)	√	√	√	√				√		5
(Branzei & Abdelnour, 2010)		√	√							2
(Bhamra et al., 2011)	√		√							2
(Carvalho et al., 2016)				√						1
(Castellucci, 2015)			√							1
(Cheese & Cheese, 2016)			√	√				√		3
(Chiesi, 2014)	√	√	√							3
(Conz et al., 2017)					√					1
(Dahles & Susilowati, 2015)	√	√	√							3
(Demmer et al., 2011)	√	√								2
(Dumitraşcu & Dumitraşcu, 2016)			√		√					2
(Gray & Jones, 2016)		√								1

(Continued)

Table2. (Continued)

Author(s)/Year	Survival/ Recovery	Positive performance (Growth)	Adaptability	Vulnerability	Strategies	Time	Competitiveness	Responsiveness	Seizing opportunities	Frequency of elements
(Gunasekaran et al., 2011)		✓	✓	✓		5	✓	✓		5
(Hamel & Vailikangas, 2003)					✓			✓		2
(Huggins & Thompson, 2015)	✓		✓	3				✓		3
(Lampel et al., 2014)		✓								1
(Lengnick-Hall et al., 2011)	✓		✓							2
(Ortiz-de-Mandojana & Bansal, 2016)	✓	✓				✓				3
(Torstensson, H. Pal et al., 2014)	✓	✓	✓			✓				3
(Petit et al., 2013)			✓							1
(Sanchis & Poler, 2014)	✓			✓						2
(Akgün & Keskin, 2014)			✓							1
(A. Steiner & Atterton, 2015)		✓								1
(Sullivan-Taylor & Branicki, 2011)										1
(Tengeh, 2016)	✓	✓	✓							3
(Tognazzo et al., 2016)	✓	✓								3
(Wedawatta & Ingirige, 2016)			✓	✓	✓					3

dynamic capability holds a number of characteristics comprising adaptability (Biggs et al., 2015), responsiveness (N. Williams et al., 2013), and firms' seizing business opportunities (Lengnick-Hall et al., 2011) a mid of challenging environments. Defining the resilience concept with only a focus on operational capability dimension may fail to take account of the dynamic capability as the nature of disruptions is unfolding and manifold (Ates & Bititci, 2011). The implication of this is that a resilience definition for SMEs encompasses both perspectives and, therefore, will be more comprehensive.

Encompassing dynamic capability is opposed by how resilience is often defined, influenced by physical and engineering that is as a "passive" term as such term resilience is understood as the capability of SMEs to return to a stable state after a disruption—"bouncing back" from an unpredictable event as an economic crisis (Akgün & Keskin, 2014; Tognazzo et al., 2016). Resilience framed this way is simply a reaction to a crisis and is considered a pattern rather than a set of controlled activities and processes (Conz et al., 2017; Lengnick-Hall & Beck, 2003). However, since an organization faces multiple disruptions on a regular basis, the ability to withstand systematic discontinuities reactively as well as the capability to adapt to changing to disruptions proactively (Ates & Bititci, 2011), even to develop new capabilities (Hamel & Valikangas, 2003; Lengnick-Hall et al., 2011), and expanded ability to create new opportunities before disruptions occur, is also desirable. Given that, some authors separate between passive resilience, "the mere ability to bounce back without breaking", and active resilience, "a deliberate effort to become better able to cope with changes in the environments" (Hamel & Valikangas, 2003; Lengnick-Hall et al., 2011). From this perspective, resilience is more than mere survival; it involves adapting, being proactive, and seize opportunities from challenges (Chu, 2015; Seville et al., 2015).

Following the proactive definition,(see Bhamra et al., 2011; Fiksel, 2006; Hamel & Valikangas, 2003) firm resilience in this study refers to the ability to perform well, adapt and even develop new capabilities within changing environments. Resilience is then about continuously anticipating, adapting, and thriving in the face of multiple disruptions, and improving the capability to change before the case for change becomes desperately apparent (Manfield & Newey, 2017). Based on an extensive literature review performed (See Table 2) and the above reasoning, the following definition for SME resilience created:

"the SME's adaptability to disruptions, growth (positive performance), and their ability to seize the business opportunity amid a challenging business environment".

The proposed core capabilities (i.e., adaptability, growth, and seizing opportunities) also encompass both operational and dynamic peculiarities of the concept. It also captures the firm's proactiveness to future challenges and disruptions. To be resilient, SMEs require the development of these capabilities to a higher level in the present day's unfolding and complex business environments.

3.3. Resilience measurement in an SME context

Despite a call for resilience measurement (Linnenluecke, 2017), the present study found no research which developed a robust organizational resilience measurement. The fragmented array of definitions of the concept in general, perhaps explains why no agreement is achieved on how to measure resilience in the SME context (Ortiz-de-Mandojana & Bansal, 2016). In recent times, a few attempts were made to develop organizational resilience measures (e.g., Akgün & Keskin, 2014; McManus et al., 2007; Pettit et al., 2013). However, most of them were case-based, and none of them has validated the measurement for SMEs and developing countries. The importance of having SMEs focused resilience measures in developing countries follows Sullivan-Taylor and Branicki (2011) and Linnenluecke (2017) suggestion. They state that researchers should be cautious when adopting a measure based on a case focusing on large organizations in the developed world, to SME and other settings such as developing countries. The likely exclusion of relevant features from resilience measures that are constructed in the developed world context may result in distorted research results when used in another context (Abdullah

et al., 2013). This issue of not matching the measurement of resilience to its context is closely related to methodological concerns (see Linnenluecke, 2017) about the instrument applied to measure SME resilience.

Resilience measurement is partly challenged by the latency of the concept (Ortiz-de-Mandojana & Bansal, 2016). Latency refers to the concept's abstractness and not being directly observable (Biggs et al., 2015). This nature triggers longitudinal assessments, e.g. to study firm performance volatility reports over time, and not only financial performance appraisal on its own (Ortiz-de-Mandojana & Bansal, 2016). Given these challenges and the infancy stage of resilience research in the business domain, the concept has been assessed with measures developed by scholars from different fields of study that vary in focus. Prior research attempted to measure individual resilience, usually from the psychological point of view not at the firm level (Linnenluecke, 2017). They adopted items measuring individual or employee characteristics (Akgün & Keskin, 2014), ecological disaster, and community crisis (Biggs, 2011; Kantur & Say, 2015; McManus et al., 2007) to organizational resilience measurement studies. Somers (2009), using items adapted from psychology, attempts to develop an organizational resilience scale. Other studies developed organizational resilience scales, drawing items from disasters and crisis-related literature. For example, McManus et al. (2007) proposed a framework with which organizational resilience can be measured as an organization's overall situation awareness, management of vulnerabilities, and adaptive capacity to environmental disaster. Biggs (2011) also attempts to measure tourism-sector enterprise resilience, within a context of natural hazards, with items reflecting their adaptive and endurance capabilities and enterprise practices used to minimize their vulnerabilities, using survey data gathered from Thailand and Australia.

