

# Crisis Management for Small Business during the COVID-19 Outbreak: Survival, Resilience and Renewal Strategies of Firms in Macau

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## Research Article

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# Abstract

We know that small businesses are vulnerable to crisis, however little is still known about how they cope during long crisis as the COVID-19 pandemic. This paper provides a qualitative analysis of small businesses in Macau, China, in the months following the outbreak. We collected interview data from six local small firms. We found that the sudden decline in demand has the strongest impact on small firms. As compared with large firms, new startups and small firms show high flexibility in their reactions to the crisis, partly due to the low level of bureaucracy and limited social responsibility compliance. Among the various types of response strategies, all participant firms adopted flexible HR strategies. Other common survival strategies include the increase of product diversification, exploration of new markets, and increase of learning. We also found that some small businesses had a formal crisis plan and strategy before the outbreak, and these firms tend to have longer history, experience in dealing with crisis, and operate in more regulated sectors. Based on these results, we define five types of renewal and survival strategies for small businesses and propose a SME crisis resilience model.

## Introduction

A crisis refers to "a sudden and unexpected event that threatens to disrupt an organization's operations and poses both a financial and a reputational threat" (Coombs, 2007:163). Early work on crisis management indicates that a sudden and unexpected event threatens business goals and exert stress on management to take prompt action to respond (Hermann 1963). At the firm level, the core of crisis management is to develop strategies that minimize economic loss and increase resilience through a crisis event. Existing literature on crisis management mostly targets large firms with less attention on small and medium size enterprises (Herbane, 2013). Small firms, due to resource constraints, weaker market positioning, and other factors, may be more vulnerable to crisis events. However, SMEs may have advantages as flexibility, learning capabilities, innovation, customer relations (Herbane, 2010, 2013; Hong & Li, 2012; Irvine & Anderson, 2006).

The Covid-19 crisis manifested in China in December 2019 and soon after became a global pandemic. As of May 26, 2020, 213 countries were affected, a total of 5,591,677 people infected, 347,944 deaths, and 2,368,016 patients recovered (Worldometers, 2020). Compared with previous crises, the Covid-19 is more complex. It created immense social and economic problems at all levels, including social phobia, unemployment, supply chain disruption, stock market crashes, economic lockdown, and de-globalization. Due to the uniqueness of the Covid-19 crisis, previous research may not be sufficient to understand it.

This paper examines how small enterprises reacted in the immediate months after the outbreak and focuses on the Macau Special Administrative Region of China. We focused on six small business firms covering industries such as hotel and hospitality, wholesale and retail, real estate, private education, professional service, and food and beverage. The economy of Macau is centered in gaming and tourism industry. In 2019, the city attracted almost 40 million tourists and generated an affluent tax income. In the past decade, the Macau government provided financial and technical support to foster entrepreneurship.

The study contributes to the existing literature in crisis management and identifies survival and resilience strategies of small businesses during a long-lasting crisis. We also provide recommendations for small businesses on how to remain competitive through resilience and renewal strategies. We also give recommendations for policymakers.

## **Crisis Management For Smes**

A recent review of the literature organized research on crisis management according to time and stakeholders (Bundy, Pfarrer, Short, & Coombs, 2017). These researchers identified research that focuses on dimensions of crisis situated taking place before, during and after the crisis. They also identify crisis from the viewpoint of internal and external stakeholders. Bundy and his colleagues suggest that research needs to understand the impact of crisis on learning, social evaluations, and performance. Other research points out to the critical role of leaders in handling crisis and approaching crisis with a positive way (James, Wooten, & Dushek, 2011).

From a communication perspective, it is essential that firms give attention to management of communications during crisis as to maintain reputation of the firms (Coombs, 2007). Crisis management is the process by which an organization adopts strategies to deal with a disruptive and unexpected event that threatens to harm the organization or its stakeholders (Fink, 2013).

### **Impact of Crisis**

Crises can be highly damaging for business as they erode trust, destroy company value, threaten business goals, exert pressure on management by providing limited time for management to respond, and may even lead to business failure (Hermann, 1963; Penrose, 2000; Lerbinger, 2012). Existing literature suggests that small firms may be more vulnerable to crisis events due to lower levels of preparedness, resource constraints, relatively weak market positions, and higher dependence on government and local agencies (Runyan, 2006; Herbane, 2013; Hong & Jeong, 2006). SMEs usually suffer from financial loss, reduced sales volume, incapability of meeting contract terms, cash flow difficulty, reduction in staff number, and even close down of the business during or after crises events. Crises events may also bring emotional and psychological stress to victims and the managers of SMEs (Leung et al., 2005; Doern, 2016; Ferris et al., 2007).

These factors were experienced by many SMEs in the UK tourism industry after the foot and mouth disease outbreak in 2001 (Irvine & Anderson, 2004; Irvine & Anderson, 2006; Phillipson et al., 2004), as well as the London 2011 riot (Doern, 2016). Nevertheless, because of their small size and low level of bureaucracy, SMEs may have advantages in terms of flexibility, learning capabilities, innovation, and relations with customers (Spillan & Ziemnowicz, 2003; Hong & Li, 2012; Irvine & Anderson, 2004; Irvine & Anderson, 2006).

### **Crisis Management Strategies for SMEs**

### *Crisis Planning, Diagnosis, and Response*

SMEs should establish a crisis plan in the good days. Irvine & Anderson (2006) and Munoz et al. (2019) also found that small firms with proper crisis planning survive and recover better from crises events. Ferris et al. (2007) and Maniero & Gibson (2003) concluded that HR should be responsible for coming up with a crisis plan, involving various organizational levels, and guarantee its timely dissemination. Ruff and Aziz (2003) stated that SMEs should have a crisis management team involving staff from various fields and even outside crisis specialists.

Researchers concluded that having a crisis warning system is crucial to survival from crisis events. Kurschus et al. (2015) suggested that SMEs need to adopt a comprehensive crisis warning system that fully considers both financial and non-financial factors. The authors also proposed a stakeholder perspective of crisis diagnosis to identify a possible crisis at an early stage. Liu (2013) studied the feasibility of constructing a crisis-based early warning intelligence system.

Leadership and HR are critical during crisis events (Tannenbaum & Schmidt, 1957; Perkinings & Murphy, 2013; Edmond et al., 2014; Xu, 2013; Guo, 2018; Cheng, 2018). Losing critical employees during crises can be disastrous (Hao, Zhang & Shang, 2010). Dent & Cudworth (2018) identified the effectiveness of leadership and decision-making and the effectiveness of teamwork as the top two challenges to effective crisis response. SMEs should provide proper training for managers on crisis stress management (Ferris et al., 2007; Maniero & Gibson, 2003) and resolving conflicts in the workplace.

Timely communication at the management level is essential during crises. Tang (2018) and Nong (2018) found that social media is widely used as a channel for effective crisis communications by professionals and management.

Finally, robustness and flexibility are highly demanding when managing transboundary crises. Firms need to rapidly customize their strategies and timely reorganize their courses of action (Ansell et al., 2010). Figure 1 summarizes the crisis management strategies for SMEs from the literature reviewed.

