



Exploring Research Methodologies in Crisis Management Research of Small and Medium Enterprises' (SMEs'): A Systematic Literature Review

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ABSTRACT

A methodological review attempts to critically analyze and discover the research procedures employed in studies that have already been conducted aiming to understand both effective and ineffective approaches. This study conducted a systematic review of forty empirical studies on SME crisis management to evaluate the methodologies used to identify the most commonly used research methodologies, significant characteristics of each research design, its related facets, and future research approaches. Articles were systematically selected from reputed online data bases considering the journal ranking and the citations. The findings may fill a gap in the SME crisis management literature caused by a lack of empirical evidence for methodological review synthesis. It was discovered that quantitative studies dominated the SME crisis management literature. In contrast, qualitative research studies, which are required to gain a more in-depth understanding of the subject, receive less attention and even reflect variations in the application of various qualitative approaches. Even in quantitative studies, it is prominent to find a tendency toward reduced usage of advanced statistical tools, insufficient sample size, and longitudinal data utilization. Findings directed future research requirements for more in-depth studies on crisis phenomena in the SME environment.

Keywords: Crisis Management, Qualitative, Quantitative. Research Methodology, SME, Systematic Review.



INTRODUCTION

In a highly volatile environment, crisis management is critical for organizations to be resilient in the long run (Doern et al., 2019; Pearson & Mitroff, 1993). However, compared to larger organizations, SMEs are more vulnerable to crises (Fabeil et al., 2020) and have a lower chance of survival due to resource redundancy (Doern, 2016; Herbane, 2006; Herbane, 2010a; Penrose, 2020). Despite the high vulnerability of SMEs to crises, existing crisis management studies are mostly available on larger organizations (Herbane, 2006; Doern et al., 2019). As a result, given the importance of SMEs in any economy dependent on their survival (Herbane, 2010a; Eggers, 2020; Hossain et al., 2022), the SME crisis management literature needs to flourish and receive adequate attention.

However, academic research considers epistemology and represents the pure way to create new knowledge through different methods and methodologies. It aims to identify and interpret multiple phenomena and their impact on particular areas of research development. The production of new knowledge in the form of method development is a characteristic of integrative research. However, choosing an appropriate research methodology is one of the most challenging and confusing decisions for most researchers. Justification of philosophical and methodological choices remains largely hidden in the business research (Snyder, 2019) including crisis management area as they still influence research practice and need to be identified. This information will help explain why they chose qualitative, quantitative, or mixed-method approaches for their research. The existing SME crisis literature reviews consists of conceptual and theoretical perspective development in the subject (Doern et al., 2019; Andreas & Leif, 2021). In addition, if researchers can consider the process of knowledge production through different

methodologies in research and the different levels of reflection necessary for systematic literature review research to be successful. Furthermore, several methodological weaknesses have been noted in the crisis and learning management area, including small sample sizes, an over-reliance on cross-sectional designs and the use of inappropriate instrument measures, which mainly depend on regression analysis, is consistently highlighted.

Therefore, this study aims to examine methodological trends in crisis management and critically explore the type of methodological innovations needed in future research. Thus, our starting point in this article is that, this observed shift in the conceptualisation of crisis and learning area needs to be matched with an appropriate change in methodological approaches. The two key questions of our research are:

1. What are the methodological trends in the field of crisis management?
2. What are the different methodological innovations needed in future studies?

LITERATURE REVIEW

Crisis Management Vs SME Crisis Management

Organizational crisis refers to a critical and usually rare incident that may determine the survival of an organization, necessitating immediate action (Pearson & Clair, 1998). As a result, as an aspect of organizational management, crisis management aims to reduce potential vulnerability and minimize losses. Hence, crisis management refers to factors designed to overcome the crisis and mitigate the actual destruction caused (Coombs, 2010). Since crises are unpredictable, organizations must consider better preparation (Mitroff, Shrivastava, & Udwadia, 1987; Josephson et al., 2017), leading to effective

tive response and recovery (Tibay et al., 2018; Kato & Charoenrat, 2017; Orchiston, 2013). Due to the high negative impact on a business and its operations during a crisis phase (Pearson & Clair, 1998), organizations must prepare for a variety of hazards, but not just for one specific type of crisis (Mitroff et al., 1987; Pearson & Mitroff, 1993; Herbane, 2006; Doern et al., 2019).

