SME Strategic Management Practices during the COVID-19 Pandemic in Developing Countries: An Empirical Test of the Threat Rigidity Hypothesis

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Abstract

The study undertook to establish the strategic management practices adopted by Zambian SMEs during the COVID-19 pandemic and how they affected their performance. To help with meeting the foregoing objective, a pragmatic research approach which permits the use of mixed methods research design was adopted. With quantitative data being of primary focus, it successfully collected data from 333 SMEs who had been in operation for at least 4 years at the time of the survey. With data on strategic management practices and business performance collected using a Likert scale questionnaire, they were initially subjected to Exploratory Factor Analysis (EFA). EFA enabled the computation of factor scores, which are composite indices that represented the concepts of interest in as far as variable operationalization was concerned. The results show that surveyed SMEs adopted defensive strategic management practices in their attempt to navigate through the challenges that were presented by the COVID-19 pandemic. The extent to which surveyed SMEs were defensive was, however, moderate. On further investigating whether SMEs were justified in their preferences for execution of defensive strategic management actions as far as performance was concerned, the study found mixed results. Particularly, those who chose to scale down their operations were found to have performed better than their counterparts who did not. On the contrary, those that decided to restrict their scope of information search and processing had poorer performance outcomes than those that opted to do the opposite. On the basis of the foregoing, the study recommends a mix of offensive and defensive strategic managements practices when SMEs are facing a crisis environment for purposes of building resilience.

1. Introduction

The outbreak of the COVID-19 pandemic in December 2019 was a concerning crisis in terms of both health and economic activity. On the health front, data from Johns Hopkins University show that nearly 7 million people had died from the disease as at early October 2023 at the time that cumulative global cases stood at over 676 million.[1] Economically, the effects of the pandemic saw the global economy shrink by 3.3% in 2020 according to data from the IMF (IMF, 2021) in a way that reflected stringent containment measures instituted by different countries and faltering consumer demand.

Although the negative economic effects of the pandemic were broad-based at firm level, recent studies have revealed that these pains were more severe at Small and Medium Enterprises (SMEs) than at their larger counterparts (OECD, 2020; ILO, 2020; ICA, 2020). Disproportionate effects suffered by SMEs during crises have been to linked their navigation incapacitation owing to the liability of smallness and insufficient resources to do so (Miocevic, 2021). It is for this reason that many governments deliberately instituted interventions targeted at alleviating some of the pains suffered by this category of business establishments (Mason, 2020).

In Zambia, SMEs dominate the business world accounting for 97%, 88% and around 70% of the countries business enterprises, employment and the country's Gross Domestic Product (GDP), respectively (International Trade Center, 2019; CUTS, 2020). Barely five months after Zambia recorded the first COVID-19 case on March 18, 2020, the impact of the pandemic on SMEs in Zambia showed up in form of dwindling customer numbers (reported by 71% of polled SMEs), failure to access operational funding from lenders (73%) as well as inability to afford inputs (49%) (FSDZ, 2020). This was a manifestation of the severity of the pandemic effects at local (domestic) level.

The foregoing notwithstanding, and across different SMEs, economic consequences of the COVID-19 pandemic on SMEs have been noted to be different depending on how they reacted to these challenging times (Lim, Morse, & Yu, 2020). In past crises, those that have been able to suffer minimal business disruptions or indeed come out of such crises victorious have been associated with their ability to build business resilience in a crisis environment (Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010; Tang, Kacmar, & Busenitz, 2012; OECD, 2020; Stephan, Zbierowski, Pérez-Luño, & Klausen, 2021).

While studies on resilience date as far back as 1970s during when Holling

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[1]Data are available at https://coronavirus.jhu.edu/map.html as was accessed on 5th November 2023.

(1973) published what is considered as the first scholarly paper on the concept, those that focus on the SMEs have only gained greater traction in the aftermath of 2007-2009 financial crisis (Saad, Hagelaar, van der Velde, & Omta, 2021). To a large extent, this has been the case owing to a realization that findings on business resilience generated through studying large corporate entities are sometimes not relevant and, therefore, cannot be directly applicable to SMEs (Ates & Bititci, 2011).

At business level, resilience has been defined differently by different scholars but it generally refers to capacity to adapt and cope with an uncertain and challenging environment (Huang, Chen, & Nguyen, 2020). For SMEs, Branicki et al. (2018) notes that resilience entails manifestation of the enterprise's capacity and ability to overcome external pressures in a way that ensures continuity and survival of businesses while also carrying out business renewal and reorientation.

Among business entities that have been able to build resilience during crises, studies have shown that the key pathways are organizational innovativeness (Diedrich, Northcote, Röder, & Sauer-Sidor, 2022; Heredia, Rubiños, Vega, Heredia, & Flores, 2022), employee creativity (Okpara, 2007; Alias, Ismail, Alias, & Omar, 2019; ILO, 2021), operational/financial flexibility (Hirt, Laczkowski, & Mysore, 2019), organizational culture (Khanzad & Gooyabadi, 2021) as well as enterprise owner's background characteristics that include such variables as cultural history, lifestyle, gender as well as age (Biggs, Hall, & Stoeckl, 2012; Saad, Hagelaar, van der Velde, & Omta, 2021).

Irrespective of the size of the business enterprise (large corporate of SME), literature on building business resilience in crisis time suggests consensus that strategic management practices play a significant and crucial role (James & Wooten, 2005; Campbell & Sinclair, 2009; Boin & Van Eeten, 2013; Muñoz, Kimmitt, Kibler, & Farny, 2018; Khanzad & Gooyabadi, 2021). For example, James and Wooten (2005) contend that it is the mishandling of crises through inappropriate strategic management practices, and not the crises themselves, that generate most severe adverse outcomes for business entities.