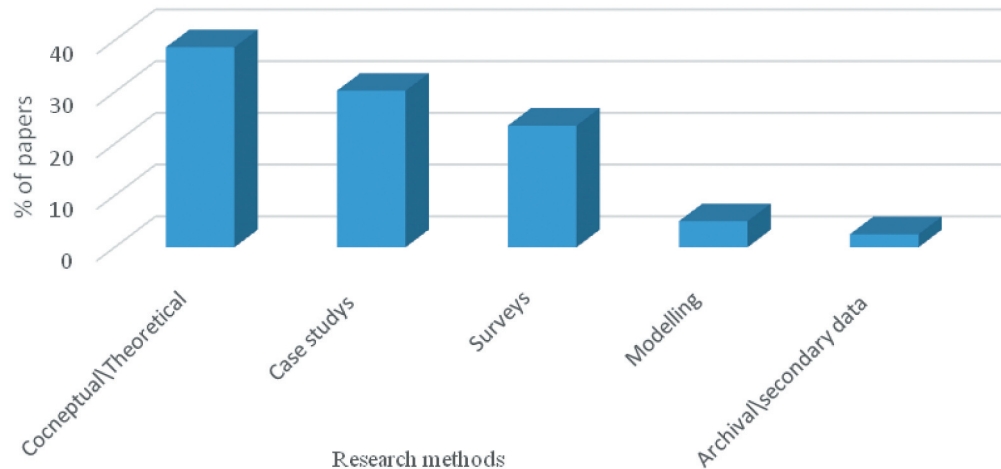
However, these studies have some weaknesses. Disciplines in focus vary in relation to resilience meanings. For instance, in psychology (Bhamra et al., 2011) the focus is on the capability to mitigate individual mental shocks which ecologist terms as adaptability, and in engineering as a capability of a structure to absorb shocks while at the same time retaining its functions (Akgün & Keskin, 2014). Nevertheless, in business besides adaptive capability attributes, resilience describes the firm's capability to maintain positive performance and to seize business opportunities amid disruptions. Another drawback of these studies, including Biggs's work, is that all of them have associated measurement research to the discrete nature of disruptions (Kamalahmadi & Parast, 2016). No research yet has associated resilience measurement to persistently turbulent, resource-scarce business environment; a type of the business circumstances observed in developing countries. In this setting, the nature of disruptions in a practical sense is recurrent and more complex.

This part of the review concludes that due to a lack of consensus on resilience definitions combined with diverse nature of disruptions and vulnerabilities that SMEs face (Tognazzo et al., 2016), a widely adopted measurement instrument has not yet emerged.

3.4. Research methods applied in prior SMEs resilience literature

We reviewed the literature based on research methods used to explore resilience in the SME context (see Figure 4). A variety of methods is used to study the resilience of SMEs. Our analysis found that most of them are theoretical and case studies. This might be due to a lack of consensus on what resilience in the SME context is and how we measure this capability (Tognazzo et al., 2016). We also found no study applying the method of a literature review to structure the divergent views of the concept in the area of SME resilience and DCs. According to this part of the review, theory building is the leading research focus within the area of the resilience of SMEs at this stage of the developing research. Thus, there seems to be little knowledge of how companies overcome difficulties on the ground (Linnenluecke, 2017). For resilience theory to take a central point in the SME field of research (Williams & Vorley, 2017), besides theory building, more empirical-oriented studies need to be undertaken in the future.

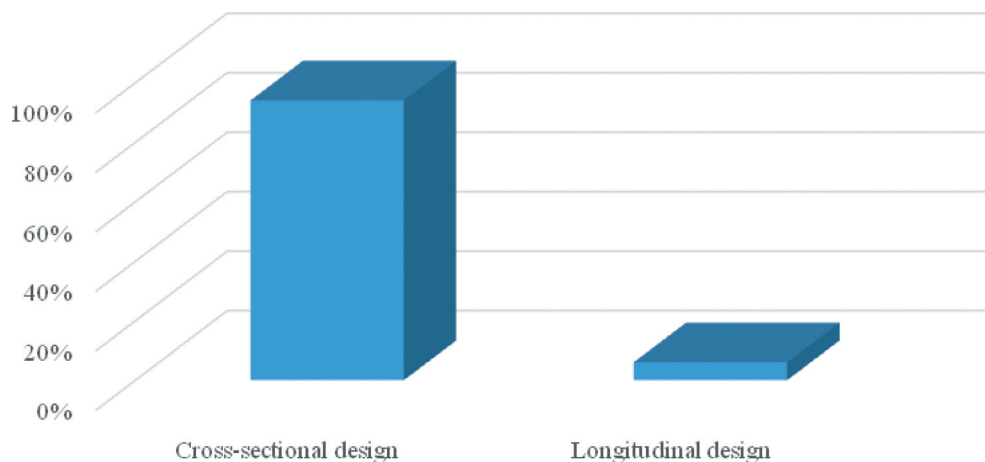
Figure 4. Distribution of publications based on research methods used.



As we looked at the sparse empirical studies, a small number of researches have applied the survey-based method in comparison to the conceptual and case study approaches. A case study is an often-used method in the area. Although research based on case study method boosts our more in-depth understanding of the topic in different contexts, they have a limitation as the insights generated using such kind of method may not be generalized and applicable beyond the context of the studies (Bhamra et al., 2011; Chan, 2011). Meaning, the knowledge thus far based on case-study lacks transferability across different contexts (Linnenluecke, 2017), restricting policymakers’ action on how to build sustainable SMEs. Hence, Bhamra et al. (2011) call to more support policymakers’ decision on SMEs development, demands future studies to apply more a survey-based approach for their resilience investigation.

The longitudinal approach is a theme in this review as it is relevant to describe why seemingly successful business in a particular year failed or became unsuccessful in the following years (Ortiz-de-Mandojana & Bansal, 2016). Building resilience capabilities by SME is a continuous task (Ortiz-de-Mandojana & Bansal, 2016). Being resilient is a dynamic capacity that develops over time, rather than a static attribute that organizations do or do not possess. As disruptive situations are dynamic, changing over time, companies need to build a vibrant capacity to cope with changing challenges (Ates & Bititci, 2011). Based on this notion, we were interested in this longitudinal perspective and thus reviewed the collected publications to know to what extent they have addressed dynamism (see below Figure 5).

Figure 5. Distribution of publications-cross-sectional vs longitudinal research design.



The total number of empirical papers (combined survey and case study-based methods) was 66 papers. Out of these 66 papers, only 4 articles (6%) (T. A. Williams et al., 2017; Ortiz-de-Mandojana & Bansal, 2016; Sköld & Tillmar, 2015; Torres et al., 2018) applied a longitudinal research design by relying on secondary data of firm performance over the years (see Figure 5). Most of them applied the cross-sectional design (62 papers, 94%). The findings indicate that from existing literature we have limited knowledge about the company’s resilience over time and resilience dynamism.