### *Resilience, Dynamic Learning and Strategic Renewal for SMEs*

Some companies recover from crises, and others do not. McConnell (2011) stated that recovery from crises is never entire and complete, particularly in SMEs due to their resource constraints and relatively weak market positions (Hong & Li, 2012; Corey & Deitch, 2011).

During challenging times, new startup firms have a high chance of surviving during crisis periods than during the growth period, likely due to the lack of job opportunities (Simon-Moya et al., 2016). Entrepreneurship activities could offset the negative impacts of crises by maintaining the flow of goods and services and restoring public confidence of other business owners and the community at large (Doern et al., 2019; Szabo, 2011; Herbane, 2010; Chamlee-Wright & Storr, 2008). Kuckertz et al. (2020) identified that entrepreneurs pursued new opportunities and established new directions for their firms

during crises. Bishop (2019) proposed that a diverse and robust knowledge stock would foster entrepreneurship after crises events.

Despite their inherent limitation, SMEs display resilient market responsiveness. Latham & Braun (2011) proposed that a firm's response strategies and repositioning efforts will define its long-term post-recession performance. Resilience strategies require possessing a leadership mindset, adopting multiple crisis management practices, maintaining a good relationship and robust network, identifying threats and opportunities, and taking actions promptly and flexibly (Hong & Li, 2010; Cosh et al., 2009; Irvine & Anderson, 2004; Irvine & Anderson, 2006; Simon-Moya et al., 2016; Phillipson et al., 2004).

As opposed to the traditional view that firms are highly subject to financial constraints during crises, Cosh et al. (2009) concluded that SMEs do not find additional difficulties in seeking financial support during crises. However, instead, they suffer more from demand constraints (loss of customer/market). Given this, the aftermath strategies should focus on how to increase demand. SMEs can use network communication platforms such as Facebook and Weibo to explore new business opportunities after crisis events (Nong, 2018).

Post-crisis organizational learning capability is also critical to recovery. SMEs with strong dynamic and innovative capabilities and are willing to learn from crises events recover quickly (Boin, 2008; Eillott, 2009; Elliott & MacPherson, 2010; Saunders et al., 2014). Similar findings were obtained by Bullough & Renko (2018), who stated that entrepreneurs should engage in business development training and seek networking events or special lectures to learn by modeling others who have survived through challenging times. Latham & Braun (2011) also proposed that firms' abilities to withstand recession will influence their ability to navigate subsequent recessions, another signal that firms are learning from previous crises. Learning can be done in an informal way through networking, mentoring, or coaching (Saunders et al., 2014), which can significantly lower the costs involved.

Figure 2 summarizes the resilience, dynamic learning, and renewal strategies adopted by SMEs from the literature reviewed.

### *Contribution and Questions*

The literature review suggests that research about crisis management has often focused on large firms rather than SMEs and on crisis within a limited geographical area. Considering the unique characteristics of the COVID-19 outbreak, its long period, pervasiveness, and cross-border impact, it is likely that there will be a wide range of crisis strategies. Our study contributes to crisis management literature of small businesses. The primary purpose of this study is to find out how small firms cope with the COVID-19 outbreak. In specific, we are interested in understanding the economic impact of the outbreak on small firms, how SME managers prepare to handle the crisis over an extended period, whether they have a formal crisis management plan, what type of survival strategies were adopted after the outbreak, and whether these strategies vary according to size of the firm.

# Methods

## Research Context

The Macau SAR recorded the first confirmed case on January 22, 2020. As of May 25, the number of confirmed cases accumulated to 45 only. Given the high urban density of Macau and the massive flow of visitors, the government of Macau SAR responded promptly and effectively by adopting a strict quarantine policy to lower the spreading of the virus in the city. The lockdown and social distancing policy has brought the entire city to a standstill.

Epidemics also cause psychological stress in the community and the personnel of SMEs (Leung et al., 2005; Doern, 2016; Ferris et al., 2007). As expected this high level of anxiety can be observed in the recent panic in Mainland China, Hong Kong, Macau, and other regions around the world when supermarkets and pharmacies are ravaged by residents when the deadly virus spreads.

Because of the adverse impacts of the outbreak on the local economy, Macau announced a series of policies in February and April 2020 to provide economic assistance to residents. The cash distribution was released in April. Macau residents received consumer e-vouchers of MOP 8,000 (USD1,000) per person to stimulate local consumption. Other policies included increasing the amount of professional tax refund, exemption of property taxes and electricity bills, raising the deduction limit for income tax, temporary exemption of tourism tax, granting a one-time allowance of MOP15,000 for qualified employees and MOP15,000-200,000 for qualified businesses (depending on number of employees). Additionally, the government also offered loans for SMEs and provided guarantee for bank loans for qualified SMEs.

## Research Design

As our purpose is to understand the challenges, strategies, and perspectives of small-sized enterprises during the COVID-19 crisis, it is necessary to obtain information about the thoughts and views of SME managers. Thus, a qualitative approach is appropriate and use of case studies will serve our research purpose (Ellram, 1996; Yin, 1994; Hong & Li, 2012; Eisenhardt & Graebner, 2007; Eisenhardt & Graebner, 2016).

We have conducted six case studies from various industries in Macau SAR covering hotel and hospitality, wholesale and retail, real estate, private education, professional service, and food and beverage. Theoretical sampling was adopted. Six cases are chosen based on their ability to illuminate and extend relationships among constructs and develop a deeper understanding of small businesses' reactions in the COVID-19 crisis. The six firms come from different sectors, covering the significant industries in Macau. As such, we believe that the sample size is adequate (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Eisenhardt & Graebner, 2016). We describe below the characteristics of the six firms.

Definitions of SMEs differ widely, most likely due to the size and nature of the respective markets. For example, Hong & Li (2012) defined SMEs as firms with less than 500 employees and again did not refer

to annual revenue, annual profit, and total assets either. In China, the classification of SMEs differs according to annual revenue, the number of personnel, and industry types. In this study, we defined SME according to the criteria of the Economic Affairs Bureau of Macau, which indicates that SMEs eligible for loan applications need to have less than 100 employees.

## **Data Collection**

We conducted two round of interviews with managers of each the cases. The first round was arranged from March 8 to April 18, 2020. We conducted in-depth semi-structured interviews via social media (including WeChat, WhatsApp, and Zoom) to avoid face-to-face contact during the COVID-19 outbreak. The interviews lasted 60 minutes of on average, and are recorded and stored in digital format in WeChat or WhatsApp voice clips. As a follow-up measure, we have conducted second interviews of the same six firms from May 10 to May 14, 2020 to learn about ongoing handling of the crisis. The follow-up interviews lasted 15 minutes. We also took written notes during the interviews. The interviews were conducted in Chinese, and the translation into English was done immediately after the interviews. To validate the accuracy of the data, we sent summaries of the interviews to the interviewees for confirmation within three days after the interviews. To increase participation's trust, we promised to send a copy of our paper to all participants. The interview questionnaire is included in appendix. Table 1 matches the interview questions with research objectives.