Organizational crisis management considers three significant phases of crisis management: the pre-crisis, crisis, and post-crisis phases (Coombs & Laufer, 2018; Smith, 1990). The pre-crisis phase is primarily concerned with crisis prevention and preparation to lessen the adverse effects, whereas the post-crisis phase is concerned with crisis response and recovery.

Compared to larger organizations, SME's short-term focus precludes perspectives on contingency management and even crisis management (Herbane, 2010b). According to former researchers, the resource constraints of SMEs have made them more vulnerable, so possible strategies to expand the resource base have been extensively researched. In previous studies, the Resource-Based View (RBV) was used to evaluate the resource base of SMEs in determining whether they were crisis-prone or crisis resilient (Battisti & Deakins, 2015; Mayr et al., 2017). Apart from enhancing the resource base, learning across organizations may potentially enhance the resilience required for SMEs' long-term survival (Herbane, 2019). Specific studies were focused on the dynamic capability of SMEs in terms of improving their resilience in the phase of crises (Battisti & Deakins, 2015). The conservation of resources (CoR) theory extended beyond the material loss caused by crises, including psychological and emotional costs (Doern, 2016).

Current empirical studies have placed a strong emphasis on the pre-crisis phase, in which the crisis preparedness measures

and crisis-resilient initiative were evaluated. Amongst, significant attention was given to evaluate the crisis preparedness of SMEs in terms of generic characteristics such as age and size (Orchiston, 2013), even the contextual differences on developed vs developing nations (Parnell, 2014). Similarly, the personal traits of owner-managers were explored, namely gender, level of education (Josephson et al., 2017; Pathak & Ene, 2017), perception (Herbane, 2010a) and past experiences of crises (Spillan & Hough, 2003; Tibay et al., 2018). In addition, the strategic approaches for crisis management were studied concerning the resource base (Auzzir et al., 2018; Herbane, 2010a), Business Continuity Management (BCM) (Herbane, 2006, 2010b; Kato & Charoenrat, 2017), and crisis resilience initiatives, such as the existence of crisis management teams and crisis management plans (Spillan & Hough, 2003). It did, however, persuade that firms which planned ahead of time appeared to fare better in the face of the crisis, particularly in certain industry-specific studies, such as the tourism industry (Irvine & Anderson, 2008). According to AlBattat & MatSom (2014), an empirical study based on the tourism industry, SMEs have a lower priority for crisis planning due to a lack of financial resources, a lack of education and awareness, and the nature of business. As a result, it necessitates planning and recovery strategies and raising awareness of potential threats through information and disaster experience, emphasizing the importance of government and other organizations' roles. In comparison, Herbane (2014) asserted that SME owner-managers valued experiential information about crises more than generic advisory information.

Post-crisis studies included crisis and post-crisis situations focused on strategic orientation, such as business continuity, resourcefulness, crisis response, and recovery. The impact of the crisis was discussed, assessing the effects on capital,

labour, logistics, and markets (Samantha, 2018). Furthermore, Auzzir et al., (2018) emphasized the loss of sales, non-attendance of employees, and property damage, and insufficient support from experts and relevant information during the post-crisis phase, all of which cause a decrease in the level of performance of SMEs (Asgary et al., 2012). The experiences of owner-managers, mindset and resources are essential for SMEs at the response phase to better respond to crises (Doern, 2016). Thus, previous empirical studies focused primarily on the economic impact of crises, with lesser attention paid to the sociological impact, including social coping strategies in crisis management.

It has revealed differences in research findings based on the research methodology used for the specific research objective. Among the various research paradigms, positivism, post-positivism, constructivism or interpretivism, and the critical perspective are important research perspectives (Guba & Lincoln, 2017; Ponterotto, 2005). While positivism refers to a single true reality that is apprehensible, identifiable, and measurable constructivism focuses on multiple, constructed realities. Thus, in Social constructivism, the reality is subjective and influenced by the situation's context, including the individual's experience and perceptions, the social environment, and the interaction between the individual and the researcher.