3.5. Review of factors influencing SMEs resilience

Various factors may influence the development of resilience of SMEs, yet research results are largely inconclusive. Looking at the case study of an SME, Demmer et al. (2011) suggest that factors influencing the resilience of large corporations could also be applied to SMEs. Torstensson, H. Pal et al. (2014) who conducted study on Swedish textile and clothing SMEs identified several key enablers of resilience, divided into three broad assets: resourcefulness (material resources, financial resources, social resources, network resources, intangible resources), competitiveness (flexibility, redundancy of resources, robustness, networking), and learning and culture (leadership and top-management rapid decision-making, collectiveness and sense-making, employees well-being). Others argued that having these assets is a necessary condition, but not sufficient to bolster firm resilience because to create resilient firms a capability to orchestrate these assets is imperative. Our analysis has found that researchers have discussed several but a fragmented bundle of key enablers, conditions, and organizational forms, etc., that influence the degree of firm resilience. We categorized, in general, those diverse factors into entrepreneurial, firm internal resources, external environment, and their interactions, as key clusters (as shown in Table 3). Next, we presented a detailed analysis of these key clusters that influence creating resilience in an SME context.

Table 3. Key factors that influence SMEs resilience

Key clusters	Corresponding authors
Entrepreneurial characteristics: Enterprise’s owner background (such as age, gender & lifestyles, etc.) Human capital (HC), Entrepreneurial orientation (EO), and Social capital (SC)	(Wedawatta & Ingirige, 2016, Sun, 2011, A. A. Steiner & Cleary, 2014, Sköld & Tillmar, 2015, Richtnér & Löfsten, 2014, Pettit et al., 2013, Torstensson, H. Pal et al., 2014, Gunasekaran et al., 2011, Dumitrascu & Dumitrascu, 2016, Dillard et al., 2010, Demmer et al., 2011, Dahlberg & Guay, 2015, Crick & Crick, 2016, Chiesi, 2014, Bullough & Renko, 2013, Branzei & Abdelnour, 2010, Biggs et al., 2012b, Biggs et al., 2012a, Biggs, 2011, Biggs et al., 2015, Bernard & Barbosa, 2016, Ates & Bititci, 2011, Alonso & Bressan, 2015, Adnan et al., 2016, Acquaah et al., 2011, Alberti et al., 2018, Branicki et al., 2018, Danes et al., 2009, Hedner et al., 2011, Littlewood & Holt, 2018, Mzid et al., 2018, Tengblad & Oudhuis, 2018, Tengblad, 2018, Torres et al., 2018)
Firm characteristics: Financial capital, size, business age, and types	(Winnard et al., 2014, Wedawatta & Ingirige, 2016, Tognazzo et al., 2016, Thomas et al., 2015, Sun, 2011, Sullivan-Taylor & Branicki, 2011, Smallbone et al., 2012, Sabatino, 2016, Torstensson, H. Pal et al., 2014, Andersson, R. Pal et al., 2012, Ortiz-de-Mandojana & Bansal, 2016, Menéndez Blanco & Montes Botella, 2016, Lengnick-Hall et al., 2011, Lampel et al., 2014, Demmer et al., 2011, Crick & Crick, 2016, Conz et al., 2017, Carvalho et al., 2016, Biggs et al., 2012b, Biggs et al., 2012a, Biggs et al., 2015, Bernard & Barbosa, 2016, Akgün & Keskin, 2014, Acquaah et al., 2011, Alberti et al., 2018, Ali et al., 2017, Branicki et al., 2018, Danes et al., 2009, Doeksen & Symes, 2015, Duchek, 2014, Hedner et al., 2011, Littlewood & Holt, 2018, Mzid et al., 2018, Tajuddin et al., 2017, Tengblad & Oudhuis, 2018, Tengblad, 2018)
Business environments: Socio-cultures, institutions, macro-economic conditions, location & infrastructures.	(A. A. Steiner & Cleary, 2014, Smallbone et al., 2012, Dillard et al., 2010, Branzei & Abdelnour, 2010, Biggs et al., 2012b, Biggs et al., 2012a, Biggs, 2011, Biggs et al., 2015, Alonso & Bressan, 2015, Akgün & Keskin, 2014, Adnan et al., 2016, Alberti et al., 2018, Ali et al., 2017)
Interaction/Interplay effects	(Tognazzo et al., 2016, Akgün & Keskin, 2014)

3.6. Analysis of key factors influencing the business resilience of SMEs

3.6.1. Entrepreneurial factors

The entrepreneurial cluster includes an enterprise's owner background, human capital, entrepreneurial orientation, and social capital.

Enterprise owner's background. This category includes age, gender, and lifestyles of entrepreneurs (Biggs et al., 2012a; Sköld & Tillmar, 2015). Biggs et al. (2012a) study, for example, found that the age of entrepreneurs and lifestyles influence the companies business resilience level. Similarly, Sköld and Tillmar (2015) studied the role of gender in entrepreneurial development and found that the number of women-owned businesses is on the rise despite being faced with disruptions. Hitherto, scant research exists which empirically investigates the variance of resilience due to gender differences in developing countries, i.e., a more vulnerable setting for women-owned SMEs.

3.6.1.1. Entrepreneur's human capital (HC). Most of the publications recognize the crucial role that human resources play in the resilience of SMEs to disruptions. Having requisite skills and experience was highlighted as a critical contributor to enterprise resilience development (Biggs et al., 2015). These factors are believed to improve the entrepreneur's management efficiency in the face of disruptions (Torstensson, H. Pal et al., 2014). In the case of a profitable opportunity, an entrepreneur with higher managerial ability has a higher chance to exploit this and subsequently ensure business success (Davidsson & Honig, 2003). A better-managed company scores a higher business performance (Page & Söderbom, 2015). Likewise, in enterprises that had a high level of employee participation, firm resilience scored high despite the existence of chaotic situations (Lampel et al., 2014). However, evidence about the effect of an entrepreneur's HC on business success is not conclusive yet. Although Biggs et al. (2015) found a positive relationship between enterprise owners' HC and their enterprise resilience, Nichter and Goldmark (2009) questioned the HC effect on a company's performance.

3.6.1.2. Entrepreneurial orientation (EO). Ates and Bititci (2011) discuss the importance of EO in the process of building a resilient SME. EO represents the strategic aspects of entrepreneurship including entrepreneurial behaviours, practices, strategies, decision-making styles, actions taken by entrepreneurs in managing companies (Lumpkin & Dess, 1996; Wiklund et al., 2009). Wiklund et al. (2009) noted that the EO dimensions, consisting of being innovative, proactive, and risk-taking, play a crucial role in business success. Some other authors (e.g., Lumpkin & Dess, 1996; Wales et al., 2013), however, have questioned Wiklund's findings. These researches argued that it is not only EO but also the environment in which business is run which influences the relation between EO and firm success. Wales et al. (2013), based on their review of EO literature, and concluded that the EO relation with business success needs more testing in various contexts. They noted that most of EO research thus far concentrated on developed countries and thus limited work exists in developing countries. Indeed, this indicates the need for more evidence about the role of EO in SMEs' resilience development in different environments including in resource-scarce and demanding business circumstances, i.e., in developing countries.