Relatedly, Campbell and Sinclair (2009) view strategic management in a crisis as a type of response which aims at phenomena definition of a crisis while also creating adequate preconditions for appropriately-timed prevention and overcoming of the associated problems. In the case of SMEs, and while they tend to be disadvantaged in terms of their financial capacity and market positioning, appropriate management strategies tend to work better for them as they leverage on agility, quick adaptability and innovativeness that is associated with smallness (Khanzad & Gooyabadi, 2021).

Previous studies show that strategic management practices that are offensive towards the crisis such as business model adaption, increased spending on innovation and employee skill development as well as pivoting have been noted to produce better results in terms of building resilience than those that are defensive (Gulati, Nohria, & Wolgezogen, 2010; Osiyevskyy, Shirokova, & Ritala, 2020;

Klyver & Nielsena, 2021). Paradoxically, most businesses tend to be defensive when confronted with a crisis by relying on past experiences in terms of what has worked before as well as scaling down on innovative and creative activities (Coyne & Coyne, 2008; Gulati, Nohria, & Wolgezogen, 2010; Lim, Morse, & Yu, 2020; Rodrigues, Franco, Sousa, & Silva, 2021; Govindarajan, Srivastava, & Iqbal, 2021) and such a reaction to crises is generally known as threat rigidity.

While there is temptation to generalize threat rigidity as a phenomenon that cuts across crises, the nature of one created by the COVID-19 has never been experienced by existing SMEs today. SME-centered studies that have been conducted so far in this Covid-19 era have mainly focused on the negative effects of the pandemic as well as policies designed by national governments to cushion the impact (Mason, 2020; Miocevic, 2021). As such, questions of what strategic management practices these business entities adopted, their nature as well as the associated effect on performance remain inadequately answered especially in such developing countries as Zambia.

2. Objectives

Generally, the study seeks to establish the strategic management practices adopted by Zambian SMEs during the COVID-19 pandemic and how they affected their performance. Specifically, the following are the objectives that the study intends to achieve.

1) To establish what strategic management practices that SMEs in Zambia adopted in order to navigate challenges associated with the COVID-19 pandemic.

2) To ascertain the extent to which SMEs' strategic management reactions were offensive or defensive towards the COVID-19 pandemic.

3) To state how strategic management practices adopted by Zambian SMEs during the COVID-19 pandemic affected their performance.

3. Theoretical Underpinnings of Organizational Behavior during Crises

3.1. Threat Rigidity Theory

In the midst of increasing frequency of crises that create a disruption to the business environment, the growing literature on how firms behave during such challenging times have relied on a number of theories as bases of arguments in their undertakings. One of the most utilized theories in this area is the Threat Rigidity Theory developed in early 1980s by Staw et al. (1981). The theory posits that the reaction of firms to threats come in two forms which are not necessarily mutually exclusive. These are the restricting information processing and constriction in organizational control. Particularly, information processing restriction is done through the narrowing of attention of new developments, simplification of information codes and a reduction in the number of channels through which information is processed. Meanwhile, control constriction manifests through

concentration of organizational power and influence on a few individuals belonging to the higher levels of the leadership hierarchy (Staw, Sandelands, & Dutton, 1981; Stoker, Garretsen, & Soudis, 2018).

The two forms of reaction to a threat by organizations inform the assertions of the threat-rigidity hypothesis. The hypothesis states that organizations tend to narrow their focus to systems and actions that have previously been successful for them by restricting the extent to which they seek new information about the threat as well as only letting top management make all the important decisions. However, such rigid reactions have been found to be sub-optimal in so far as guaranteeing survival is concerned and, as such, they have been blamed for many of the corporate collapses (Staw, Sandelands, & Dutton, 1981).

Although the theory was primarily developed for purposes of addressing the question of organizational adaptation in the face of diversity, it has also found its use in studies that model individual and group level behaviors under stressed conditions (Brezicha, Kavanagh, Martin, & Fisher-Ari, 2022). After all, organizational reactions to crises are decided upon by individuals or a group of individuals such that the social and psychology paths through which individual actions are influenced also apply to organizations by extension (Staw, Sandelands, & Dutton, 1981).

According to the theory, the effects of a threat on individuals that are in charge of organizations show themselves through three dimensions comprising psychological stress, anxiety and physiological arousal. It is important to note that the three tend to be complementary as far as human functioning is concerned (Schlosberg, 1954) with physiological arousal reportedly being responsible for people's behavioral acts witnessed when they are anxious and stressed regardless of whether the source of the threat is laboratory-based or naturally occurring (Staw, Sandelands, & Dutton, 1981).

Some empirical works that have previously utilized the Threat Rigidity Theory argue that the extent to which organizations exhibit information processing restriction and control constriction is directly proportional to the severity of the threat or crisis (Wan & Yiu, 2009; Meyer, Mudambi, & Narula, 2011; Stoker, Garretsen, & Soudis, 2018). That is, the greater the severity of the threat or crisis, the higher the restriction in information process and practice of control constriction.

