

Business continuity management and organizational resilience among small and medium enterprises

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Abstract

Business operations can be disrupted by a wide range of unforeseen events and such disruptions can vary in scale and impact, ranging from minor inconveniences to severe crises that threaten the very existence of a business. This study assessed the Business Continuity Management (BCM) and the Organizational Resilience of Small and Medium Enterprises in Batangas City which examined the proactive risk management, continuity planning, and adaptive strategies that enable them to withstand and overcome challenges. The study also described the firmographic profile of SMEs in terms of the nature of business, size, and years of operation, assessed Business Continuity Management as to risk management, crisis management, and disaster recovery, evaluated Organizational Resilience in terms of Operational Resilience, Strategic Resilience and Cultural Resilience, tested the significant differences on the responses when grouped according to profile, tested the significant relationships between business continuity management and Organizational Resilience and proposed action plan that Small-Medium Enterprise owners can implement to ensure the continuity of business. The study utilized descriptive research design. The study revealed that respondents moderately agree with regards to preparedness of Business Continuity Management (BCM) in terms of risk management, crisis management, and disaster recovery. For Organizational Resilience the respondents demonstrated strong agreement as to Operational Resilience, Strategic Resilience and Cultural Resilience. There were significant differences in terms of Business Continuity Management on the responses when grouped according to profile; However, in terms of Organizational Resilience, most of the variable were significant but not with Operational and Cultural aspects of Industry and operational under the profile years of operation. There is significant relationship between business continuity management and organizational resilience and that more prepare the business continuity management is, the better their organizational resilience is. Finally, an action plan was developed for Small and Medium Enterprise owners that can be used to ensure the continuity of business.

Keywords: Business Continuity Management (BCM), organizational resilience, risk management, crisis management, disaster recovery, operational resilience, strategic resilience, cultural resilience

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1. Introduction

Unexpected events can disrupt business operations. Disruptions can vary in scale and impact, ranging from minor inconveniences to severe crises that threaten a business's very existence. Business Continuity Management (BCM) was created to prevent or lessen risks, lessen the effects of emergencies or disasters, and shorten the time it takes to return things to normal. A framework for enhancing organizational resilience is offered by business continuity management. It is a comprehensive approach that detects possible risks to a company and its operations (Anir et al., 2019). BCM has been incorporated into various crisis-resolution ideas. It is related to ideas like catastrophe recovery, crisis management, and risk management. By addressing risks through actions and suitable measures, BCM is related to risk management. Through the incident management component, BCM and crisis management are very closely related. Crisis operation is allowed to reply to both palpable and impalpable events, like mishaps that damage a company's character or fiscal performance. also, disaster recovery is a subset of business durability operation since it's principally a plan with the structure to support it that's enforced in the event of a disaster (Sagita, 2018).

The Philippines is ranked as the ninth most disaster-prone nation in the 2019 World Risk Report, which bases this ranking on the country's vulnerability to natural catastrophes, its ability to adapt to them, and its ability to cope with them. Additionally, according to the 2015 poll, the top three effects of catastrophes on businesses were damage to premises and equipment, the inability of the company to deliver to consumers, and the incapacity of staff to report to work. Without basic information on business continuity management, risks connected with disaster strikes are quite high, and owing to limited resources Small and Medium Enterprises (SMEs) might be particularly vulnerable to business disruptions.

Looking at the situation deeper, the researcher believed that organizational resilience is the adaptive capacity of an organization, to recover, and grow in the face of uncertainties, crises, or unexpected challenges. In the 21st century, where uncertainty and rapid change are the standard, resilience is no longer optional, instead, it is a critical capability for organizations to survive, thrive, and achieve their long-term goals. In addition to being able to endure shocks, resilience enables businesses to use crises as a chance for innovation and expansion. To elaborate, operational resilience refers to an organization's capacity to continue providing value and doing essential tasks even in times of disaster. It involves ensuring that day-to-day operations can continue smoothly, despite disruptions. Operational resilience requires organizations to have the ability to reallocate resources such as finance, technology, or personnel to address immediate challenges. It also requires proactive identification and mitigation of risks to minimize disruptions and having backup plans and systems ensure critical operations can push through during a crisis. On the other hand, the researcher also believed that the organizations here in the Philippines must have strategic resilience that is more on maintaining strategic consistency while being flexible to adapt to changing circumstances. For example, during economic downturns, strategic resilient organizations might pivot their business models, explore new markets, or invest in innovations to stay competitive. Researcher believed that business leaders can anticipate changes, make informed decisions, and guide the organization through uncertainty. There should be preparation for multiple future scenarios and having strategies in place to respond effectively and of course embracing change and using crises as opportunities to innovate and grow.

Furthermore, small and medium enterprises (SMEs) often lack the financial, technological, and human resources that larger organizations must recover from crises. Events like economic downturns, natural disasters, cyber-attacks, or even pandemics can have devastating effects on SMEs, leading to business closures and job losses. Understanding how business continuity management and organizational resilience can help SMEs navigate these challenges is crucial for their survival and growth. While business continuity management is well-documented in

large companies in most cases, its application and effectiveness in SMEs remain under-researched. SMEs often face unique challenges in implementing BCM, such as limited budgets, lack of expertise, and competing priorities. This study sheds light and aims to address the gap by investigating the Business Continuity Management and Organizational resilience of Small and Medium Enterprises in Batangas City. Business owners will be able to assess their perceived organizational resilience and the preparation for any business disruption through Business Continuity Management.