## **Validity and Reliability**

To ensure the reliability and validity of the study, we considered recommendations proposed by Yin (1994) and Hong & Li (2012). Before formally interviewing the owners of the six firms, we run a pilot interview with the owner of another SMEs on March 5, 2020, to ensure that the questions are clear and without ambiguity. We also carefully took notes and recorded the interviews with the interviewees' consent to ensure the accuracy of the data. For construct validity, we summarized the interviewees' responses and sent them back to the participants for their verification after the interviews. To confirm internal validity, we compared the findings against a prediction made by a group of business practitioners from our social network. We also tried to obtain a heterogeneous group of participants by selecting small firms from various industries with different company sizes to enhance external validity (Yin,1994; Hong & Li, 2012).

## **Description of Participant Firms**

We selected six different small businesses in Macau SAR within the researchers' social and business network (one hotel, one wholesaler and retailer, one real estate agency, one private education institution, one law firm, and one cafeteria). To prevent traceability, the participating firms are identified with letters (Firm A, B, C, D, E, and F). Firms were selected based on the following criteria: the organizations are small businesses (with less than 100 employees), have experienced a significant impact from the current COVID-19 outbreak; and, are available and willing to participate in this research. The table 2 summarizes the demographic information of the six cases selected.

## Data And Results

We adopted the case description strategy and analytic strategies of pattern-matching and explanation-building to compare data within cases and across cases (Yin, 1994; Hong & Li, 2012). The interview data was content analyzed. The results provided indication of the main economic impacts, survival and resilience strategies. These findings were then compared with existing literature. Table 3 provides a summary of crisis management strategies adopted by the six small firms.

Tables 4 and 5 summarize the survival and resilience strategies of the participant firms.

### Firm A Wholesale and Retail

Firm A is in the wholesale and retail industry sector and was set up two years ago by two young local entrepreneurs. It sells badminton rackets and supplies, sportswear, and sports equipment. The owner has some previous crisis experience.

During COVID19 crisis, the firm recorded significant loss of customers and sales volume due to panic in the community and a massive and temporary shutdown of badminton courts by government order. The owner estimates that the organization's total financial loss would be around MOP100,000 (USD 12,500).

The firm currently has a crisis management plan and strategy but with narrow focus, mainly due to scarcity of resources and lack of a sense of crisis planning. The firm also has a contingency plan, which includes buying from numerous suppliers and increase product diversification.

During the outbreak, the firm reduced operation hours, cut down non-essential operating costs, and reduced inventories. It also boosted promotion on social media and offered an additional 15% discounts during the crisis. The firm is also introducing new sports equipment for home use.

As for resilience strategies, the organization plans to increase promotion on social media, offer discounts, and diversify products. The firm is also considering applying for the new SME loan for the COVID-19 crisis offered by the government of Macau. The significant barriers or difficulties for recovery may be a lack of cash flow and loss of a customer due to the panic in the community at large.

The firm will also strengthen crisis management as an aftermath strategy. After the COVID-19 crisis, the organization may be willing to invest in learning and training in crisis management, but it is too early to say to what extent there is no exact plan at this stage.

Lastly, the owner mentions that firm size would make a difference in their industry. In general, small firms suffer a smaller economic loss due to low inventory levels, labor costs, and rental burden. Small firms also show higher flexibility in making decisions for labor cost cut and price reduction for survival. It is also easier for small firms to adopt resilience strategies such as product diversification and relocation of the shop for lower rental after the crisis. These are mainly due to the low bureaucracy in small businesses.



In the follow-up interview, the owner stated that business has gradually recovered after the peak of the outbreak, and as of early May 2020, the firm reached around 70% of the sales revenue before the outbreak. However, the firm is cautious about the future because of the general contraction of consumers in spending on items other than daily necessities as sports equipment.

### **Firm B Education**

Firm B is a private training and education center with a history of 38 years. The firm currently has 12 employees including two foreign workers. The firm reports an annual profit of higher than MOP 1 million. The owner has extensive crisis experience before COVID-19 outbreak.

During the public health crisis, all education institutions are temporarily shut down by order of the government, leading to lack of revenue for one and half months. The most significant impacts are decline of sales, temporary loss of customers due to the shutdown of schools, panic in the community, and loss of staff. The firm expects to record a loss of around MOP350,000. The adverse impact is considered as industry-wide though.

The organization currently has a crisis management plan and strategy as required by the regulatory body. The firm has also appointed a director to be in charge of crisis management. During the public health crisis, top management communicates daily via Zoom, Whatsapp, and WeChat.

The firm will further refine their existing crisis management plan and strategies afterward. The firm will also increase funding of around MOP10,000 (USD 1,250) annually in training their management team and employees in crisis management after the crisis.

The firm intends to boost revenue by increasing promotions in newspapers and social media. Panic in the community at large may adversely affect customer flow in the upcoming 2 to 3 months. The outbreak has also inspired the management to explore a new market of delivering specific courses through online channels.

The owner believes that the impacts of COVID-19 are unique and industry-wide. Nevertheless, he thinks that small-sized enterprises may suffer lower economic loss as the fixed operating costs are lower than those of larger firms. Small firms may have an advantage in changing their HR policies swiftly during the outbreak to minimize economic loss without getting massive criticism from society. Small firms can also adopt revolutionary resilience strategies such as product diversification or industry diversification without going through bureaucratic processes.

In the follow-up interview, the owner mentions that business has swiftly recovered, and as of early May 2020, revenue is back to 92% of the revenue before the outbreak. A possible explanation for the prompt recovery is that people are eager to enhance their technical skills during an economic downturn to ensure job security.

### **Firm C Lodging**

Firm C operates a medium-sized hotel in a traditional tourism district in Macau. The hotel has been operating for over 30 years, with an annual profit above MOP 1 million (USD 125,000). The manager is a second-generation business owner. The firm has 82 employees, and over 70% are foreign workers. The firm has extensive crisis experience.

During the COVID-19 outbreak, the hotel recorded a sudden decrease in the occupancy rate at the beginning of the outbreak which dropped to less than 10%. However, the situation changed in mid-February when the government implemented the quarantine policy and foreign workers who used to commute daily between the Macau-Zhuhai border now needed a place to stay in Macau. As the room rates of the hotel are relatively inexpensive, the occupancy rate has recovered to over 90% within two weeks, which is even better than the situation before the public health crisis. The government policy has unexpectedly played a vital role in the survival and short-term recovery of the hotel. The estimated financial loss in this COVID-19 crisis amounts to around MOP500,000 (USD 62,500).

The hotel currently has a crisis management plan and strategy. The owners and many staff at various levels are involved in the crisis management procedures. The firm has a well-organized crisis signaling system and a contingency plan, as requested by the regulatory body (Macau Tourism Bureau).

Regarding HR policies, the firm asked employees to clear annual leave and take unpaid leave to reduce payroll costs. The firm also separates front line personnel into two groups to prevent virus contamination. As part of the contingency plan, top management who have to visit Hong Kong for a business trip need to take separate buses to minimize contamination.