3.2. Failure-Induced Change Theory

The Failure-Induced Change Theory is another of the key theories that attempt to explain the behavior of firms as far as strategic management practices are concerned when faced with a threat or crisis. The theory is benchmarked on traditional theories of adaptation that point to organizations' increased propensity to change in an environment where expectations are not being met thereby leading to problemistic search and organizational learning (Ocasio, 1993). Problemistic search involves continuously looking for alternative ways of running an

organization when existing ones produce results that are less than desirable in a troubled environment and this process only stops when a satisfactory solution is arrived at while organizational learning describes a dynamic process of self-improvement through creation and sharing of knowledge among members/units of the organization (Cyert & March, 1963; Dodgson, 1993).

In mirroring the predictions of the Prospect Theory, the Failure-Induced Theory states that in the face of a threat or crisis that creates underperformance, organizations tend to focus on resolution of associated challenges thereby leading to heightened risk-seeking behavior (March & Simon, 1958; Ocasio, 1993). On the basis of the foregoing, it is important to note that the theory predicts stability or inertia in organizational practices and behaviors if performance satisfies expectations at the minimum regardless of whether there is a crisis/threat or not.

Unlike the Threat Rigidity Theory which relies on the direct mapping of individual responses to threats on the organizational level, proponents of Failure-Induced Change Theory argue that there are certain structural settings that may not impede such a mapping in cases where decisions are made by a group. This is because in group setups (rather than individual setups), emergence of threats or crises tend to not only change the informational and normative social influence of each of the group members but also distinctly trigger different social identities that act as transmission mechanism of the effects of threats or crises (Deutsch & Gerard, 1955; Hogg & Abrams, 1988). Besides, and by design, the influence of individual cognitive limitations is largely overcome by the development of routines, processes and structures that are aimed at defining the premises and organizational identities that ultimately shape decision making (March & Simon, 1958; Ocasio, 1993).

4. Empirical Literature Review

4.1. Exposure of SMEs to Crises and Strategic Management Responses

Generally, literature on business exposure to threats and crises notes variations between how business entities of different sizes are affected. Particularly, SMEs are more susceptible to crises and negative shocks to the extent that they tend to suffer large revenue declines and employment losses compared to their larger counterparts such that the former tend to account for the largest share of the economic downturn in times of the crises (OECD, 2020; ILO, 2020; ICA, 2020).

There is a range of factors that have been advanced for the foregoing observation. Limited capabilities to navigate through hard times on account of inadequate financial resources, high dependence on a few number of customers as well as shortcomings in form of technological, managerial and human resource capabilities take the blame for the disproportional effects against SMEs (Bourletidis & Triantafyllopoulos, 2014; Morgan, Anokhin, Ofstein, & Friske, 2020; Miocevic, 2021). Besides, and given that the foregoing also implies heightened credit risks, SMEs also face secondary factors such as inability to access short term

financing from lenders (OECD, 2009) thereby exacerbating the negative effect of crises.

Despite the effects of crises tending to be disproportional against SMEs, the reaction tends to be similar regardless of the size of the company. That is, most businesses tend to be defensive when confronted with a crisis by relying on past experiences in terms of what has worked before as well as scaling down on innovative and creative activities (Coyne & Coyne, 2008; Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010; Lim, Morse, & Yu, 2020; Rodrigues, Franco, Sousa, & Silva, 2021; Govindarajan, Srivastava, & Iqbal, 2021; Kamphuis, Gaillard, & Vogelaar, 2012).

Considering that crises usually create unprecedented unpredictability in so far as the future path of the business environment is concerned (Brown & Rocha, 2020), the defensive reaction that many business entities pursue is preferred because it largely entails preserving the value of business and thus avoiding further losses (Klyver & Nielsena, Which Crisis Strategies are (Expectedly) Effective Among SMEs During COVID-19?, 2021). From a psychological perspective, being defensive finds merit in the fact that individuals' priority when hit by a crisis is basic safety and survival (CDC, 2019) and, as such, this applies to decisions they make on behalf of organizations they operate.

Of course, the foregoing does not imply that all business entities respond defensively as some choose to face crises head on with a view of identifying opportunities in the thicket of associated challenges (Teece, 2007; Alessandri, Cerrato, & Depperu, 2014; Saebi, Lien, & Foss, 2017; Shi, Connelly, & Cirik, 2017; Stephan, Zbierowski, Pérez-Luño, & Klausen, 2021). For example, and in a study involving 5,206 SMEs from 23 countries, Stephan et al. (2021) notes that 39.4% of these business enterprises reacted to the Covid-19 pandemic offensively and were able to identify opportunities housed within the pandemic woes. This is likely to be the case if the business entity has excess financial resources to fund activities associated with offensive strategies (Alessandri, Cerrato, & Depperu, 2014; Shi, Connelly, & Cirik, 2017) and the management team is naturally exploring of opportunities even in good times (Teece, 2007; Saebi, Lien, & Foss, 2017).

4.2. Effect of Strategic Management Responses to Crises on Business Performance

Notwithstanding the bias towards adopting defensive copying strategies during crises by business entities in general, literature shows doing the opposite tends to produce better performance results. That is, such strategic management practices as business model adaption, increased spending on innovation and employee skill development as well as pivoting have been noted to produce better results in terms of building resilience than those that are defensive.