Accordingly, the existing empirical studies employed quantitative, qualitative and even mixed methodology. Quantitative research aligned with confirmatory research focuses on how much a theory and a hypothesis can explain. In contrast, exploratory research focuses on how well or meaningfully it can be explained (Reiter, 2017), for which the qualitative approach may be more appropriate. It is possible to identify significant differences and distinguishing characteristics based

on the quantitative versus qualitative approach of sampling, data collection techniques, and data analysis method. This study investigates such differences and significant features of existing empirical studies in SME crisis management literature.

METHODOLOGY

The relevant empirical literature on SME crisis management was selected using a systematic literature review procedure. Due to the relevance and reliability, only journal articles published were considered. Review papers, book chapters and conference papers, were mainly excluded. Major online databases, namely Science Direct, Emerald, Wiley online library, Taylor & Francis, and SAGE online, were searched to identify the empirical studies in the area using the search terms 'SME' and 'Crisis Management'. The advanced search techniques were used to limit the data to recent research articles and limit the articles only for "research articles" and the period from '2000 to 2023'.

Initially, 1152 research articles were selected based on relevant search terms. During the preliminary screening, 205 articles were chosen for their relevance to the topics. The author read the abstract of all the selected articles and selected 40 relevant and high impact empirical articles, even after considering citations and journal ranking. The articles with higher number of citations were considered except recent articles. For more recent articles with lesser citations, the main consideration was the journal ranking.

An in-depth investigation of the research methodology of those empirical studies was conducted to identify the major research approaches used in conjunction with specific sampling techniques, data collection tools, and data analysis procedures. Simultaneously, the data was en-

tered into an Excel spreadsheet to guide the synthesis procedure and align relevant information for the research questions. The frequency analysis method was mainly used to analyze the data.

FINDINGS AND DISCUSSION

A more in-depth examination of these articles revealed three broad categories of SME crisis management studies: qualitative, quantitative, and mixed methodologies (Refer Table 1). Besides pure quantitative studies, the quantitative methodology was prominent for measuring findings in mixed methodology studies. In contrast, the qualitative methodology was used to conduct a more in-depth analysis.

Among those main categories, there was a significant variation in the research techniques used. Different methodologies adopted were comparatively analysed according to the characteristics of each methodology, particularly the appropriateness and the limitations.

Table 1: Frequency distribution over different research approaches

Re-search approach	Quantitative	Qualitative	Mixed
Relative frequency (%)	60%	25%	15%

Quantitative Research approach

The SME crisis management literature had a higher representation of quantitative empirical studies. Approximately 60 percent of studies investigated various quantifiable measures related to SMEs crisis management, such as crisis preparedness measures, crisis impact on SMEs business continuity adaptations and post-crisis response strategies. Due to the nature and the objective of quantitative studies, the positivistic paradigm can be

identified within those studies which qualifies them as confirmatory studies.

Data for quantitative studies are derived primarily from two sources: primary data and secondary data. Considering the research question, nearly 82 percent of quantitative studies mainly relied on questionnaire surveys, which increased data validity as it collected primary data with the specific research objective (Refer Table 2).

Table 2: Data collection methods in quantitative studies

Data collection method	Questionnaire Survey	Panel data & other secondary data
Relative frequency (%)	82%	18%

Among different types of surveys, certain studies specifically mentioned the survey medium as e-mail (Belas et al., 2015; Kraiczy et al., 2014) or postal surveys (Herbane, 2006; Herbane, 2014; Herbane, 2015; Herbane, 2019; Orchiston, 2013). Unlike empirical studies that rely on secondary data, these surveys identify respondents who are the strategic decision-makers in SMEs, including CEOs, Vice Presidents, owner-managers, Managing Directors, and other top executives, who could collect more relevant and reliable data. Furthermore, the structured questionnaires supported those surveys, increased the possibility of collecting necessary relevant data. However, it deviates from the validity of the data since the data was self-reported by the respondents. Hence, certain studies collected the data by the researchers, and even whenever the respondents were illiterate (Asgary et al., 2012). Nevertheless, such involvement could be done with small samples. Although the small sample size and the restriction of the sample to one region

ensure the efficiency of data collection and data management, it becomes a limitation of quantitative studies as the small samples could limit the generalization of the research findings.