For sales and promotion, the hotel reduced room rates by 50% to attract customers during the outbreak. The hotel is looking for new business opportunities by contacting local companies to determine whether they need to rent rooms for an extended stay and/or relocate their foreign workers from Zhuhai to Macau. To reduce costs and mass gatherings, the restaurants in the hotel reduced operations and only offer breakfast meals. Several maintenance works have been done during the outbreak while the occupancy rate is low, so it did not create too much disturbance to the customers.

Other survival strategies adopted include working closely with business partners such as tourism agencies, customers, and suppliers. The hotel also reduced inventories and negotiated for extended credit periods with a few suppliers.

After the COVID-19 crisis, in order to recover from the crisis, the hotel intends to actively partner with tourism agencies in Macau, Hong Kong, and Mainland China to increase room sales. At the same time, to avoid over-reliance on tourists from Mainland China, the hotel will explore the new market for long-term residence to foreign workers of local companies. As the restaurant continuously records losses, the hotel intends to close down the restaurants except for breakfast. It also plans to increase investment in training for crisis management and stress management, with an estimated annual investment amounting to MOP200,000 (USD25,000). The primary barrier or difficulty for recovery is mostly the potential loss of tourist flow (China and international).

The owner believes that the impacts of COVID-19 are industry-wide, and it hit hard on the tourism sector. However, as compared to their peers of larger size, the low room rate policy has helped their hotel to survive through this crisis. Unlike other large-sized international hotels, small firms can swiftly change their HR policies during the outbreak to minimize labor costs without having to comply with social responsibilities that the government prescribed to large enterprises. Small firms also have higher flexibility in adopting recovery strategies such as price reduction, product diversification, or industry diversification due to low levels of bureaucracy.

In the follow-up interview, the owner mentioned that the hotel industry had not recovered yet because of the temporary cancellation of air and sea transportation into and from Macau. The hotel has a competitive advantage by offering rooms at reduced rates for local businesses that need to provide temporary residence for their cross-border personnel even though sales revenue has dropped by 40%.

### **Firm D Realtor**

Firm D is a real estate property agency set up two years ago by a group of young local entrepreneurs. We interviewed its owner, who is also managing director. The firm has seven local employees and no foreign workers. The firm reports an annual profit of above MOP 1 million (USD 125,000). The firm has no previous crisis experience.

The COVID-19 outbreak has caused a sharp decrease in demand in real estate and the firm experiences a 30% loss of customers. The manager estimates the potential business loss at MOP300,000 (USD37,500).

The existing crisis management mechanism is relatively immature, and the organization currently does not have a crisis management plan and strategy or a contingency plan. Crisis management is mostly on an ad-hoc basis.

The organization responds to the current COVID-19 outbreak by requesting all employees to work at home and canceling all appointments with customers/ homeowners. Employees who have been to Mainland China are required to self-quarantine for 14 days before coming to the office.

The organization has no plan to invest in learning and training in crisis management. The director believes that even with a strong crisis management strategy, it probably would not make much difference. He mentioned that if the volume of Chinese visitors does not recover quickly, job security in Macau will suffer and cause a decrease in demand in the housing market. There is not much the firm can do but to rely on the recovery of the local economy.

The owner also believes that as the impacts of COVID-19 is industry-wide and firm size does not make much difference in terms of survival and recovery strategies. However, he admits that small firms may record a smaller economic loss due to low fixed operating costs.

As of early May, the company operations are back to normal but with the abrupt decline of the rental market, the sales revenue dropped to 60% of the levels before the outbreak.

## **Firm E: Professional Service Provider**

Firm E is a law firm with five years of history. The firm has five local employees and no foreign workers. During the COVID-19 outbreak, the firm closed for one week only and had limited operations for two more weeks. This was necessary due to the postponement of court proceedings, reduced public services, and delayed post office deliveries. Our interviewee mentioned that due diligence procedures for civil transactions have been delayed. The firm estimates a financial loss of 20% of net income in this COVID-19 crisis, yet it expects that the impacts of the outbreak will be short term only. The firm currently has a management contingency plan to prevent the crisis or minimize the negative impacts of the crisis in the HR aspect.

The organization responds to the current COVID-19 outbreak by shortening operation hours and reducing face-to-face meetings. Partners and senior management communicate via Whatsapp and Zoom. The firm also works with its clients to deal with this crisis by giving legal advice on termination of employment and contracts. The owners believe that those actions are useful for survival in this crisis event.

The law firm mainly works on commercial and property transactions, and the partner expects that full recovery will take one year. The firm does not plan to modify its services, operation process, or market position once the COVID-19 outbreak is over. The firm is willing to invest in training and training in crisis management, primarily providing more training to the management level. The firm also intends to strengthen its crisis management strategies. The partner believes that as the business of the law firm depends on the economic environment, any disturbance in the market will damage business. Firm size would not make a big difference in economic impact, survival, and resilience strategies. In the follow up interview in May, we learned that business is almost back to normal, and sales revenue is around 90% of that before the crisis.

## **Firm F: Cafeteria**

Firm F is a cafeteria operating in the central commercial district for four years. The cafeteria has hired 23 employees, and of these 5 are foreign workers. The cafeteria closed down for three weeks during the outbreak. The firm estimates to record a loss of approximately MOP400,000 (USD50,000) during the outbreak, as the firm still needs to pay rent and payroll. They expect that full recovery will take four months. The firm currently has a crisis management plan but mostly focuses on food safety and HR issues. There is a formal documentation mechanism for both financial and non-financial factors.

The cafeteria survives through the COVID-19 crisis by shutting down the café and asking employees to clear their annual leaves. Employees who reside in China were asked not to return to their work until April. With these special arrangements in HR policies, the firm has reduced labor costs by 50% during the outbreak. The firm also negotiated with suppliers for an extended credit period. The café also switched to takeaway and delivery during the outbreak. The café is offering the set lunch at a discount price to attract locals who work nearby.

After the crisis, the firm plans to cut down employee size and terminate contract with some of the foreign workers. The café also plans to reform its business model by focusing on the takeaway market and offer discounts. They also partner with Food4U, a local food delivery firm, so that the café does not need to hire personnel to deliver on their own. The café believes that these actions can help to lower labor costs by 20%. The firm is willing to provide training to the managers about crisis management, with an estimated annual investment of MOP20,000 (USD2,500).

The owner believes that COVID-19 has an impact in all industries but the food services is one of the sectors that suffered the most. However, as compared to competitors of larger size, the prompt action of changing their HR policies during the outbreak has significantly helped the firm. Small firms may benefit from a low level of bureaucracy in adopting survival strategies.

## **Conclusion And Discussion**

### **Main Findings**

#### ***Economic Impacts and Time***

All SMEs suffered temporary closedown of the business and HR issues. The participant firms reported economic losses ranging from MOP100,000 to MOP500,000 (USD12,500 to USD62,500). The most significant economic impact is the loss of customer flow (demand constraint) instead of cash flow difficulty (financial constraint). Our research findings are consistent with Cosh et al. (2009), Phillipson et al. (2009), and Irvine & Anderson (2004 and 2006) indicating that small firms are more vulnerable to decline in demand than financial constraints.