Interestingly, results of better business performance in cases where firms pursue offensive strategies in crisis environments have been observed across

firms of different sizes (SMEs inclusive), in studies that utilized different statistical approaches to data analyses as well as those conducted in different crises. There are many examples of studies that find a positive relationship between offensive crisis responses and business performance (Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010; Stoker, Garretsen, & Soudis, 2018; Osiyevskyy, Shirokova, & Ritala, 2020; Miocevic, 2021; Klyver & Nielsena, 2021; Stephan, Zbierowski, Pérez-Luño, & Klausen, 2021; Garretsen, Stoker, Soudis, & Wendt, 2022). Different measures of business performance have been used in these studies but more prevalent ones include sales revenue (Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010; Osiyevskyy, Shirokova, & Ritala, 2020; Klyver & Nielsena, 2021; Miocevic, 2021), profitability (Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010; Miocevic, 2021) and cashflows (Miocevic, 2021).

For instance, and in a study involving 500 randomly selected Russian SMEs with less than 250 employees, Osiyevskyy et al. (2020) utilized a regression framework to examine the effect of being explorative during crises on firm revenue growth. The results show that mean revenue growth for firms that were explorative amid deepening crisis challenges was 0.068% ($p = 0.000$) higher than for those that were not. These results find support from Klyver & Nielsen (2021) who find a positive relationship between facing crises with preservarance/innovation with turnover expectations in a study that subjected data collected from 350 Dannish SMEs to an Ordinary Least Squares (OLS) model.

In a different investigation which covers three different global recessions (1980-1982, 1990-1991 and 2000-2002) and 4700 international public companies, Gulati et al. (2010) agree with the above findings. However, they are of the view that best results are achieved when businesses react with an optimal mix of offensive and defensive strategies. That is, those that cut costs in order to survive today while simultaneously investing for tomorrow's growth have the highest chance of outperforming peers at 37% compared to 26% for those that go 100% offensive.

4.3. Empirical Literature Summary and Research Gap

Generally, literature shows that SMEs tend to suffer disproportionately more during crises compared to large corporates on account of factors ranging from limited financial resources to reliance on relatively small customer base. Even so, that strategic management practices during crises are dominated by defensive strategies informed by historical experiences of what works best is not atypical as even large corporates follow similar paths. Notwithstanding the bias towards adopting defensive copying strategies during crises, literature shows doing the opposite tends to produce better performance results.

While the foregoing generates important insights regarding the behavior of SMEs during crises, there are a number of areas that remain unaddressed. First, there are few studies that are SME-specific in understanding strategic manage-

ment practices adopted during the ongoing COVID-19 pandemic and how different practices affect performance. Second, those that have made attempts do not clearly state the extent to which SMEs have acted defensive (if so) as far as copying strategies were concerned especially in the Zambian context.

5. Conceptual Framework

The conceptual framework for the study is presented in Figure 1. It is author-modified, having been informed by both theoretical predictions as well as empirical findings as regards firm behavior in crisis times. As regards the theoretical aspect, the development of the conceptual framework relied heavily on the works of Staw et al. (1981) as well as Barnett and Pratt (2000).

Primarily, the framework starts with recognizing the creation of a threat by a change in conditions in an environment where the business entity operates from. Within the vicinity of the occurrence of a threat, business entities generally experience psychological stress and anxiety that subsequently create tendencies of restricted information processing as well as constricted control of the situation. According to Staw et al. (1981), a combination of restricted information processing and constriction in situation control then forces business entities to devise rigidity responses that are well-learned or habituated. Generally, these responses involve scaling down operations ranging from reduced product/service offerings to trimming staff levels (Kamphuis et al., 2012; Osiyevskyy et al., 2020; Miocevic, 2021).

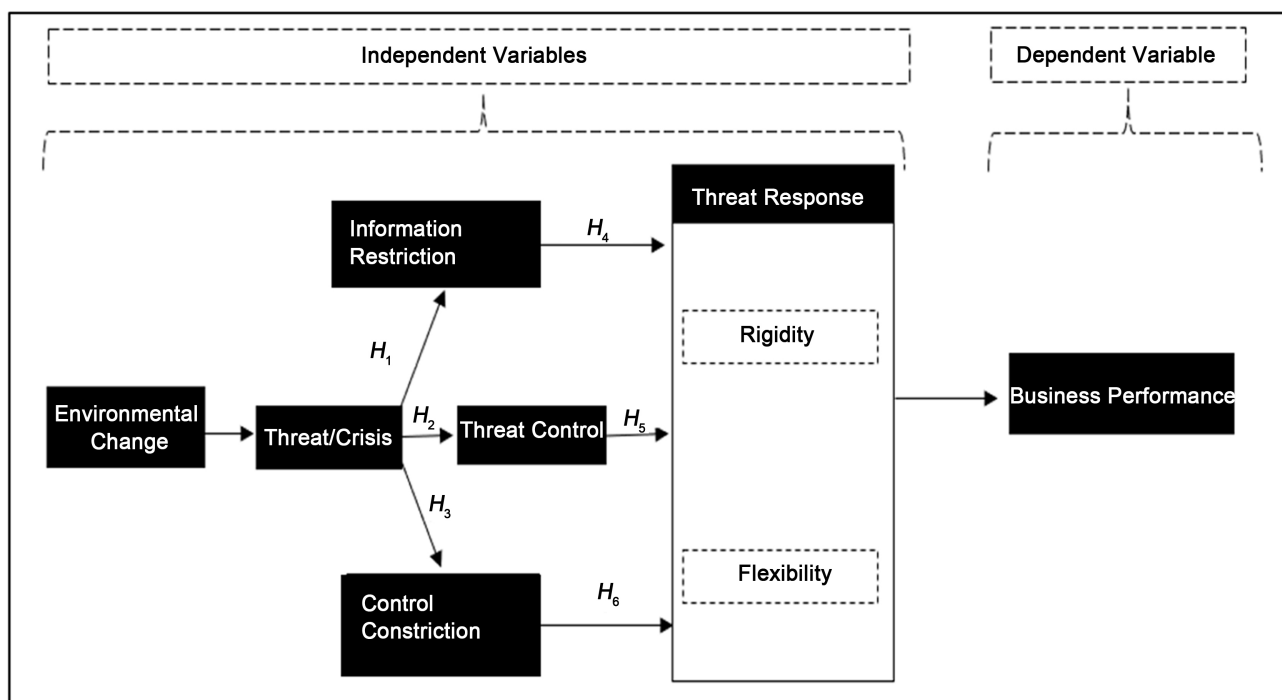There are a number of factors that empirical researchers have advanced to