Moreover, the studies that used probabilistic sampling, such as simple random sampling (Herbane, 2014; Kraiczy et al., 2014; Parnell, 2014) followed by an appropriately defined sample frame, enhance the population's representation and increase the possibility of generalizing research findings. However, certain quantitative studies associated with non-probabilistic sampling methods did not appropriately define the sample frame of the study, which caused to reduce the reliability and the generalizability of findings (Halkos & Skouloudis, 2020; Kato & Charoenrat, 2017).

Furthermore, approximately 18% of empirical studies that followed the quantitative methodology were based on secondary data such as panel data, financial reports and other secondary data, hence used larger samples, which provided a good representation of the population (Carbó-Valverde et al., 2016; Hyun, 2017; Simón et al., 2016). Since the purpose of these selected studies was to investigate the financial crisis of SMEs and the effects of the financial crises, secondary data would be the most appropriate way to collect data as most entrepreneurs are hesitant to provide financial information to a third party. Furthermore, it improved the population representation as all valid cases in the dataset were taken into account. The main limitations of these panel data are the lack of subjective data collected from entrepreneurs for the specific research objective and the homogeneity of data due to the requirements of the databases. However, it has been justified as emphasizing the trustworthiness of data as government or national level reputed database sources.

Except for the minimum studies based on industry-specific studies such as the tour-

ism industry (Irvine & Anderson, 2008; Orchiston, 2013), most studies considered different types of businesses in various industries. Thus, it identified the requirement of more industry-specific studies to obtain a deep understanding of crisis management in particular industries. The studies that integrated a single kind of crisis and multiple types of crises have nearly equal representation. Accordingly, this review identified the appropriateness of the quantitative methodologies as those were aimed to measure the effects of certain types of crisis, the effect of the crisis on specific industries, the strategic orientation of SMEs such as crisis teams and crisis plans, and crisis resilience approaches. Furthermore, the relationship between SMEs characteristics and crisis management strategies is considered with the quantitative studies, due to the possibility of statistically obtaining the outcome of those variables. The analysis found that most studies depend on cross-sectional data and the minimum representation of longitudinal research, hence highlighted the requirement of longitudinal studies to understand the behaviour of variables over the period.

The quantitative studies extensively used descriptive statistics and frequencies (Asgary et al., 2012; Irvine & Anderson, 2008; Orchiston, 2013). Certain studies used cluster analysis (Herbane, 2019) correlations (Asgary et al., 2012; Kato & Charoenrat, 2017; Kraiczy et al., 2014; Parnell, 2014) and various regression techniques, such as multiple regression (Herbane, 2015), partial least squares path modelling (PLS-PM) (Mayr et al., 2016), and quantile regression (Halkos & Skouloudis, 2020). Few studies used advanced statistical models (Carbó-Valverde et al., 2016; Crick et al., 2018; Herbane, 2006; Herbane, 2014; Hyun, 2017) and multivariate analysis (Simón et al., 2016). In order to improve the study's validity and reliability, these empirical studies had conducted pilot studies (Asgary et al., 2012; Crick et al.,

2018) and used data analysis software (Kato & Charoenrat, 2017); however, in most cases, those were not stated.

Mixed Methodology

In SME crisis management studies, a considerable number of studies used a mixed methodology. Among the studies that used mixed methodology, the quantitative methodology was highlighted for measuring findings. However, since the studies were associated with qualitative methodology, those studies could minimize the limitations of pure quantitative studies.

The majority of mixed methodological studies used questionnaire surveys followed by interviews (Josephson et al., 2017; Kottika et al., 2020;), whereas other studies used surveys, interviews and focus group discussions and/or secondary data to collect qualitative data (Chang-Richards et al., 2017; Pal, Torstensson, & Mattila, 2014; Pathak & Ene, 2017; Saunders, Gray, & Goregaokar, 2014). While the primary analysis is conducted using quantitative methods to understand the hypothesis, the qualitative measurements may provide a deeper understanding of the subject.

The data analysis of the studies combined both quantitative and qualitative data analysis techniques. While quantitative techniques were represented by regression analysis, descriptive statistics and frequencies, the qualitative techniques consisted of thematic coding. Some studies used software for quantitative data analysis, such as SPSS (Pathak & Ene, 2017).