3.6.1.3. Social capital (SC). How well firms establish and leverage networks to determine the extent to which they are resilient to disruptions and challenges (Torres et al., 2018). SC, or social network, comprises a relationship of entrepreneurs with other persons, groups, or institutions (Chiesi, 2014). These networks are mostly built based on trustworthiness, reciprocity, and shared norms (Nichter & Goldmark, 2009). Some studies have recognized that social networks provide a buffer for SMEs in the face of adversity (Biggs et al., 2015; Gunasekaran et al., 2011). They also offer avenues for increased mobilization and transfer of knowledge, dissemination of innovative activities, which in turn increase the resilience of companies (Demmer et al., 2011). Collaboration with government organizations in a networked environment also expands resources that can be drawn on, learned from, and its capacity to respond to challenges (Chiesi, 2014; Torstensson, H. Pal et al., 2014). Chiesi (2014) examined the role

of SC on the resilience of immigrant entrepreneurs in Italy and found that organizations that strategically collaborate with different typologies of social networks were able to mobilize more credit, which was crucial for business resilience during the economic crisis starting in 2008/09.

3.6.2. *Firm internal factors*

Firm internal attributes are consisting of a company's physical and financial capital matter for resilience (Wedawatta et al., 2010). The ability of SMEs to access finance is important for resilience, although this can be problematic for SMEs in general and subsistent firms operating in DCs in particular, experiencing difficulties securing external finance (Tognazzo et al., 2016). Tognazzo et al. (2016) note a tendency for SMEs of larger size, slack resources and with good access to finance, to be most resilient in the face of economic downturns. In the same way, McGuinness and Johnson (2014) suggest that the financial position of an SME in the run-up to an economic downturn is more important than age or size of the company in determining the impact of the crisis on the company. They find that in times of economic downturn, financially vulnerable SMEs tend to turn increasingly to trade credit as a substitute for bank finance, to keep their businesses going.

Due to collateral-related problems, most SME in many countries failed to get access to credit services (Tognazzo et al., 2016). Lack of access to credit is reported as a significant obstacle for business growth (Biggs et al., 2015) and that the financial situation is tough for SMEs operating in DCs (Nichter & Goldmark, 2009). Bekele and Worku (2008) study found that in DCs context, most SMEs rely on personal, families, and friends support. The study shows that 61% of SMEs failure is attributable to a lack of access to finance. Nevertheless, according to Page and Söderbom (2015) access to finance alone might not boost firm resilience. This overview illustrates the ongoing and inconclusive debate in the literature, concerning the role of financial capital resources for firm resilience. Research from Sullivan-Taylor and Branicki (2011) studied the impact of the sector, geographic location and industry upon organizational resilience and found that small firms can have an advantage over larger firms since they usually have less bureaucracy, the possibility of rapid decision-making and rapid communication, as well as shorter processes. The vulnerabilities of enterprises also may vary by type of sectors. For example, Wedawatta et al. (2010) suggest, compared to other sectors in the UK, that the construction sector SMEs are more vulnerable to natural hazard disruptions.

3.6.3. *Business environment factors*

Business environment, broadly, includes socio-economic, cultural, and political conditions (Wedawatta & Ingirige, 2016). The business environment can be favorable for firm resilience or not favorable, disruptive as well (Adnan et al., 2016). For example, favorable macroeconomic and conducive regulations pave opportunities for company growth (Ates & Bititci, 2011). The unfavorable and hostile business environment is filled with complex and unfolding disruptions including infrastructural related hurdles, institutional voids, restrictive regulatory systems, limited access to markets, and technologies that stifle business growth (Tengeh, 2016). Persistent political turmoil, conflicts, drought, and uncertainty of government policies represent other threats (Branzei & Abdelnour, 2010; Sabatino, 2016). According to Tengeh (2016), the developing countries business environment, which is characterized by more hostile and unfolding disruptions, make SMEs more vulnerable to failures than those in developed regions. This type of environment is labelled as persistently turbulent, disruptive, vulnerable, resource-scarce business environments. Surprisingly, in amidst of a such seemly vulnerable contexts, some SMEs are growing fast and are even thriving (Tengeh, 2016).

3.6.4. *Interaction effects*

The need to examine the interaction effects of various factors and resources for enhancing firm resilience is increasingly called for (Lengnick-Hall et al., 2011; Tognazzo et al., 2016). Based on this call we scrutinized the existing literature. We found that studies examining the interaction effects of various factors on the resilience of SMEs are rare in general. This finding implies that limited studies have explored the interaction effects (Gunasekaran et al., 2011) of different factors for the

resilience of SMEs. The lack of research focus on this area renders a fragmented answer to the question of what drives SME resilience (Dahles & Susilowati, 2015). Research analyzing the interaction effects was pioneered by Lumpkin and Dess (1996), assessing the interplay of EO and other factors such as companies size. Following Lumpkin and Dess (1996), several researchers have examined EO interaction with other various resources of companies and their effects on business success (Rauch et al., 2009; Stam & Elfring, 2008). While EO is can influence a firm’s business success directly, other resources boost the relationship between EO-business successes (Wales et al., 2013) indirectly. Since SMEs which are performing well due to interaction effects of certain resources in a given context might not be resilient in other contexts, Chu (2015) highlights the need to research interaction effects.

3.7. A review of theories underpinning prior research

Tukamuhabwa et al. (2015) suggested that adopting established theory facilitates and improves our understanding of resilience. Established theories, after all, support the formulation of the relationship between variables and they also enable comparison between research results undertaken in different contexts (Foy et al., 2011). Following this argument, we studied and scrutinized theories underpinning the relationship between firm resilience and its influencing factors in past research (see Table 4).

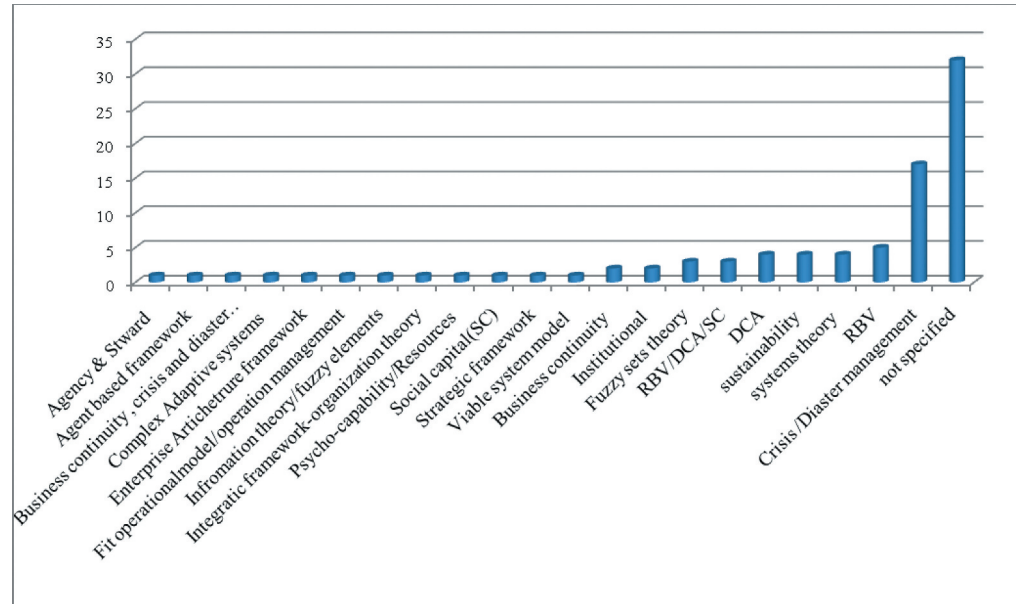
The displayed results indicate that the crisis and disaster management, the resource-based view (RBV), dynamic capabilities, sustainability, and system theories were often applied to explain an association of factors influencing resilience. Specifically, among others, theories related to crisis and disaster management have been found in highly referenced in the studied articles. This result is consistent withKantur and Say (2015), stating that crisis and disaster theories (often focused on discrete situations) have dominated the organizational resilience research in the business and management stream. Unlike Kantur and Say (2015), Tukamuhabwa et al. (2015) based on the review of supply chain resilience literature, found RBV the most applied theory in literature.