Figure 1. Conceptual framework.

support the foregoing reaction to a crisis environment by business firms. They include a combination of high cost of business model adaptation and low likelihood of success (Pateli & Giaglis, 2005); lack of experimentation willingness (Andries, et al., 2013); prior path dependencies (Saebi et al., 2017); inadequate capacity to develop skills that are appropriate for leadership and organizational drive (Achtenhagen, et al., 2013; Bashir & Verma, 2019); as well as emotionality (Aarøen & Selart, 2020).

Notwithstanding the aforementioned empirical support for threat rigidity in a crisis environment, some scholars such as Barnett & Pratt (2000), Sabatier et al. (2012) and Saebi et al. (2017) have also observed opposite tendencies. That is, when a threat is perceived as one which presents a potential gain rather than a loss (Weller & Thulin, 2012; Aarøen & Selart, 2020), firms tend to increase the generation of knowledge while also expanding the horizon of their control. This is done through continued information seeking beyond the level needed to confirm the existence of the threat as well as promoting the proliferation of experimentations, risk-taking and creativity based on the knowledge generated from the actively sought information (Barnett & Pratt, 2000).

Further, previous studies have also looked at how the nature of responses to crises affect the performance of business entities. Thus, the type of response (rigid or flexible) to the crisis is an independent variable which influences performance as a dependent variable. While there is consensus that crises generally produce adverse outcomes as far as firm performance is concerned (Alessandri et al., 2014), businesses that respond to the crisis differently (either rigidly or flexibly) tend to have different performance experiences as was noted in the empirical review of literature.

6. Methodology

With particular focus on Lusaka-based retail SMEs who had been in operation prior to the onset of the COVID-19 pandemic, the study adopted a pragmatic research approach which permits the use of mixed methods research design. Specifically, an embedded mixed method design which advocates for simultaneous collection of both quantitative and qualitative data. Quantitative data was of primary focus while qualitative data played a secondary role of supplementing findings the quantitative data.

Out of an estimated number of more than 17,000 retail SMEs found in Lusaka province, a total of 376 of them were conveniently sampled. The sample size was arrived at using an approach developed by Krejcie and Morgan (1970). The convenient sampling technique was used due to lack of a sampling frame, a situation which is linked to high levels of business informality in Zambia's SME sector. For purposes of collecting the data, a questionnaire which contained both closed and open-ended questions was set up into a Google document. The questionnaire was electronically distributed through the sharing of a link associated with the Google document (questionnaire). Considering that the questionnaire

was answered in the absence of a human data collector, its designing followed the "BOSS" principle. This principle advocates for keeping the questions basic, objective, simple and specific thereby completing the aforementioned acronym. Designing a questionnaire in such a manner ensures that the respondent adequately understands the questions being asked thereby leading to a higher likelihood of quality responses or data.

Although the targeted sample size was 376, only 364 responded to the survey within the allowable window of two weeks following the sharing of the questionnaire link. Of this total, 31 were businesses which were established after the pandemic and, as such, they were filtered off from the rest of the survey questions given the study's focus on businesses that existed prior to the onset of the Covid-19 pandemic. Consequently, the valid number of respondents who participated in the study stood at 333 thereby giving a response rate of 88.6%

Considering that data on management practices and business performance were collected using a set of statements measured on a 5-point Likert scale, they were initially subjected to Exploratory Factor Analysis (EFA) following recommendations from Kaiser (1958) and Watkins (2018). This approach offered the researchers an opportunity to check for sampling adequacy (using the Kaiser-Meyer-Olkin test) as well as bring out the underlying structure and dimension of the data (using the Bartlett's test of sphericity (Kaiser, 1958; Fabrigar et al., 1999; Norris & Lecavalier, 2009; Watkins, 2018).

Broadly, EFA has a number of sequential steps with each preceding result acting as a prerequisite to conduction of the subsequent examination. Through the use of the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests, the process starts with the simultaneous determination of the sampling adequacy of the data and sphericity of the variable statement, respectively. Together, the two tests reveal suitability (or the lack of it) of the data in the performance of factor analysis. For a given variable, the test for sphericity answers the question of whether the responses furnished by study participants indicate that the different statements describe the same thing, in which case there should be a strong correlation among them (Bartlett, 1954). Data is considered appropriate for if the KMO value is above 0.5 while the probability value of the Bartlett's test is below 0.05 level of significance (Kaiser, 1958; Hair, Black, Babin, & Anderson, 2010).

Once the data are deemed suitable for EFA by the above tests, the next step is establishing whether the variable items/statements can be distinctively categorized into one or more groups commonly known as factors. By construction, and for each variable, the number of the candidate factors that EFA examines is always equal to the number of items/statements that it contains. For each of these candidates, the analysis produces eigenvalues that contain information about the amount of common variance explained by the factor in question. Following the Kaiser criterion (Kaiser, 1958) which has been used widely in empirical studies (Watkins, 2018), the study only retained factors with eigenvalues of 1 and above.