Qualitative Research approach

Qualitative studies in the SME crisis management literature were lower than quantitative studies, accounting for only 25%. Much more than quantitative studies, most qualitative studies aim to provide a rich, contextualized understanding of human experience through the inten-

sive study of specific cases (Polit & Beck, 2010). Hence, the empirical qualitative studies deployed the exploratory research approach to capture a broader view on the subject. The ultimate goal of exploratory research is to gain new insights into research phenomena, which will guide the development of new hypotheses (Jaeger & Halliday, 1998). Exploratory research undertakes to conduct an in-depth analysis of a research problem through analyzing descriptive data. Furthermore, constructivism established the foundation for qualitative research (Ponterotto, 2005), whereas social constructivism believes that the social environment influences an individual's knowledge. Hence knowledge is a process of active construction, and that languages and other forms of communication serve as mediators in the development of knowledge (Adams, 2006).

Accordingly, this review identified various approaches used in these qualitative studies based on the constructivism perspective (Table 3).

Table 3: Data collection methods in Qualitative studies

Research approach	Out of total qualitative studies (%)
Case Study	40%
Grounded Theory	20%
General Qualitative	20%
Phenomenological	20%

Among them, five (40%) were case study-based. The identification of cases was based on two approaches to conducting case studies: context-oriented as ranging from 1 to 8 number of businesses (Charlebois & Camp, 2007; Vargo & Seville, 2011), and rest of the studies were based on specific crisis circumstances such as flood and earthquake (Fang et al., 2020; McGuinness & Johnson, 2014). As both these types of studies primarily investigated organizational behavioural factors and personal characteristics of entrepreneurs, a more in-depth examination of studies in specific case studies aimed at providing a deeper understanding of the organizational context and the crisis phenomenon.

Approximately 20% of qualitative studies used the grounded theory approach (Branicki et al., 2017; Macpherson et al., 2015; Sullivan-Taylor & Branicki, 2011), with two of them utilizing focus group discussions (Branicki et al., 2017; Sullivan-Taylor & Branicki, 2011). Those studies adopted various techniques such as ice-breaking discussions among group members and written answers in a workbook for open-ended and closed-ended questions. Such answer scripts combined with the analysis of transcripts helped interpret results and avoid misunderstandings. The remaining study collected data through interviews. Two of those studies adopted a phenomenological approach (Doern, 2016; Burhan et al. (2021) to assess the human experience of crisis from the particular perspective of the subject considered.

The findings revealed that the in-depth interviews followed by a semi-structured questionnaire were these qualitative studies' primary data collection tool. Close interaction with respondents and the possibility of clarifying and verifying necessary information result in obtaining a deeper understanding of the problem considered. Moreover, in studies that aim to investigate the personal traits of entrepreneurs,

a close interaction may be needed. The data's relevance and trustworthiness were guaranteed as the primary respondents were the first-level managers, namely owner-managers, co-managers, and heads of the departments involved in decision-making. Written materials were explicitly used as a supportive tool for the qualitative interviews, mostly in case studies (Charlebois & Camp, 2007; Fang et al., 2014; Ozanne, & de Vries, 2020; Vargo & Seville, 2011) and focus group studies (Branicki et al., 2017; Sullivan-Taylor & Branicki, 2011). Although the interviews were used as the primary source of information for the study, some studies use questionnaires as a guide for the interview to ensure that all issues were considered. It is vital that some of the studies used secondary data through former empirical studies, archive data, relevant reports, and even verification of transcripts as a source of verification and clarification, which enhanced the validity and reliability of the data.

The contextual identification of those studies indicated that all these qualitative studies are based on developed nations. The nature of qualitative studies directed the participants of the study to be selected using non-probabilistic samples, namely, purposive (Doern, 2016), cold-calling and snowballing (McGuinness & Johnson, 2014), convenience (Fang et al., 2020) and theoretical (Macpherson et al., 2015) methods. Compared to other methods, the sample size was small in most studies less than 20 respondents. Given the importance of data volume, some studies claim that data is collected up to the saturation point (Fang et al., 2020).

The studies adopted qualitative data analysis techniques such as axial coding and thematic analysis at the data analysis stage. Minimum (nearly 30%) studies stated that they used a special software like NVivo for the data analysis process (Branicki et al., 2017; McGuinness & Johnson, 2014; Sullivan-Taylor &

Branicki, 2011) that limited the transparency of the process. Nearly 30 percent of studies indicate that a pilot study was conducted (McGuinness & Johnson, 2014; Sullivan-Taylor & Branicki, 2011).