All participant firms expected the adverse effects would last far beyond the period of the actual COVID-19 crisis, with estimated recovery time ranging from 3 to 36 months. In summary, the data obtained to support that the COVID-19 crisis is unique in terms of its pervasiveness and longevity. The impacts are transboundary, both geographically and cross-industry.

#### ***Crisis Management Strategies***

From the data obtained, we found that firms B, C, and F have a comprehensive set of crisis management strategies. These are firms that have a long history and larger employee size, with more extensive crisis experience, and subject to more government regulations. The leaders of these firms are often involved in crisis management. These firms also learned from previous crisis and used that experience to develop a crisis management strategy. From the follow-up interviews, we found that these firms show significant signs of recovery four months after the outbreak. Regarding the SME firms without a formal crisis plan, they are firms with weaker market position, less resources, and lacking a sense of crisis.

Our findings are consistent with existing literature such as Irvine & Anderson (2006), and Munoz et al. (2019), who found that small firms with proper crisis planning survive and recover better from crises

events. Nevertheless, no firm indicated to involve an outside crisis expert in the existing crisis mechanism, as suggested by Ruff & Aziz (2003).

However, whether building up a sound system of crisis management can help prevent future crisis events or reduce potential losses in the next crisis is in doubt. Yet small firms with better preparedness may recover sooner from stress. Figure 3 presents a model of the crisis management strategies adopted by the participant SMEs.

### ***Survival Strategies***

From the interviewees' responses, we have summarized a five-categorical model for survival strategies for small businesses. The five categories are operation, financial, human resources, products, and network.

All participating firms report using operation strategies (close down or reduce operation hours), HR strategies (flexible HR policy), financial strategies (cost cut), and network strategies (customer relation) during the COVID-19 outbreak. Four out of six firms have kept timely communication at the management level (HR). Three out of six firms have adopted other survival strategies on the list. The participating firms find these strategies useful for surviving through the crisis.

Our research findings are consistent with current literature, such as Doern et al. (2016) and Spillan & Ziemnowicz (2003). Unlike previously reported crises (Doern et al., 2016; Irvine & Anderson, 2004 and 2006), small firms increased flexibility of staff policies (HR), reduced costs (financial), and improved customer relations (network).

### ***Resilience, Dynamic Learning, and Strategic Renewal***

From the data collected, we also propose a resilience model for local small firms consisting of five constructs: customer relations, products, financial, dynamic learning, and equipment.

Our first observation is that Firms B and C, with the most extended history and extensive crisis experience, tend to adopt a more comprehensive set of resilience strategies that include all the constructs in our model.

Of the five constructs, four out of six participating firms have adopted customer relations and products. Small businesses plan to enhance networking with customers, diversify products with the help of technology, and explore new market sectors after the crisis.

We also observe that small firms are learning from the crisis. Four out of six firms report the intention of reforming and strengthening their crisis management plan and strategy. Five firms are willing to invest in learning on crisis management. Two firms plan to reform their existing HR policy. We also find that Firms B and C, which have adopted comprehensive dynamic learning in their resilience strategies, recover promptly from the crisis. Our findings are in line with Saunders et al. (2014), Eillot (2009) and Bullough &

Renko (2018) who concluded that SMEs with strong dynamic and innovative capabilities and are willing to learn from crises events recover quickly.

Small firms with shorter business history and less crisis experience seem to lack plans of resilience and strategic renewal (as observed in Firms D and E). These owners do not see the relevance of a resilience and renewal strategy as they believe it may not directly reflect short-term financial performance. Our research findings are consistent with Latham and Braun (2011). They proposed the firms' initial conditions (resources and capabilities) at the onset of the recession determine firm performance within-recession and post-recession.

In summary, the time and pervasiveness of the COVID-19 outbreak may have affected the resilience strategies adopted by small firms. We observe a heavy focus on product diversification, new market exploration, and dynamic learning in our study as compared with previous research conducted on other crises.

### ***The Impact of Firm Size***

New setup firms, especially those founded by young entrepreneurs and of small size, show advantages in terms of flexibility and prompt reaction during the COVID-19 outbreak. Five out of six participating firms record smaller economic losses than large firms in the same sector by changing their HR policies and/or reducing prices during the outbreak. Our findings are consistent with those obtained by Simon-Moya et al. (2016) and Doern et al. (2019). One possible explanation is that small firms, and new startups have a low degree of bureaucracy (Spillan & Ziemnowicz, 2003; Hong & Li, 2012; Irvine & Anderson, 2004; Irvine & Anderson, 2016). Another difference between small firms and large firms is the invincible pressure of CSR compliance. Existing literature such as Baumann-Pauly et al. (2015), Ketola et al. (2009), Lepoutre & Heene (2006), Udayasankar (2008), Wickert et al. (2016) and Youn et al. (2015) show that CSR strategies and compliance depend on firm size. CSR is a two-sided sword. In the good days, CSR helps promote the firm's image. Yet CSR compliance may set invincible boundaries prohibiting large firms to swiftly and effectively restructure their HR policies to cut down labor costs sharply during crisis. We observe such CSR boundaries in the gaming and hospitality industry when the Macau government interferes and persuades large firms not to terminate employment in the early stage of the outbreak massively.

To summarize, as compared with large firms, new startups and small firms show high flexibility in their reactions to the crisis, partly due to the low level of bureaucracy and limited social responsibility compliance.

### ***Policy Making***

All firms are satisfied with the existing government policies of handling the COVID-19 crisis. They believe that the initiatives proposed are helpful, which include: offering consumer e-vouchers, select loans to SMEs, and guaranteeing the supply of surgical masks. Regarding financing, it is noteworthy that three

firms (Firms A, C, and D) indicate that loan repayments would exert financial pressure on the organizations.

The firms suggested that additional government help may include: increasing the value of consumer e-vouchers, expanding the consumer cash coupon to cover tourists instead of only Macau residents, increasing the value of the continuing education fund from MOP6,000 to MOP10,000, and resuming classes in high schools and tertiary education institutions as early as possible when the outbreak goes down.

### **Implications for Research**

Our study contributes to the existing literature in the crisis management theory by proposing models of survival and resilience strategies for small businesses in a pandemic, such as the COVID-19. Considering the uniqueness of the COVID-19 crisis (long time and world-wide and cross-industry impacts), previous research findings from other crises events may not apply. The uniqueness of the COVID-19 also provides insights into the classification of crises. Traditionally crises are classified by their nature (public health, social, economic, etc.). Perhaps it is time to take into account time, pervasiveness, and coverage (both in terms of industry and geography) of the crises when classifying crises as firms may take different actions concerning those new factors. The new classification system may impact the way we understand crisis management in small businesses.