We conclude that out of the 118 articles reviewed in this study, a significant number of papers (see Figure 6) did not explicitly specify theories adopted to underpin relationship of business resilience and its influencing factors in their research.

Table 4. Summary of some of the theories used in prior SMEs studies

Theories	Corresponding authors
Crisis/Disaster /Risk management	(Wedawatta et al., 2010, Wedawatta & Ingirige, 2016, Thomas et al., 2015, Tengeh, 2016, Akgün & Keskin, 2014, Orchiston et al., 2016, Lee et al., 2013, Irvine & Anderson, 2004, Huggins & Thompson, 2015, Gomes, 2015, Doern, 2016, Dahles & Susilowati, 2015, Clarke, 2008, Branzei & Abdelnour, 2010, Halkos et al., 2018, Harries et al., 2018, Marković, 2018, Mendoza et al., 2018, Pascua & Chang-Richards, 2018, Parker & Ameen, 2018, Sahebjamnia et al., 2018, Tibay et al., 2018, Torres et al., 2018)
Resource Based View (RBV)	(Winnard et al., 2014, Tognazzo et al., 2016, Sun, 2011, Lengnick-Hall et al., 2011, Alberti et al., 2018, Branicki et al., 2018, Conz et al., 2017, Danes et al., 2009, Hedner et al., 2011, Tengblad, 2018, Torstensson, H. Pal et al., 2014, Andersson, R. Pal et al., 2012)
Dynamic Capabilities (DCA)	(Conz et al., 2017, Alonso & Bressan, 2015, Akgün & Keskin, 2014, Acquaah et al., 2011, Duchek, 2014, Manfield & Newey, 2017, Chiesi, 2014)
RBV/DCA/Social capital(SC)	(Torstensson, H. Pal et al., 2014, Andersson, R. Pal et al., 2012, Torres et al., 2018)
Systems theory	(Burnard & Bhamra, 2011, Sabatino, 2016, Pettit et al., 2013, Erol et al., 2010, Chan, 2011)
Sustainability theory/Family Business sustainability theory	(Thomas et al., 2015, Ortiz-de-Mandojana & Bansal, 2016, Dillard et al., 2010, Danes et al., 2009, Lv et al., 2018, Mzid et al., 2018)
Fuzzy sets theory	(Cheese & Cheese, 2016, Arsovski et al., 2015, Aleksić et al., 2013)
Business continuity	(Sullivan-Taylor & Branicki, 2011, Dahlberg & Guay, 2015, Sahebjamnia et al., 2018)
Institutional	(Smallbone et al., 2012, Castellacci, 2015)

Figure 6. Theories underpinning prior resilience research.⁴



From a general management perspective, RBV is identified as relatively the other frequently used theory to frame the resilience studies in past research.

4. Discussion and conclusions

Over viewing this literature overview a justified conclusion is that the academic attention for the SME resilience publications is on the rise specifically post 2008/09 global financial crisis (see [Figures 2 and 6](#)). Some researchers argued that the crisis caused a tumbling effect on many SMEs (Sullivan-Taylor & Branicki, 2011; Torstensson, H. Pal et al., 2014), and for that reason, several scholars were attracted to study the concept. Surprisingly, despite the crisis effect, some companies were able to survive, grow and even thrive at the time. Why some SMEs performed well during that crisis whereas others failed, has become a key issue in academic communities. Moreover, the threats faced by SMEs are not limited to the financial collapse of 2008/09. Rather threats are numerous and varied, and also have been increasing, indicating the desirability of researching SMEs resilience (Annarelli & Nonino, 2016). We observed the variety of threats that triggered resilience research in an SME context including institutional failures, political instability, conflicts, natural disasters, extreme weather events, and challenges related to infrastructure, and market and input access-related obstacles (Littlewood & Holt, 2018), among the few to list. From this list of threats and subsequently the importance to have insight into developing and maintaining resilience, one can derive that it is not only of interest for academia but as well for entrepreneurs and policymakers to research SME resilience (see Nybakk et al., 2011; Blackburn et al., 2013).

However, the focus of literature up to now mainly is on how to maintain companies resilience in light of these discrete/event-based disruptions and what factors drive them to return to a stable state (See as well Bhamra et al., 2011). This even though business environments, especially in DCs, are more vulnerable and hostile for entrepreneurs due to the existence of recurrent and multifaceted disruptions (Linnenluecke, 2017). Of course, some of the disruptions hampering the resilience of SMEs that includes environmental jolts (Akgün & Keskin, 2014), extreme events (Sullivan-Taylor & Branicki, 2011), and financial crises (Torstensson, H. Pal et al., 2014) can be labelled as discrete because they occur once in a time. However, Tengeh (2016) also alerted that researching resilience about specific crises has limited the application of the concept to another context such as in DCs where companies faced recurrent and multifaceted forms of disruptions. Surprisingly, limited research has looked at the resilience of SME in such a context (Sabatino, 2016).

This more dynamic view on the reality of resilience should come back in the definition of the concept itself. Ates and Bititci (2011) underpin the necessity to introduce dynamism as they describe; “resilience is the capacity of an organization to survive, adapt and sustain businesses: the term has to show not only firm reactions/responses to specific-short term disruptions but also necessary to predict about sustenance of firm in the long run in the midst of complex turbulences”. Linnenluecke (2017) even states that researching the resilience concept to only specific, discrete disruptions has engulfed the rise of a widely inconsistent definition of the concept in business and management literature. Following this line of resilience seen as recurring disruptions and making the inventory of discussions on definitions and conceptualizations, we conclude (as well) that the concept of resilience is multidimensional and embraces a portfolio of capabilities that firm need to develop to overcome the complex and unfolding disruptions challenging them from the business environment. Hence, the adaptability, development of new capabilities- seizing business opportunities and firm sustenance of positive performance, are the core characteristics describing the resilience of SMEs (Ates & Bititci, 2011; N. Williams et al., 2013). A highly resilient SME maintains positive firm performance, more able to adapt to the environment, and able to seize business opportunities better than less resilient one. This will offer better insight into the practical and theoretical aspect of SMEs resilience in the literature (Linnenluecke, 2017).