A lack of qualitative studies in the SME crisis management literature highlights the importance of more qualitative studies in a broader context (Figure 1). It is further evidenced that certain types of studies were not represented in the selected sample, such as action-based research. Such studies may enrich the SME crisis management literature to provide more practical solutions for the problem investigated.

Given the organizational context and broader perspectives of entrepreneurs, the crisis phenomenon should be critically examined. Perhaps phenomenological studies can provide a broader perspective on crisis experiences in the organizational context, particularly with SMEs.

According to the findings, quantitative studies are more common in the SME crisis management literature. In contrast, the frequency of conducting qualitative studies in SME crisis management studies is to gain a deeper understanding of the subject is low (Table 4).

While the synthesis of empirical research data on SME's research methodology could be identified in the following research areas, deviant factors exist technically, conceptually, and contextually (Table 5).

SME crisis studies were extended in all three phases: the pre-crisis, crisis, and post-crisis phases. The pre-crisis phase received slightly more attention for crisis preparedness. The majority of the studies were initiated to evaluate the crisis preparedness measures and SMEs' crisis resilience initiatives, including Business Continuity Planning (BCP). The empirical studies on the post-crisis phase continued in both the crisis phase and after crisis circumstances concentrated on strategic orientation, including business continuity, resourcefulness, strategic crisis response approaches and crisis recovery and renewal.

Table 5: Deviant factors on existing empirical studies

Evaluation criteria	More Studies on	Fewer studies on
Multiple research technique	Quantitative	Qualitative
Research paradigm	Positivism	Constructivism
Research intensity	Confirmatory research	Exploratory research
Various research context	Developed nations	Developing nations
Different crisis phases	Crisis preparedness	Crisis response phase

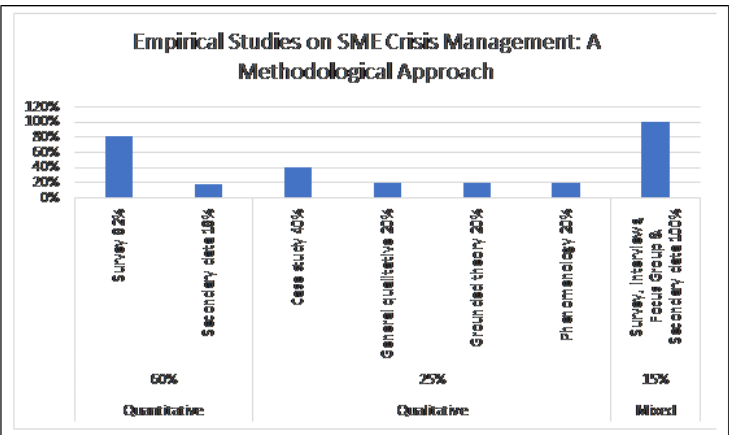


Figure 1: Different Research Methodologies in SME Crisis Management

While certain studies consider a specific type of crisis, other studies commonly concentrated on both types of crisis; natural and human-made. The majority of the studies were based on developed nations, mainly European countries. Comparatively, fewer studies were based on the developing nations, where most

were located in crisis-prone Asian countries. A minimum number of studies were considered to compare two nations of developing versus developed.

Table 4: SME crisis management: A methodological approach in empirical studies

Research Methodology	Research approach	Context	Industry type	Data analysis
Quantitative methodology	<u>Surveys: Primary data were mainly collected</u> Irvine & Anderson, 2008; Spillan & Hough, 2003; Parnell, 2014;Crick, Eskander, Fankhauser, & Diop, 2018;Halkos & Skouloudis,	<u>Developed nations</u> Irvine & Anderson, 2008; Spillan & Hough, 2003; Halkos & Skouloudis, 2020 ;Kraicz, Hack, & Kellermanns, 2014;Asgary et al., 2012; Orchiston, 2013;	<u>Different types of industries</u> Spillan & Hough, 2003; Parnell, 2014;Crick, Eskander, Fankhauser, & Diop, 2018;Halkos & Skouloudis, 2020 ;Kraicz, Hack, & Kellermanns,	<u>Descriptive statistics and frequencies</u> Asgary et al., 2012 (correlations); Irvine & Anderson, 2008; Spillan & Hough, 2003 (ANOVA), Parnell, 2014 (correlations); Kato & Charoenrat, 2017