Although there are a number of that are used in extracting the identified fac-

tors, the study adopted the Principal Component Analysis (PCA) approach. Employed together with the Varimax rotation criterion, the PCA extraction method was chosen for the merits of parsimony and maximization of the variance shared among the factor items/statements (Child, 2006).

As far as management practices were concerned, threat rigidity tendencies of information restriction, control constriction and operational downscaling were of primary attention. However, and in order to ensure response consistency from study participants, data was also collected on opposite threat flexibility tendencies of knowledge expansion, control expansion and operational upscaling.

With EFA providing a basis for collapsing the many Likert scale statements into few easily interpretable index variables (factor scores) representing each aspect of interest, data analysis that answers research questions followed using descriptive statistics as well as a regression model. The results from the aforementioned quantitative data analyses were presented using such tools as charts, figures and tables. Meanwhile, qualitative (textual) data was analyzed using a combination of thematic and content analysis techniques.

7. Results

7.1. Respondent and Business Characteristics

The survey respondents comprised a total of 220 (66.1%) males and the average age of these participants stood at around 41 years with the youngest and oldest respondent aged 27 and 67 year, respectively. The pool of participants was educated with a slight majority of them (53.1%) having attained tertiary level education. At the time of the survey, nearly 80% of them had been in operation for at least five years, 61.2% of them had a maximum of 3 employees (31.4% of these were 1-employee entities) and 51.6% reported an annual turnover/revenue of ZMW600,000 or less. Finally, and in revealing high levels of informality in Zambia's SME sector, only about 3 (27.6%) in every 10 of the surveyed were registered with Patents and Company Registration Agency (PACRA) while the rest were operating informally. Table 1 provides data on respondent and business characteristics.

7.2. Exploratory Factor Analysis and Reliability Results

The results of Exploratory Factor Analysis and scale reliability are summarized in Table 2 below. As can be seen from the results, the performance of EFA on Likert scale data for each of the seven variables received support from higher (than the 0.5 threshold) KMO values and lower (than the 0.05 threshold) probability values for the sphericity tests.

For each of the variables, only one factor was identified by PCA while the rest were discarded without any meaningful loss of important statistical information. The eigenvalues of the identified components ranged from 2.946 for "knowledge

Table 1. Respondent and business characteristics.

Variable	Category	Frequency	Percentage
Gender	Male	220	66.1%
	Female	113	33.9%
	Total	**333**	**100.0%**
Education Level	Up to Primary School	10	3.0%
	Secondary School	146	43.8%
	Tertiary Certificate/Diploma	106	31.8%
	Bachelor's Degree/Its Equivalency	58	17.4%
	At Least Master's Degree	13	3.9%
	Total	**333**	**100.0%**
Business Formality	Formal (PACRA-Registered)	92	27.6%
	Informal (Not PACRA-Registered)	241	72.4%
	Total	**333**	**100.0%**
Years of Business Operation	4 Years	70	21.0%
	5 - 7 Years	76	22.8%
	8 - 10 Years	84	25.2%
	11 - 13 Years	50	15.0%
	Over 13 Years	53	15.9%
	Total	**333**	**100.0%**
Employment Level	Just Myself	64	19.2%
	2 - 3 Employees	140	42.0%
	4 - 5 Employees	77	23.1%
	6 - 7 Employees	44	13.2%
	At Least 8 Employees	10	3.0%
	Total	**333**	**100.0%**
Average Annual Revenue	Below ZMW 400,000	48	14.4%
	ZMW 400,000 - ZMW 600,000	124	37.2%
	ZMW 600,001 - ZMW 800,000	81	24.3%
	ZMW 800,001-ZMW 1,000,000	59	17.7%
	Over ZMW 1,000,000	21	6.3%
	Total	**333**	**100.0%**

expansion" to 4.710 for "operational downscaling". Variable statements were also loading strongly to the identified factors with the minimum factor loading for all the variables standing at 0.604, a number which is well above a threshold of 0.3 suggested by Field (2013). Reflecting high eigenvalues and strong loading factors, the extracted components also explained heighted levels of the common variance shared among the variable items.

Table 2. Exploratory factor analysis and reliability results.

Statistic/Variable	Information Restriction	Knowledge Expansion	Control Constriction	Control Expansion	Operational Downscaling	Operational Upscaling	Business Performance
Number of Statements	4	4	5	5	6	6	5
Factor Loading Range	0.862 - 0.931	0.827 - 0.88	0.675 - 0.862	0.604 - 0.838	0.867 - 0.915	0.752 - 0.845	0.83 - 0.91
KMO Value	0.818	0.822	0.816	0.846	0.893	0.877	0.845
Barttlet's Test Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Eigenvalue	3.27	2.946	3.200	3.006	4.710	3.967	3.797
Explained Variance	81.75%	73.65%	64.01%	60.13%	78.49%	66.11%	75.94%
Cronbach's Alpha	0.925	0.88	0.857	0.831	0.945	0.896	0.919

Encouraging as the above EFA results may be, they do not provide information on whether statements belonging to a particular variable (different strategic management practices and business performance) are internally consistent. In order to test for internal consistency and reliability of the scale of measurement contained in the survey questionnaire, the study used a Cronbach's Alpha method. The method states that a scale of measurement is internally consistent and reliable if the value of the Cronbach's Alpha for the variable statements exceeds 0.7 (Taber, 2018). The results in Table 2 show that all variables passed the scale reliability test considering that their respective Cronbach's Alpha values were all above 0.7.