Objectives of the Study - This study assessed Business Continuity Management (BCM) and the Organizational Resilience of Small and Medium Enterprises to examine proactive risk management, continuity planning, and adaptive strategies that enable them to withstand and overcome challenges. Specifically, it sought to Assess Business Continuity Management as to risk management, crisis management, and disaster recovery; evaluate Organizational Resilience in terms of Operational Resilience, Strategic Resilience, and Cultural Resilience; test the significant relationships between business continuity management and Organizational Resilience; and propose an action plan that Small-Medium Enterprise owners can implement to guarantee the steadiness of business.

2. Methods

Research Design - To evaluate the organizational resilience and business continuity management of small and medium-sized businesses, the researchers employed a descriptive research approach. The goal of descriptive study design is to gather data methodically to characterize a population, circumstance, or phenomenon. More precisely, it aids in addressing the research problem's what, when, where, and how inquiries as opposed to its why. This research can be carried out by researchers using a variety of approaches. It generally involves quantitative data, while qualitative data is also employed for descriptive purposes. It is crucial to remember that, in contrast to experimental research, the researcher does not control or modify any factors when using the descriptive research approach. Rather, only the variables are recognized, noted, and quantified. Surveys and observation are the most used method to conduct this research design (Voxco, 2021). The researcher found it suitable to assess the relevance of Business Continuity Management and Organizational Resilience for the continuity of business.

Participants of the Study - The respondents of this study are the owners or the top management of Small and Medium Enterprises in Batangas City. They are chosen as they are responsible for the decision-making process of the business. The total list of population was provided by the Business Permit and Licensing Office of Batangas City. The researcher used Raosoft Calculator to determine the total number of respondents. The Raosoft sample calculator is online software that primarily calculates or generates the sample size of a research or survey.

Instruments of the Study - A survey questionnaire was used by the researcher in data gathering. Questions were adapted from "BCM Questionnaires 10: Crisis Management" Goh (2021) and other studies related to BCM and Organizational Resilience. It was validated by experts in the field and was subjected to preliminary testing. The questionnaire has three (3) parts. Part 1 describes the firmographic profile of the respondents of SMEs in terms of the nature of the business, size, and years of operation. Part 2 consists of (3) components of Business Continuity Management which are, Risk Management, Crisis Management, and Disaster Recovery. Part 3 consists of the Organizational Resilience of SMEs in terms of Capital Resilience, Strategic Resilience, and Cultural Resilience. The items in the questionnaire were given corresponding weights of 1 to 4. Equivalent verbal descriptions are also provided.

The following scoring system was used. The scale of 4 with the range of 3.50 to 4.00; Strongly Agree. While a scale of 3 with a range of 2.50 to 3.49; Agree. And a scale of 2 with a range of 1.50 to 2.49; Disagree. And lastly, a scale of 1 with a range of 1.00 to 1.49; Strongly Disagree. The reliability test used the Cronbach Alpha with Acceptable results for all the domains. Risk Management has 0.704 with acceptable remarks, Crisis Management has 0.800 with good remarks, Disaster Recovery has 0.846 with good remarks, Robustness has 0.847 with good remarks, Agility with 0.854 with good remarks and Adaptability has 0.916 with excellent remarks.

Data Gathering Procedure - After submitting the proposal for feedback and receiving final approval from the

thesis adviser, the researcher proceeded to adapt the questionnaire. The validation of the instrument was carried out with the guidance of the research adviser and a university statistician. To identify potential respondents, the researcher obtained a list of registered SMEs from the City's Business Permit and Licensing Office. Data collection was then conducted by distributing a Google Form through email and Facebook pages of SME owners. Printed versions of the questionnaire were given to SME owners and managers who lacked online access. Collected survey responses were then compiled and forwarded to the university statistician for statistical analysis.

Data Analysis - Simple descriptive statistics such as weighted mean. Shapiro-Wilk test of normality was employed to identify whether a parametric test or non-parametric test would be used. If it is Parametric, Pearson r was used, and if it is not Spearman rho.

Ethical Considerations - Study followed ethical procedures by providing participants with a consent form as an indication of their agreement to take part in the research. To maintain the study's validity, certain details about participant involvement were kept confidential until the research was completed. Participants were informed that they could withdraw from the study at any time without explanation, penalty, or negative consequences. Data privacy was prioritized to ensure participants were fully aware of the research process, and all personal information collected from respondents was kept strictly confidential and not shared outside the research team. The researcher ensured that all measurement tools used in the study were publicly available, and, when necessary, permission from the original authors would be obtained. Proper citations were used throughout the study to avoid plagiarism.