	2020; Kraiczy, Hack, & Kellermanns, 2014;Asgary, Imtiaz, & Azimi, 2012; Kato & Charoenrat, 2017; Orchiston, 2013; Herbane, 2019; Herbane, 2014; Herbane, 2006 ; Herbane, 2015 ; Mayr, Mitter, &Aichmayr, 2017; Carbó-Valverde, Rodríguez-Fernández, & Udell, 2016; Simón, Revuelto, & Ribeiro, 2016; Belas et al., 2015; Battisti & Deakins, 2015, Fasth et al. (2022), Fasth et al. (2021), Parnell and Crandall(2021), Scheper et al. (2021) <u>Panel data ; data based and other secondary data</u> Carbó-Valverde, Rodríguez-Fernández, & Udell, 2016; Simón, Revuelto, & Ribeiro, 2016; Hyun, 2017 , Klyver and Nielsen (2021)	Herbane, 2019; Herbane, 2014; Herbane, 2006 ; Herbane, 2015 ; Mayr, Mitter, &Aichmayr, 2017; Carbó-Valverde, Rodríguez-Fernández, & Udell, 2016; Simón, Revuelto, & Ribeiro, 2016; Belas et al., 2015; Battisti & Deakins, 2015, Fasth et al. (2022), Fasth et al. (2021), Klyver and Nielsen (2021), Parnell and Crandall(2021), Scheper et al. (2021) <u>Developing nations</u> Asgary et al., 2012; ; Kato & Charoenrat, 2017; Crick et al., 2018 <u>Comparison of developed and developing nations</u> Parnell, 2014	2014;Asgary, Imtiaz, & Azimi, 2012; Kato & Charoenrat, 2017; ;Herbane, 2019; Herbane, 2014; Herbane, 2006 ; Herbane, 2015 ; Belas et al., 2015; Mayr, Mitter, & Aichmayr, 2017; Carbó-Valverde, Rodríguez-Fernández, & Udell, 2016; Simón, Revuelto, & Ribeiro, 2016; Hyun, 2017; Battisti & Deakins, 2015, Fasth et al. (2022), Fasth et al. (2021), Klyver and Nielsen (2021), Parnell and Crandall(2021), Scheper et al. (2021) <u>Single type of industry</u> Orchiston, 2013; Irvine & Anderson, 2008;	(correlations); Orchiston, 2013 (Chi-squared test); Fasth et al. (2021), Scheper et al. (2021) <u>Correlations & Regression</u> Kraiczy, Hack, & Kellermanns, 2014, Herbane, 2015; Mayr et al., 2017; Halkos & Skouloudis, 2020;Fasth et al. (2022), Klyver and Nielsen (2021) <u>Multivariate analysis</u> Simón, Revuelto, & Ribeiro, 2016 <u>Other advanced statistical models</u> Herbane, 2014; Carbó-Valverde et al., 2016; Herbane, 2006; Crick et al., 2018; Hyun, 2017; Battisti & Deakins, 2015, Parnell and Crandall (2021) <u>Other statistical analysis:</u> Herbane, 2019 (Cluster analysis); Belás et al., 2015 (Chi-squared
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				test);
Qualitative methodology	<u>In-depth inter-views</u> Doern, 2016; Macpherson et al., 2015; Burhan et al. (2021), Toubes et al. (2021) <u>Case studies</u> Vargo & Seville, 2011; Charlebois & Camp, 2007; McGuinness & Johnson, 2014; Fang et al., 2020 <u>Focus Group discussions</u> Sullivan-Taylor & Branicki, 2011; Branicki et al., 2017	<u>Developed nations</u> Doern, 2016; Macpherson et al., 2015;; ; Vargo & Seville, 2011; Charlebois & Camp, 2007; McGuinness & Johnson, 2014; Fang et al., 2020; Sullivan-Taylor & Branicki, 2011; Branicki et al., 2017, Toubes et al. (2021), Toubes et al. (2021) <u>Developing nations</u> Burhan et al. (2021)	<u>Different types of industries</u> Doern, 2016; Macpherson et al., 2015;; Vargo & Seville, 2011; McGuinness & Johnson, 2014; Sullivan-Taylor & Branicki, 2011; Branicki et al., 2017 <u>Single type of industry</u> Fang et al., 2020; Charlebois & Camp, 2007;; Burhan et al. (2021), Toubes et al. (2021)	<u>Qualitative data analysis methods: Thematic analysis/ case study analysis, etc.</u> Doern, 2016; Macpherson et al., 2015; Vargo & Seville, 2011; Fang et al., 2020; Charlebois & Camp, 2007; Burhan et al. (2021), Toubes et al. (2021) <u>Used a software : NVivo</u> McGuinness & Johnson, 2014; Sullivan-Taylor & Branicki, 2011; Branicki et al., 2017
Mixed methodology	<u>Questionnaire survey and in-depth inter-views</u> Kottika et al., 2020 ; Josephson, Schrank, & Marshall, 2017	<u>Developed nations</u> Kottika et al., 2020 ; Josephson, Schrank, & Marshall, 2017; Saunders, Gray, & Goregaokar,	<u>Different types of industries</u> Kottika et al., 2020 ; Josephson, Schrank, & Marshall, 2017; Saunders, Gray, & Goregaokar, 2014; Pathak &	<u>Quantitative analysis:</u> Descriptive statistics/ Frequency analysis/Regression analysis