7.3. Factor Scores

In addition to enabling the determination of the number of factors into which statements for each of the strategic management practices and relative business performance were meaningfully loading, EFA also allows for the computation of factor scores. Broadly, and for each respondent, factor scores are composite indices that synthesize data/ratings on multiple statements about a particular variable into a single numerical indicator. On the basis of this capability, EFA is among a number of statistical techniques that are used in dimension reduction. Importantly, and depending on the needs and objectives of the researcher, factor scores find their wide utility in further analyses (Tabachnick & Fidell, 2014).

Following the performance of EFA, different statistical packages provide a host of competing techniques that one can use in the computation of factor scores. This study adopted the regression methodology which treats raw Likert scale data on the statements of the variable as explanatory variables. The choice of the aforementioned methodology was informed by the ability to maximize data validity (DiStefano, Zhu, & Mîndrilã, 2009) and production of normally distributed factor scores considering that the factor extraction method was PCA (Beauducel & Hilger, 2017).

The normal distribution characterizing the factor scores computed in the manner described above has a mean of zero and a variance of one. The foregoing im-

plies that some of the scores come out positive while the others come out negative. Specifically, and for a 5-point Likert scale, a factor score tends to be positive if the majority of the responses to statements relating to a particular variable are above the neutral mark of 3 and negative if the opposite is true. That is, the sign of the factor score is able to indicate whether a respondent generally agrees or disagrees with the statements. As such, a positive factor score signals a general agreement while a negative factor score signals a general disagreement.

For purposes of counterchecking consistency of the answers supplied by respondents, the survey questionnaire was designed in such a way that a given set to statements was presented to them twice. In the first instance, they were cast in a positive manner while in the second case, they were cast negatively. For example, the statements "during the COVID-19 pandemic, quests for new information related to the crisis were curtailed" and "during the COVID-19 pandemic, there was increased quests for new information related to the crisis" were soliciting for the same information but in two different ways. Besides, this symmetrical approach to data collection helped in validating the fact that a general agreement (positive factor score) in positive statement cast implied a general disagreement (negative factor score) in a negative statement cast. This was only done on strategic management practices investigated in this research undertaking (information restriction, control constriction and threat rigidity) and not on related business performance.

Notwithstanding the foregoing, there were cases where respondents contradicted themselves and these data points were discarded on account of being "contaminated". The discarded data points totaled 66, 56 and 55 for strategic management practices of information restriction, control constriction and threat rigidity, respectively. It is important to note that the exclusion of these data points did not cloudy the conclusion that survey participants were generally consistent in their responses. This was confirmed by negative and strong bivariate correlation coefficients (they were all less than -0.8 and statistically significant at 1% level of significance) of the factor scores for each pair of contradictory strategic management practices (information restriction vs knowledge expansion; control constriction vs control expansion; threat rigidity vs threat flexibility) before the dropping of the inconsistent data pairs.

7.4. What Strategic Management Practices Did SMEs Adopt during the COVID-19 Crisis and to What Extent?

Leveraging on the signs (positive or negative) of the factor scores discussed extensively in the foregoing section, percentages of SMEs that adopted defensive (information restriction, control constriction and threat rigidity) and offensive (knowledge expansion, control expansion and threat flexibility) strategic management practices were computed as displayed in Table 3. While different SMEs chose to operate with different strategic management practices in reaction to the COVID-19 pandemic crisis, those that revealed having adopted defensive strategies

Table 3. Strategic management practices adopted by SMEs during the COVID-19 crisis.

Strategic Management Practice	Number of SMEs	Practiced	Not Practiced
Information Restriction	267	58.0%	42.0%
Scaling Down Operations	278	52.9%	47.1%
Control Constriction	277	51.5%	48.5%
Average	274	54.1%	45.9%

outnumbered those that adopted offensive ones in all the three paired aspects examined in the study.

Information restriction was the most dominant form of the defensive reaction to the crisis having been reported by 58% of the surveyed SMEs. This entails that these business establishments tended to limit the search for and processing of information thereby making them rely more on their prior experiences about crises. This was accompanied by paying little attention to nonfamiliar clues that are capable of challenging well-learned conclusions.

In the second place were businesses that indicated having decided to downscale their operations. This was done through such initiatives as reducing the number of workers, spending less resources on advertising and product/skills development as well as not engaging in activities that involved efforts directed towards devising new ways of delivering their goods and services. The least practiced defensive management strategy by surveyed SMEs (51.5%) was control constriction which involves keeping critical business decision making as a preserve of the people in top management, with little to no attention paid to input from subordinates.

Using a simple majoritarian rule, these results show that surveyed SMEs reacted defensively to the COVID-19 pandemic in as far as strategic management practices were concerned and, thus, supporting the predictions of the Threat Rigidity Theory. Nonetheless, the extent to which surveyed participants reacted to the pandemic defensively was moderate given that the average proportion of SMEs that did so was only a slight majority of 54.1%.

7.5. Does the Nature of the Strategic Management Reaction to Crises Matter to Business Performance?

In order to determine how the nature of the reaction to the crisis affected the relative performance of the surveyed SMEs, use was made of the multiple regression model. The use of the regression framework was enabled by the fact that the computed factor scores were not only continuous in nature but also followed a normal distribution as was earlier highlighted.