Better insight via research starts with robust measurement of resilience in which the recurrent disruptive events and SMEs are central. Developing SMEs resilience measurement is prerequisite to exploring factors influencing the resilience of SMEs and how they able to overcome disruptions (Tognazzo et al., 2016). Our review finds that only a few publications discuss organizational resilience measures by focusing on large and mainly they adopted items from crisis and disaster management literature (Kantur & Say, 2015). This may be related to the lack of consensus among scholars on the definitions, and the contextual diversity of resilience understandings used by different researchers (Dahles & Susilowati, 2015). The implication of this is that “one size cannot fit all” as stated in the work of (e.g., Sullivan-Taylor & Branicki, 2011), resilience differs in size of the companies and to the nature of disruptions (discrete vs recurrent) (Biggs et al., 2012b; Branzei & Abdelnour, 2010; Chiesi, 2014; Torstensson, H. Pal et al., 2014). Without considering this contextual variability, adopting a measure used for discrete disruptions and large companies may lead to biased research result when used in an SME context (Linnenluecke, 2017).

Research on SME resilience is on the rise. While we saw more case-based empirical studies, literature is not conclusive. More survey-based research is required to validate the theoretical foundations of resilience measurement for SMEs in DCs. Connected to measurement, methodologically; we also observed a few publications in which a longitudinal research design approach was applied to explore companies’ resilience over time. This is believed to be an essential direction for future research, where using a longitudinal design would augment the theory development and testing of resilience in the SME context (Ortiz-de-Mandojana & Bansal, 2016). Thus, more research based on a longitudinal design needs to be applied to advance our understanding of the resilience of SMEs over time.

Additionally, to the recurrent nature of disruptions, we also focus specifically on SMEs. To overcome the tough situations in DCs, SMEs require more resilience capacity in response (Dahles & Susilowati, 2015). Research on factors influencing the development of SMEs resilience has been the subject of interest among management and strategy scholars. SMEs constitute a substantial proportion of livelihood conditions in many countries in the world (Ates & Bititci, 2011), and the academic community needs to provide policymaker and practitioners with knowledge on about factors influencing their resilience development. About this, we find the existing knowledge is fragmented and inclusive. Moreover, there are emerging empirical studies to address the topic, yet most of them (still) are case studies. Thus, we selected evidence-based research information on how organizations like SMEs may achieve higher degrees of resilience (Bhamra et al., 2011). In confirmation of this, also Annarelli and Nonino (2016) and Linnenluecke (2017) in their works, based on a comprehensive literature review, sustain the existence of the same gap. Gunasekaran

et al. (2011) highlighted that a number of resources and capabilities are critical for building organizational resilience. Ates and Bititci (2011) reported that resilient building firms require possession of resources and strategies that support effective use of the possessed resources.

Moreover, the subsistent character of SMEs adds to a peculiar position of entrepreneurs in DCs. Related to SMEs' subsistent character, Tanner et al. (2015) asserted that the lens of resilience "requires greater attention to human livelihoods if it is to address the limits of adaptation strategies and the development needs of the planet's most impoverished people in the most vulnerable settings" (pp; 23). As Ortiz-de-Mandojana and Bansal (2016) note, when disruptive conditions rise, the volatility of firm performance is strongly felt. This is a pressing issue especially for those subsistent entrepreneurs in the DCs (Acquaah et al., 2011), whose livelihood strongly relies on their small businesses. Wright et al. (2005) offer further inspiration for studying SMEs in DCs by emphasizing that, "for the same reason that strategy practice in DCs pushes the frontier in strategic thinking, strategy research with a focus on these DCs, both as an opportunity and as a necessity, is challenging conventional wisdom in academic thinking and theories in significant ways." Along the lines of Linnenluecke (2017), we conclude that the DC setting provides a potential area of research on SMEs resilience. Despite the academic challenge and practical implications for researching SME resilience in DCs, we concluded that in business administration, studies of resilience have focused on organizations in developed economies. Researchers in the developed world (mainly in the US and Europe) have conducted considerable studies on SMEs resilience, though the topic is a concern in DCs too. Therefore, a gap exists in literature in our understanding of the resilience of SMEs acting in developing countries.

From the literature review specifically on the theories used in resilience research, we concluded that the RBV is the relatively most frequent used general management theory. Tognazzo et al. (2016) suggested that RBV is the most appropriate theory in framing the study of SMEs than that of large companies. In entrepreneurship research, RBV theory has dominated literature over the last decades (Abylaev et al., 2014; Alberti et al., 2018). According to proponents of the RBV, possessing unique, rare and inimitable resources is desirable to advance companies' competitive advantage and thus resilience especially in resource-scarce environments (Acquaah et al., 2011). Possessing resources with such attributes can assist SMEs to survive when a disruption happens (Lengnick-Hall et al., 2011). Yet, RBV has its limitations; for example, it does not entail how resources are processed and the role of firm owners in converting resources to values (Sirmon et al., 2011). To overcome this limitation of RBV, scholars (e.g., Hitt et al., 2011; Sirmon et al., 2011) suggested the importance of extending RBV to the resource orchestration theory (ROT) as this theory enhances capturing knowledge on how to build strategic and resilient entrepreneurship (Hitt et al., 2011). We argue in this paper, that ROT is especially crucial for understanding SMEs resilience enacted in a very complex, and recurrently turbulent environment such as in the DCs (Littlewood & Holt, 2018), where scarcity of resource creates immense challenges for their functioning (Alberti et al., 2018). Overseeing SME resilience literature, we noted that no research has yet employed the ROT for SMEs resilience analysis, providing a gap for future research.

In ROT, the manager/owner of an SME is central due to his role in orchestrating the resources to obtain a certain performance. Annarelli and Nonino (2016) presented an argument to underpin the importance of the manager's role in coping with resilience. They state that an organization's resilience to disruptions is no longer a simple trade-off between redundancy and flexibility but needs to be connected as well to strategic determination and actions for maintaining a competitive advantage. This ignites the role of entrepreneurial orientation (Miao et al., 2017) in enacting the management of scarce resources available to firms and thus achieve business resilience in challenging conditions (Alberti et al., 2018). Acquaah et al. (2011) also support this idea by stating that creating a resilient organization requires strategic actions that change the way a company operates and that increases its competitiveness. Torstenson, H. Pal et al. (2014) research found that SMEs may be able to enhance their resilience notably by focusing on access to finance, material assets, networking, and strategic & operational flexibility and through "turning

them to strategic capabilities” (pp; 421). SME owners also have to adopt strategies making them more resilient, for example, resource configuration, experimenting and developing slack in resources (Tognazzo et al., 2016). SMEs own an unique character differentiating from large companies about resilience (Sullivan-Taylor & Branicki, 2011). Indeed, adopting a contextual strategy, which is unique to SMEs that may work to their advantage in developing resilience, is required. To be able to answer the question of what makes SMEs more resilient from a holistic perspective (Annarelli & Nonino, 2016), an investigation into these factors and their strategic utilization on building firm resilience is desirable.