### **Implications for SMEs**

Our research findings suggested that the COVID-19 outbreak widely impacts SMEs. The most significant impacts are demand constraints and HR issues. The SMEs being interviewed show flexibility in handling crises as small firms have a low degree of bureaucracy, and they are less bound by CSR compliance. However, we observe a lack of formal documentation mechanisms and comprehensive crisis management and aftermath strategies for new firms with little previous crisis experience. We recommend that small businesses consider long-term and adoptive crisis management strategies, not only focusing on financial factors but also fully taking non-financial factors into account. Owners, top management, as well as different levels of personnel, should be involved in developing crisis management mechanisms according to their needs.

All firms show interest in exploring new markets and incorporating technology into their future growth, which is another sign of active learning and improvement from the crisis. In the long run, the urge to grow and expand market share may be a strong driving force for firms to strengthen their resilience and renewal strategies.

We do not observe close cooperation between firms and various stakeholders other than the customers in the survival and recovery plan. Thus, we suggest SMEs work closely with various stakeholders to survive and promptly recover from the crisis (Brunet & Houbaert, 2007).



Among the participant firms, we have not found any firm that has involved external parties in crisis preparations. This limitation suggests a potential disengagement with external stakeholders and the need to develop a broader crisis management plan (Dent & Cudworth, 2018).

It is also unclear whether SMEs are willing to invest additionally in improving crisis management. Even for the firms with such a plan in mind, the estimated amounts of investments appear inadequate. We also recommend learning through informal networking, mentoring, or coaching. SMEs should look for learning tools that are inexpensive, innovative, flexible, and useful.

### **Implications for Policy-Making**

All firms show a high degree of satisfaction with the existing governmental policies, especially in terms of controlling the flow of visitors, offering consumer e-vouchers, allowing a special tax reduction, and granting particular loans for SMEs during and after the public health crisis.

It is also vital for the government and non-government to work together to strengthen infrastructure to support local SMEs and create a market of encouraging entrepreneurship, learning, and innovation. As proposed by Bishop (2019), a diverse and robust knowledge stock would foster entrepreneurship after crises events.

We also observe heavy reliance on technology during the crisis, which calls for the government to invest more in improving IT and telecommunication infrastructure and supporting local SMEs to adapt to the change in the environment. At the same time, attention should be paid to protect the users' privacy of online communication tools. With the help of technology, local SMEs are likely to explore new markets out of Macau and find new business opportunities.

Our research findings indicate that the local tourist industry is fragile and highly vulnerable to any external shocks such as the recent COVID-19 crisis, which are consistent with the results obtained by Irvine & Anderson (2004), Irvine & Anderson (2006), Jonas et al. (2010) and Wilks (2006). Even worse, the adverse impacts of public health crises on the tourism industry may last for a much longer time than the crisis period (Irvine & Anderson, 2004; Irvine & Anderson, 2006). Thus, Macau, with an economy heavily focused on tourism and peripheral industries, may rethink promoting crisis management for local firms and, in the long run, industry diversification.

### **Conclusion and Limitations**

Our research provides insights on how small businesses in Macau respond to the recent COVID-19 crisis and also suggests recommendations for policy makers. In this study, we defined survival strategies for small firms in five areas: operations, financial, human resources, products, and network. We also propose a resilience model for local small businesses consisting of five constructs: customer relations, products, financial, dynamic learning, and hardware. The difference between our models and those proposed by other researchers in previous crises suggests that survival and resilience strategies may depend on context, time, and coverage of the crisis. Our research findings contribute to the current literature on crisis

management by providing empirical evidence from small businesses in a resourceful environment during a long-lasting and pervasive pandemic environment.

The outbreak has created a drastic turmoil in local SMEs. Due to the low degree of bureaucracy and small size, SMEs reacted quickly and effectively in the outbreak. Nevertheless, we have identified some issues in terms of crisis planning, management, resilience, and renewal. As crisis management is an ongoing process, continuous improvement by embedding lessons learned can minimize the risk of the next crisis. Local small businesses should strive to enhance their resilience and renewal strategies to survive and recover from this public health disaster rather than relying on assistance from the government.

Lastly, we have identified some limitations in our studies. Due to the lack of a uniform and standardized definition of SMEs across economies, one should be careful when trying to generalize our findings to SMEs in other jurisdictions as their size and resources may not be comparable. This research focused on Macau, an economy with ample financial resources due to high gaming and tourism tax income. Whether small firms operating in other contexts would react in the same way should be further studied. Moreover, our research findings suggest that firm size, crisis experience, history of the firm, and government regulation are factors that may impact the crisis management, survival, and resilience strategies adopted by the firms. Yet which of these factors dominates may be further researched by focusing on a specific sector and expanding the sample size.

## List Of Abbreviations

SME: Small and medium sized enterprises

Macau S.A.R.: Macau Special Administrative Region

## Declarations

### **Ethics approval and consent to participate**

As this study involves human participants, the authors have obtained ethics approval and consent from the Faculty of Business of the City University of Macau.

### **Consent for publication**

We have obtained consent from the participating firms and interviewees to publish the contents of the interviews. All participating firms and interviewees will remain anonymous.

### **Availability of data and materials**

Summary of the data collected is presented in the tables. Details of data and materials are available upon request. Please contact Tan Cheng LOK at [stellalok@chwcpc.com.mo](mailto:stellalok@chwcpc.com.mo).

## Competing interests

The authors do not have any financial and non-financial competing interests.

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## Authors' contributions

All the authors and co-authors contribute collectively to the research design and implementation.

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## Tables

Table 1: Development of Interview Questionnaire

| Interview Question  | Research Question   |
|---|---|
| <b>Part 1 :</b>   |   |
| Q4 History of the Firm  | Investigate whether the firm's history affects the firm's crisis management, survival, and recovery strategies.       |
| Q6 Industry<br>Q7 Products  | To study the impacts of COVID-19 on various industries.   |
| Q8 Employee Size<br>Q9 Non-Resident Workers<br>Q10 Annual Revenue         | To examine the impacts of COVID-19 on firms of different sizes and HR policies.                                       |
| <b>Part 2 :</b>   |   |
| Q1, 2, 3 Impacts and Challenges of COVID-19                               | To understand the economic impacts of the outbreak on the firms.  |
| Q4 Impact of Firm Size  | To investigate whether the firm size is related to economic loss.   |
| Q5 Follow-Up  | To follow up with the economic loss.  |
| <b>Part 3 :</b>   |   |
| Q1 Previous Crisis Experience   | To understand previous crisis experience.   |
| Q2-7 Crisis Management Strategies   | To understand the crisis management strategies of the firms.  |
| Q8-11 Survival Strategies from Stakeholders' Perspective                  | To study the survival strategies adopted by the firms from the stakeholders' perspective.                             |
| Q12 Firm Size   | To investigate whether firm size affects survival strategies.   |
| Q13 Expected time of the impacts  | To study the expected time of the impacts of COVID-19.  |
| Q14-16, 18<br>Recovery Strategies   | To examine the recovery strategies adopted by the firms.  |
| Q17 Dynamic Learning  | To investigate the dynamic learning of the firms.   |
| Q19 Follow-Up of Recovery   | To examine the usefulness of the recovery strategies.   |
| Q20 Firm Size   | To study whether firm size affects recovery strategies.   |
| Q21, 22 Satisfaction with Government Policies and Further Recommendations | To investigate whether small firms are satisfied with existing policies and provide recommendations for policymaking. |