Apart from the age variable which was collected in its continuous form, all the respondent-specific and firm-specific characteristics entered the model as dummy variables which were dichotomous in nature. In the creation of these dummy

variables, male respondents, respondents without tertiary level education, businesses registered with PACRA, businesses with up to 5 years of operation, businesses with less than 3 employees and businesses with annual turnover/revenue were assigned values of 0 while the opposite of the outlined categories were assigned values of 1. Categories with values of 0 also acted as references in the interpretation of coefficients of those assuming a value of 1.

The results for the multiple regression analysis are displayed in Table 4 and Table 5, respectively. Given that the probability value associated with an F-statistic of 92.07 was small at 0.000, results in the Analysis of Variance (ANOVA) table reveal that the collective influence of the regression model independent variables was statistically significant. Particularly, the adjusted coefficient of determination (R^2) shows that all the model independent variables explain 81.8% in relative business performance of surveyed SMEs.

Table 4. Multiple regression ANOVA results.

Source of Variation	Sum of Squares	df	Mean Square	F-Statistic	Sig.
Regression	210.669	10	21.067	92.070	0.000
Residual	43.932	192	0.229		
Total	254.601	202			

Adjusted R^2 = 0.818.

Table 5. Multiple regression results.

Variable	Coefficient	Sig	VIF
Constant	0.075	0.730	-
Information Restriction	−0.721	0.000	1.92
Control Constriction	−0.031	0.326	1.11
Downscaling Operation	0.219	0.000	1.93
Age	0.000	0.967	1.08
Gender (Ref = Male)			
Female	0.006	0.934	1.09
Formality (Ref = Registered with PACRA)			
Not Registered with PACRA	−0.101	0.233	1.23
Education (Ref = No Tertiary Education)			
With Tertiary Education	−0.064	0.450	1.07
Years of Business Operation (Ref = Less than 5)			
At Least 5 Years	0.010	0.902	1.07
Number of Employees (Ref = Less than 4)			
At Least 4	−0.131	0.081	1.17
Annual Revenue (Ref = At Most ZMW 600,000)			
Over ZMW 600,000	0.042	0.572	1.23

Although the collective influence of the model variables was statistically significant, the effects of the individual variables varied with some having a meaningful impact while others were statistically unimportant in influencing the dependent variable. Particularly, and everything else being equal, the results show that none of the respondent and business-specific variables had a statistically significant effect on SMEs relative performance during the COVID-19 pandemic crisis.

As regards strategic management practices adopted by SMEs during the crisis, the study finds that being restrictive in information gathering and processing was detrimental to performance. While the same is seemingly the case for centralizing the control of decision making in view of a negative coefficient on the control constriction variable, the result is not statistically supported. Contrary to the foregoing, results show that those that decided to scale down operations in response to an adverse business environment performed relatively better than their counterparts who upscaled. Specifically, a one unit increase in the factor score for scaling down operations was associated with a 0.22-point increase in the relative business performance factor score.

8. Discussion of Findings

The finding that retail SMEs in Lusaka reacted to the COVID-19 defensively as regards strategic management practices were in line with the predictions of the Threat Rigidity Theory (Staw, Sandelands, & Dutton, 1981). Besides theory, there a number of empirical studies that support the results of this paper (Coyne & Coyne, 2008; Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010; Lim, Morse, & Yu, 2020; Rodrigues, Franco, Sousa, & Silva, 2021; Govindarajan, Srivastava, & Iqbal, 2021; Kamphuis, Gaillard, & Vogelaar, 2012). For example, Kamphuis et al. (2012) find that when faced with threats, businesses tend to experience restrictions in information processing, assume more controlling leadership, engage less in group discussions, and also exhibit a reduction in coordinating and supporting behavior.

Among the reasons cited by surveyed SMEs, insufficient demand and limited access to (and delayed delivery of) imported supplies topped the list, having been mentioned or implied 43 and 23 times. Literature advances two reasons for the defensive reaction of business entities to events that threaten their operations. These are value preservation (Klyver & Nielsena, Which Crisis Strategies are (Expectedly) Effective Among SMEs During COVID-19?, 2021) and the psychological effect of seeking basic safety when faced with a threat (CDC, 2019). For those that reacted offensively, availability of technological enablers was by far the most cited reason among those that opted to adopt offensive strategic management practices with 56 mentions.

Meanwhile, the finding that not all offensive strategic management practices during crises produce positive performance outcomes are against findings from some scholars (Stoker, Garretsen, & Soudis, 2018; Osiyevskyy, Shirokova, & Ritala, 2020; Miocevic, 2021; Klyver & Nielsena, Which Crisis Strategies are (Ex-

pectedly) Effective Among SMEs During COVID-19?, 2021; Stephan, Zbierowski, Pérez-Luño, & Klausen, 2021; Garretsen, Stoker, Soudis, & Wendt, 2022) but are line with those from others (Gulati, Nohria, & Wolgezogen, Roaring Out of Recession, 2010). Particularly, Gulati et al. (2010) find that those that cut costs in order to survive today while simultaneously investing for tomorrow's growth have the highest chance of outperforming peers.

Recommendations

On the basis of the results obtained in this study, the following recommendations are made. First, SMEs need to cultivate a proactive approach as regards scanning their operating environment for opportunities that may come along with challenges driven by crises. Second, deliberate efforts are needed in appropriately identifying business areas that may require different strategic management reactions as regards being offensive or defensive. Third, for each strategic management reaction, SMEs need constant and continuously monitoring and evaluation for purposes of establishing whether the chosen strategies are resulting in intended outcomes or not.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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