5. Conclusions

In summary, in this chapter, we answered the call for studies into the resilience of small and medium enterprises (SMEs) by Annarelli and Nonino (2016)- by structuring the diverging views in the literature and laying the foundations of future study in the field. Using a well-defined methodological approach, we studied existing literature on the resilience of SME published in a widespread set of journals from 2000 to 2018. We hope that the findings of this review have aroused several new points by drawing together many independent studies. This study contributes to the theoretical debate on exploring resilience definitions, measures in SMEs and factors influencing the resilience. Prior studies on resilience influencing factors have provided disjointed and incoherent results. We categorized diverse factors discussed and summarized them in this study, into entrepreneurial, firm, environmental, and interaction effects. Generally, the present research has highlighted several and wide-ranging fertile issues discussed in the existing literature related to SMEs resilience. We do not expect our study to be taken as a final word on SMEs resilience-related research. Instead, we present overall research endeavours to highlight the accumulative achievements of the existing resilience research on SME to stimulate more studies on the subject.

5.1. Research implications and future research directions

5.1.1. Empirical research on resilience is needed

Small and medium enterprises (SMEs) play a focal role in many countries' economies, despite facing growing and complex disruptions from the business environment. Knowledge of their resilience is becoming a focal issue to leverage an endeavoured contribution of these companies for economies of the countries (Alberti et al., 2018). Resilience is such a capability that business organizations should have in order to face the growing complex challenges (Kantur & Say, 2015). Although the concept of resilience has often been used in general management, and small and medium enterprises (SMEs) studies, understanding of the concept is very much fragmented, and limited work is done on validation of the concept on the ground.

5.2. Resilience research based on a uniform, multi-dimensional definition

The term resilience is defined differently depending on the field of study and the nature of disruptions. Resilience, generally, in the business domain addresses different managerial constructs including performance. It is a multidimensional concept that can be described by various firm's capabilities attributes. Besides adaptability and performance attributes, which often cited in organizations resilience studies, this study highlighted the need to incorporate, the often discussed but neglected aspect in defining business resilience -“the capability to seize business opportunities”-as a salient feature of resilience in an SME context. The notion of the capability to seize the opportunity is that the challenging settings not only hold difficulties but also have potential opportunities that need to be discovered, exploited and seized by business companies (Lengnick-Hall et al., 2011). Therefore, the adaptability, performance, and seizing business opportunities are salient characters in defining the resilience of SMEs. Also, these characters provide a fundamental direction to contextualize the resilience theory to the general entrepreneurship and SMEs field. Future research on SMEs resilience thus should focus on key topics such as measurement of SMEs resilience, key resources, processes, and actions driving SMEs resilience from an agreed upon resilience definition. Then, future research on SMEs resilience needs to pay more attention to

theory testing and strategic approaches to develop resilient SMEs, to build more consistently a body of knowledge.

5.3. The theoretical and practical urgency to take into account SMEs

As noted earlier, business resilience research to date has tended to adopt a large organization focus and has assumed that findings are likely to apply to the SME context (Ates & Bititci, 2011). Resilience research with an overtly SME focus is recent however considerably rising in recent years. There is still great potential for more research. Studies existing more of conceptual and mainly empirical research on the resilience of SMEs is lacking. This is surprising both because the recent crisis has been a test for survival for companies (much more for the more vulnerable SMEs) and because of the paramount relevance of smaller companies in economies.

Furthermore, in the past research, much weight is given to organization resilience in light of the discrete nature of disruptions in the developed world. Limited work has been done to know about the company's resilience in the face of numerous and recurrent challenges observed in DCs; an acknowledged extremely vulnerable setting to run a business on an SME scale. The resource constraints of the setting also have intensified many SMEs to be more exposed to disruptions (Page & Söderbom, 2015). Evidence supports that while some SMEs are quite resilient within the setting (Branzei & Abdelnour, 2010), most of them operate under survival level and often fail. DCs and SMEs operation in such a setting provides an interesting setting for firm resilience research. After all, the more firms have faced disruptions; the more resilience is required to survive and operate the business (Tengeh, 2016). Future research on the resilience of SMEs in such a setting may help to improve the global quest for resilience knowledge that looked for by academician and policymakers as well.

5.4. Listing of identified research gaps

Taken together with the points mentioned above, this chapter has put forward the following specific research gaps that need attention in future studies:

- Future research has to give due consideration to SME focused resilience research. Specifically, that will utilize a survey-based method, to provide more generalizable empirical evidence. This will help to create more clarity on blurred issues such as the concept definition and its contextual understanding;
- We call for using uniformly one multidimensional definition of the SMEs resilience concept;
- We call for further research that develops a robust resilience measurement in SMEs. Combined with this the establishment of, and the debate on the robustness of various approaches used to measure resilience in the SMEs field are also critical;
- A very limited body of work has considered the practical interventions, which may enhance the resilience of SMEs principally in an extremely vulnerable setting such as in the DCs. Future research in such context, for instance, has to assess the relevance of different factors such as entrepreneurial orientation (EO), human capital, physical capital and social capital for the development of SMEs resilience. We expect the identification and exploration of the significance of various resources and management of these resources are of importance to future research aimed at explaining the success and failure of SMEs in DCs;
- We call for more research that provides a better understanding of theories underpinning the relationship between the resilience and its influencing factors. Specifically, research on the resource-based view (RBV), and it is an extended idea- resource orchestration theory for the strategic building of firm resilience in resource-scarce and vulnerable setting and,
- The current research commonly connected resilience thoughts to specific shocks or discrete disruptions. Moreover, there is a need for the establishment of the SMEs resilience debate considering the developed world and DCs, relatively in multi-faced and complex nature of disruptions, which is a practical phenomenon of business setting seen in many DCs.

6. Limitations

This study is not without limitations, which are linked with the methodology used. First, our review focused on resilience studies on SME. Consequently, our research excluded research on larger organizations that may apply to SME context too. Second, despite every precaution taken, the researchers recognize their subjectivity regarding the categorization of papers. Third, while we executed all efforts to be comprehensive in collecting the sample of SME focused resilience publications for this study, we may have unintentionally overlooked pertinent articles. This is likely when papers were not published in journals that do not participate in the databases we explored. Fourth, the application of citation and reference checks searching approach that we use to supplement the main search steps may induce some bias, for example, Ismail et al. (2011) and Hedner et al. (2011).

Funding

This work was supported by the Nuffic.

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Citation information

Cite this article as: Conceptualization of SMEs' business resilience: A systematic literature review, Muhammedamin Hussen saad, Geoffrey Hagelaar, Gerben van der Velde & S. W. F. Omta, *Cogent Business & Management* (2021), 8: 1938347.