Table 2: Information about Cases



| Business Name | Industry             | Annual Profit (MOP) | Number of Employees | History  | Crisis Management Strategies | Licensing and Regulatory Body |
|---------------|----------------------|---------------------|---------------------|----------|------------------------------|-------------------------------|
| A             | Wholesale and Retail | Below MOP 1 million | 3                   | 2 years  | Yes, but incomplete          | None                          |
| B             | Private Education    | Above MOP 1 million | 12                  | 38 years | Yes, complete                | Education Bureau              |
| C             | Hotel                | Above MOP 1 million | 82                  | 36 years | Yes, complete                | Tourism Bureau                |
| D             | Real Estate Agency   | Above MOP 1 million | 7                   | 2 years  | None                         | Housing Bureau                |
| E             | Law Firm             | Below MOP 1 million | 5                   | 5 years  | Yes, but incomplete          | Bar Association               |
| F             | Cafeteria            | Above MOP 1 million | 23                  | 4 years  | Yes, complete                | Civil Municipal Bureau        |

Table 3: Crisis Management Strategies for Small Businesses

| Crisis Management Strategies  | Firm A | Firm B | Firm C | Firm D | Firm E | Firm F |
|-------------------------------|--------|--------|--------|--------|--------|--------|
| Planning                      | √      | √      | √      |        |        | √      |
| Testing                       |        | √      | √      |        |        | √      |
| Signaling                     | √      | √      | √      |        |        | √      |
| Communication among employees | √      | √      | √      |        | √      | √      |
| Documentation                 | √      | √      | √      |        | √      | √      |
| Contingency Plan              | √      | √      | √      |        | √      | √      |
| Monitoring                    |        | √      | √      |        | √      | √      |

Table 4: Survival Strategies for Small Businesses

| Category       | Survival Strategies                                 | Firm A | Firm B | Firm C | Firm D | Firm E | Firm F |
|----------------|---|--------|--------|--------|--------|--------|--------|
| Operation      | Close down or shorten operation hours               | √      | √      | √      | √      | √      | √      |
| Human Resource | Timely communication at management level            |        | √      | √      | √      | √      |        |
|                | Flexible HR policy and employees' stress management | √      | √      | √      | √      | √      | √      |
| Financial      | Cost cut  | √      | √      | √      | √      | √      | √      |
|                | Apply for SMEs loan from the government             | √      |        |        | √      |        |        |
| Products       | Reduce inventory stock                              | √      |        | √      |        |        | √      |
|                | Exploring new products/markets                      | √      |        | √      |        |        | √      |
| Network        | Customer relation/advertising/discount promotion    | √      | √      | √      | √      | √      | √      |
|                | Extend credit period with suppliers                 | √      |        | √      |        |        | √      |

Table 5: Resilience and Renewal Strategies for Small Businesses

| Category          | Resilience and Renewal Strategies       | Firm A | Firm B | Firm C | Firm D | Firm E | Firm F |
|-------------------|---|--------|--------|--------|--------|--------|--------|
| Customer Relation | Increase advertising and promotion      | √      | √      | √      | √      |        |        |
|                   | Offer discounts                         | √      |        | √      | √      |        | √      |
| Financial         | Cost cut                                |        | √      | √      |        |        | √      |
| Products          | Product diversification                 | √      | √      | √      |        |        | √      |
|                   | Explore new market                      | √      | √      | √      |        |        | √      |
| Dynamic Learning  | Strengthen crisis management strategies | √      | √      | √      |        | √      |        |
|                   | Invest in learning on crisis management | √      | √      | √      |        | √      | √      |
|                   | Reform HR policy                        |        | √      | √      |        |        |        |
| Hardware          | Invest in health and safety equipment   |        | √      | √      |        |        |        |
|                   | Redecoration                            |        | √      | √      |        |        |        |

## Figures

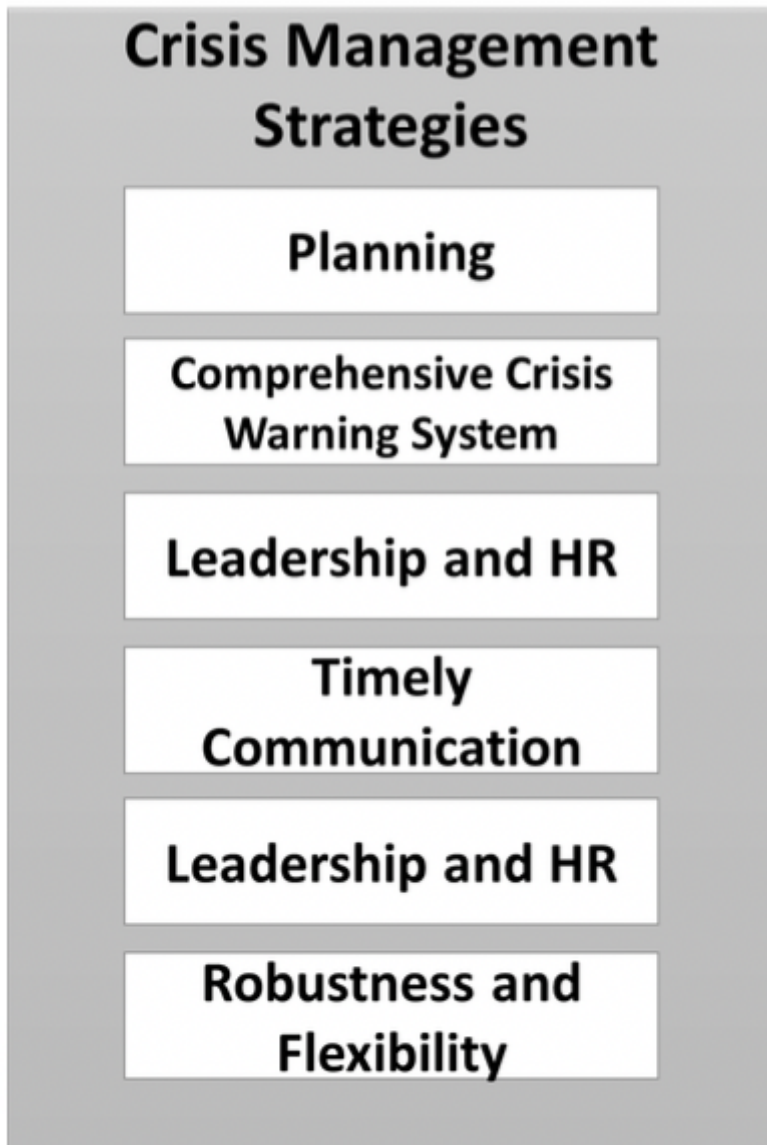
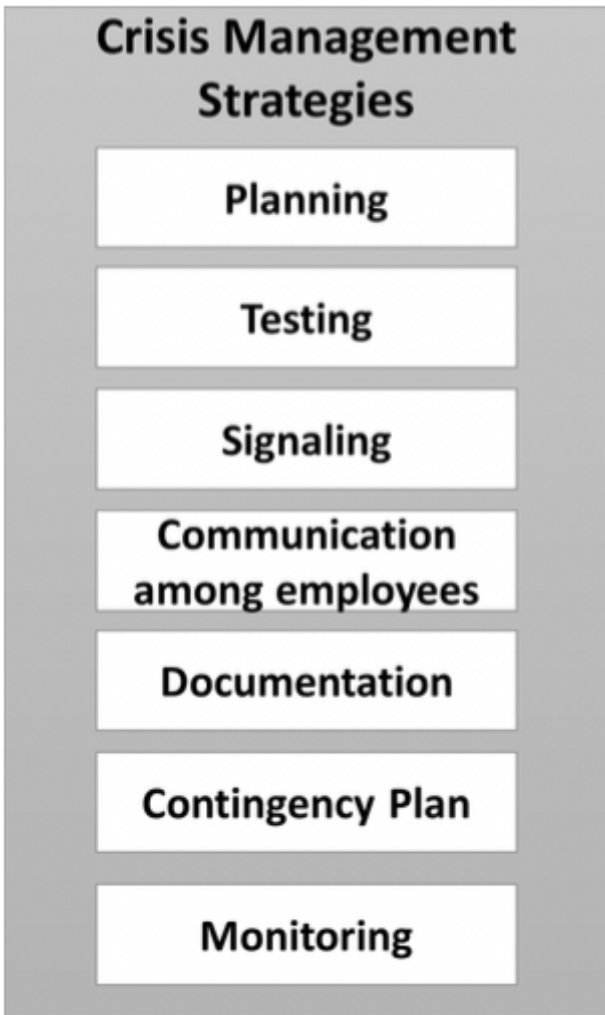