	<u>Questionnaire survey, in-depth interviews, focus group discussions, observations and other secondary data</u> Saunders, Gray, & Goregaokar, 2014; Pathak & Ene, 2017; Pal, Torstensson, & Mattila, 2014; Chang-Richards, Wilkinson, Seville, & Brunsdon, 2017	2014; Pal, Torstensson, & Mattila, 2014; Chang-Richards, Wilkinson, Seville, & Brunsdon, 2017 <u>Developing nations</u> Pathak & Ene, 2017	Ene, 2017 <u>Single type of industry</u> Pal, Torstensson, & Mattila, 2014; Chang-Richards et al., 2017;	<u>Qualitative analysis:</u> Thematic analysis/ Case study analysis Kottika et al., 2020 ; Josephson, Schrank, & Marshall, 2017; Saunders, Gray, & Goregaokar, 2014; Pathak & Ene, 2017; Pal, Torstensson, & Mattila, 2014; Chang-Richards, Wilkinson, Seville, & Brunsdon, 2017
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CONCLUSION AND FUTURE RE-SEARCH DIRECTIONS

Several distinct methodological differences in existing empirical studies of SME crisis management were discovered based on the research objective during the methodological review of SME crisis management literature. Overall, this review identified the existing gaps in the SME crisis management literature; lack of qualitative studies, inadequate samples to generalize the findings, less tendency of using advanced statistical tools to enhance the transparency, contextual biases being more studies based on developed nations, insufficient studies in several areas such as industry-specific studies, longitudinal studies, action research studies and studies to compare different contexts in SMEs crisis management phenomenon. Most studies focused on the economic impact of the crisis on SMEs, the social impact was rarely discussed. Furthermore, adequate attention needs to be directed at all three research methodologies to fulfil the requirements

to enhance the validity and reliability of the study rather than over-relying on certain usual practices and adopting convenient approaches. More importantly the qualitative research will provide a different insight other than using it as retrospectively (Doern et al., 2019). Among qualitative studies the authors further emphasised the importance of case studies and acquiring longitudinal data for an in-depth understanding. In their recent review of

Andreas & Leif (2021) highlighted the necessity of investigating the associated subject matters on opportunity perspective other than the uncertainty and resilience perspective.

Hence, this study may contribute to fill the gap in the existing SME crisis management literature; the lack of methodological reviews in SME crisis management research. Despite the limitation of this study, such as consideration of only the research articles published in English, ignorance of other ongoing studies and articles published in small groups, this

study may be directed to several areas of future studies.

Accordingly, the existing empirical findings of SME crisis management emphasize the importance of additional exploratory studies on the crisis phenomenon, particularly the organizational level strategic approach. A philosophical shift from positivism to constructivism may provide a more in-depth perspective on the subject and emphasize the importance of interconnectedness among the business community and relevant stakeholders in better managing crises.

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