Notes

1. The terms "business" and "enterprise" are used interchangeably and following Page and Söderbom (2015), SME is defined in this study as enterprise having less than 250 employees, a common phenomenon in most DCs. Additionally, SMEs are viewed as companies that is highly characterized by the resource scarcity and personal management of the firm owners' (Sullivan-Taylor & Branicki, 2011).
2. The classifications used are: (a) Anglo (Australia, Canada, New Zealand, UK, USA, & South Africa) (b) European Union (Denmark, France, Greece, Italy, Portugal, Serbia, Kosovo, Romania, Spain, & Sweden) (c) Confusion (China & Japan) (d) Latin America (Brazil) (e) Middle East (Turkey & Iran) (f) Southeast Asia (Indonesia, Malaysia, India, Thailand, & Philippines) (g) Sub-Saharan Africa (Ghana & Sudan).
3. The last column of the Table 2 shows the frequency of the characteristics used by researchers in describing resilience. Based on this characterization the three authors able to score the highest frequency among others.
4. Note: RBV = Resource Based View, DCA = Dynamic Capability, and SC = Social Capital. Not specified refers those researchers that did not clearly mention the theory that adopted for their research.

Financial support

The research described in this thesis was funded by The Netherlands Organization for International Cooperation in Higher Education (NUFFIC).

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Appendix

Table A1. Distribution of publications by Journal published

Journal name	No. of publications	Journal name	No. of publications	Journal name	No. of publications
Cleaner Production	1	Loss Prevention in the Process Industries	1	Learning and Intellectual Capital	2
International Business Studies	1	Management & Organization	2	International Economic Research.	1
Logistics management	1	Management (France)	1	Supply Chain Management.	1
Strategic Property Management	1	Management and Enterprise Development	1	Corporate Reputation Review.	2
Annals of Tourism Research	3	Management Studies	1	Disaster Risk Reduction.	2
Asia Pacific Business Review	1	Manufacturing Technology Management	1	Production Planning and Control	2
Austrian Emergency Management	1	MIT Sloan management review	2	International Entrepreneurship.	1
Built Environment Project and Asset Management	1	Natural hazards review	2	Academy of management	1
Business Economics and Finance	1	Ocean and Coastal Management	1	Academy of Management Annals	1
Business Horizons	1	Organizational Effectiveness: People and Performance	1	Bus Strategy Development	2
Business Logistics	1	Problems and Perspectives in Management	1	Springer	2
Business Research	2	Production Economics	2	Procedia engineering	2
Business Strategy and the Environment	2	Production Research	11	Sociologia Ruralis	1
Cambridge Regions, Economy Society	1	Quality—Access to Success	1	World Review of Entrepreneurship, Management and Sustainable Development	2
Contingencies and Crisis Management	2	R and D Management	1	Organizational Analysis.	2
Decision Sciences, Risk and Management	1	Resilient Organisations Research Group	1	Information Systems and Technology Management	1
Development and Learning in Organizations	1	Review of Social Economy	1	Innovation	1
Disaster prevention and Management	1	Strategy and Management	1	Local Economy	2
Entrepreneurial Behaviour & Research	3	Supply Chain and Operations Resilience	1	Sustainability: Science, Practice, & Policy	1
Entrepreneurship & Regional Development	4	Sustainability	3	Sustainable Tourism	3

(Continued)

Table A1. (Continued)

Journal name	No. of publications	Journal name	No. of publications	Journal name	No. of publications
Entrepreneurship and Small Business	1	Sustainability Accounting, Management and Policy	1	Sustainability	1
Environmental Conservation	1	WIT Transactions on The Built Environment	1	Sustainable Tourism	3
Sustainability: Science, Practice, & Policy	1	Wine Business Research	1		

Table A2. List of selected papers reviewed and analyzed in chapter

(Abylaev et al., 2014, Acquaah et al., 2011, Adnan et al., 2016, Akgün & Keskin, 2014, Alberti et al., 2018, Aleksić et al., 2013, Ali et al., 2017, Alonso & Bressan, 2015, Amann & Jaussaud, 2012, Arijit Bhattacharya et al., 2016, Arsovski et al., 2015, Ates & Bititci, 2011, Avery & Bergsteiner, 2011, Bentley et al., 2017, Bernard & Barbosa, 2016, Biggs et al., 2015, Biggs, 2011, Biggs et al., 2012a, Biggs et al., 2012b, Branicki et al., 2018, Branzei & Abdelnour, 2010, BREZULEANU et al., 2015, Bullough & Renko, 2013, Burnard & Bhamra, 2011, Cardoso & Ramos, 2016, Carvalho et al., 2016, Castellacci, 2015, Chan, 2011, Chiesi, 2014, Christopher & Peck, 2004, Clarke, 2008, Conz et al., 2017, Crick & Crick, 2016, Dahlberg & Guay, 2015, Dahles & Susilowati, 2015, Danes et al., 2009, , Demmer et al., 2011, Dillard et al., 2010, Doeksen & Symes, 2015, Duarte Alonso, 2015, Duchek, 2014, Dumitraşcu & Dumitraşcu, 2016, Erol et al., 2010, Espiner et al., 2017, Winnard et al., 2014, T. A. Williams & Shepherd, 2016, Williams & Vorley, 2017, Williams & Vorley, 2014, Wedawatta et al., 2010, Wedawatta & Ingirige, 2016, Wedawatta & Ingirige, 2012, Tracey & French, 2017, Torres et al., 2018, Tognazzo et al., 2016, Tibay et al., 2018, Thomas et al., 2015, Tengeh, 2016, Tengblad & Oudhuis, 2018, Tengblad, 2018, Tajuddin et al., 2017, Sun, 2011, Sullivan-Taylor & Branicki, 2011, A. A. Steiner & Cleary, 2014, A. Steiner & Atterton, 2015, Sköld & Tillmar, 2015, Sheffi & Rice, 2005, Sauser et al., 2018, Sapeciay et al., 2017, Saaji, 2012, Sanchis & Poler, 2014, Sahebjamnia et al., 2018, Sabatino, 2016, Richtner & Löfsten, 2014, Régnier, 2004, Rahman & Mendy, 2018, Pettit et al., 2013, Pascua & Chang-Richards, 2018, Torstensson, H. Pal et al., 2014, Andersson, R. Pal et al., 2012, Ortiz-de-Mandojana & Bansal, 2016, Orchiston et al., 2016, Mzid et al., 2018, Morisse & Ingram, 2016, Moore & Manning, 2009, Menéndez Blanco & Montes Botella, 2016, Mendoza et al., 2018, McManus et al., 2007, McGuinness & Johnson, 2014, Marković, 2018, Manfield & Newey, 2017, Lv et al., 2018, Liu, 2013, Littlewood & Holt, 2018, Linnenluecke et al., 2012, Linnenluecke & Griffiths, 2010, Lengnick-Hall et al., 2011, Lee et al., 2013, Larsson et al., 2016, Lampel et al., 2014, Kantur & Say, 2015, Kantur & Arzu, 2012, Ismail et al., 2011, Irvine & Anderson, 2004, Huggins & Thompson, 2015, Hedner et al., 2011, Harries et al., 2018, Hamel & Valikangas, 2003, Halkos et al., 2018, Gunasekaran et al., 2011, Gray & Jones, 2016, Gomes, 2015, Gerde et al., 2016, Fiksel, 2006).



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