Figure 1



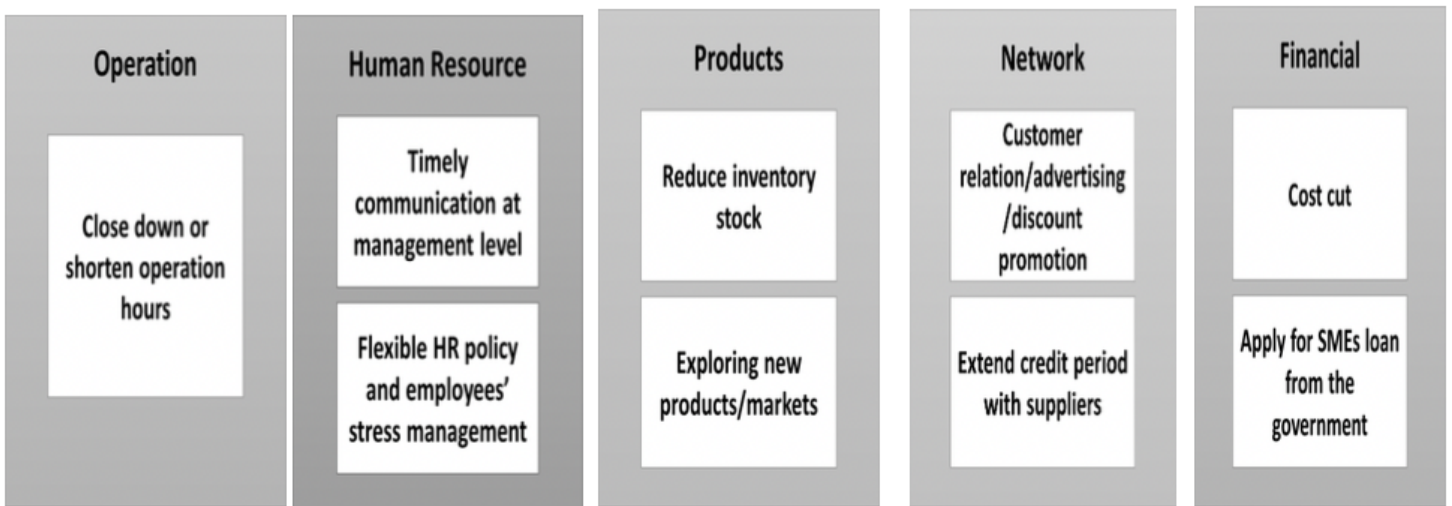
Figure 2

Summary of Resilience Strategies for SMEs from Literature Reviewed



**Figure 3**

Model of Crisis Management Strategies for Small Businesses



**Figure 4**

## Model of Survival and Resilience Strategies for Small Businesses

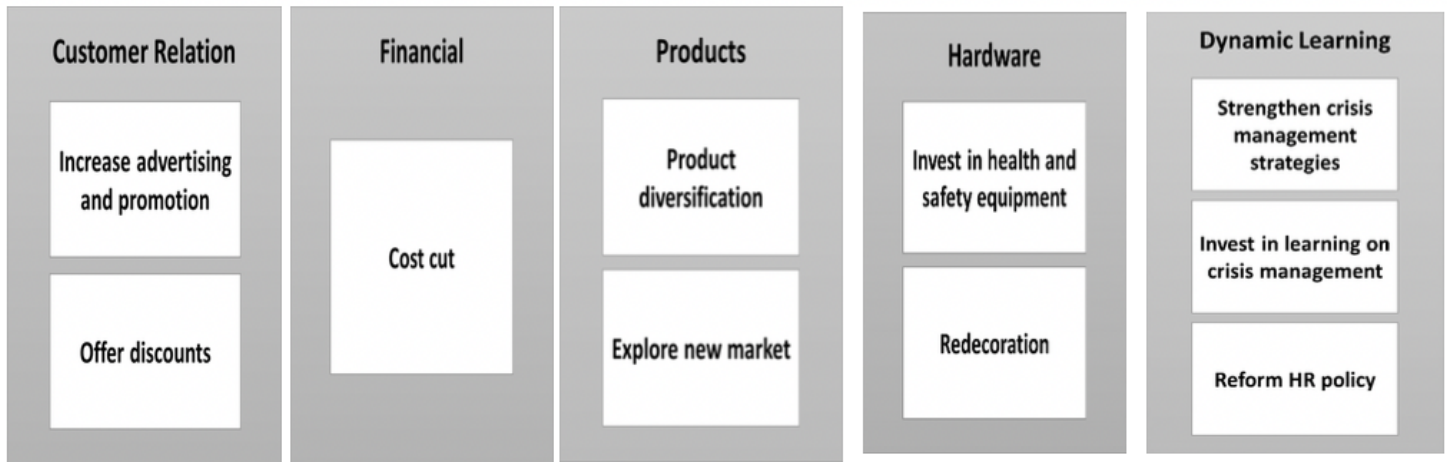


Figure 5

Model of Resilience Strategies for Small Businesses

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Appendix.docx](#)