3. Results and discussion

Table 1

Summary Table for Business Continuity Management

	Mean	Interpretation	Rank
Risk Management	3.53	Strongly Agree	1
Crisis Management	3.52	Strongly Agree	2
Disaster Recovery	3.39	Agree	3
Overall	3.48	Agree	

Legend: 1.00 – 1.49 Strongly Disagree, 1.50 – 2.49 Disagree, 2.50 – 3.49 Agree, 3.50 – 4.00 Strongly Agree

Table 1 summarizes the assessment of Business Continuity Management of business owners and managers in terms of risk management, crisis management, and disaster recovery. Based on the result, the composite means of 3.48 presented that the business owners and managers have agreed to Business Continuity Management among the three indicators in general. In terms of the three indicators, respondents strongly agreed to risk management (3.53), crisis management (3.52), and disaster recovery (3.39). Risk Management ranks highest on the ranking as it is the proactive approach of Business Continuity Management. Risk management provides a structured approach to identifying, assessing, and mitigating risks that could disrupt business operations (Mošková et al., 2023). Second, on the ranking is the Crisis Management which some of the respondents, especially those start-ups in the early years haven't experienced yet as there is no crisis yet. Crisis management involves the immediate response and management of a disruptive event to mitigate its impact on an organization's operations (Mishra et al., 2018). Last on the ranking is the disaster recovery which involves the planning after the crisis and mostly about IT-related processes such as IT Disaster Recovery Planning (IT DRP) which focuses on the recovery and restoration of IT systems and infrastructure post-disruption (Kesa, 2023).

Table 2 summarizes the assessment of the organizational resilience of business owners and managers in terms of operational resilience, strategic resilience, and cultural resilience. Based on the result, the composite mean of 3.56 presented that the business owners and managers have strongly agreed on organizational resilience among the three indicators in general. In terms of the three indicators, respondents strongly agreed with operational resilience (3.64), strategic resilience (3.51), and cultural resilience (3.53) with a very small difference respectively. Operational resilience got the highest ranking as it has to do with the operation where the industries become profitable. By ensuring that the operation is robust, the industry may then focus on other factors such as strategic and cultural resilience. Hepfer et al., (2022) differentiate that while operational resilience is crucial for immediate

response to disruptions, strategic resilience is necessary for long-term adaptability. On the other hand, cultural resilience underpins both, providing the necessary mindset and behaviors for an organization to navigate through crises and evolve. Each form of resilience plays a distinct role, and together they contribute to an organization's overall resilience capacity. Therefore, it is not a matter of prioritizing one over the others but rather understanding how they interact and support each other (Deep, 2023).

Table 2
Summary Table for Organizational Resilience

	Mean	Interpretation	Rank
Operational Resilience	3.64	Strongly Agree	1
Strategic Resilience	3.51	Strongly Agree	3
Cultural Resilience	3.53	Strongly Agree	2
Overall	3.56	Strongly Agree	

Legend: 1.00 – 1.49 Strongly Disagree, 1.50 – 2.49 Disagree, 2.50 – 3.49 Agree, 3.50 – 4.00 Strongly Agree

Table 3
Relationship of Business Continuity Management to Organizational Resilience

	rx _{xy}	p-value	Interpretation
Risk Management			
Operational	.491**	.000	Significant
Strategic	.455**	.000	Significant
Cultural	.265**	.000	Significant
Overall Organizational Resilience	.497**	.000	Significant
Crisis Management			
Operational	.480**	.000	Significant
Strategic	.372**	.000	Significant
Cultural	.192**	.000	Significant
Overall Organizational Resilience	.423**	.000	Significant
Disaster Recovery			
Operational	.519**	.000	Significant
Strategic	.524**	.000	Significant
Cultural	.271**	.000	Significant
Overall Organizational Resilience	.539**	.000	Significant

Legend: Relationship is significant at 0.05 alpha level

Table 3 shows the relationship between BCM and OR. The estimated rho-values showed a strong direct connection, and the resulting p-values were lower than the alpha threshold of 0.01. This indicates a considerable relationship between BCM and OR, and that the more prepared the business continuity management is, the better their organizational resilience is.

Organizational resilience and business continuity management (BCM) have a complex and mutually beneficial interaction. BCM is a comprehensive framework that covers operational, financial, strategic, technological, supply chain, and human resources to guarantee that businesses continue to perform critical tasks in the face of disruptive events. This helps to increase organizational resilience. BCM plays a crucial role in boosting organizational resilience by offering an organized method for identifying potential threats and their effects, as well as by assisting an organization in responding to and recovering from disruptions. Effective leadership, communication, innovation, and continuous improvement are further factors that contribute to organizational resilience and are essential for maintaining resilience in turbulent times (Rouco et al.,2024). The combination of BCM with Cyber Threat Intelligence further enhances this resilience, particularly in the context of cyber threats (Hytönen et al., 2023). However, the implementation of BCM in SMEs remains a challenge, indicating an area for further development and support (Kaufhold et al., 2018). Additionally, the relationship between organizational resilience and crisis management is highlighted, with resilience affecting the pre- and post-crisis periods and crisis management impacting adaptive resilience (Pekdemir et al.,2024).

Table 4*Proposed Action Plan*

Key Result Areas	Strategy/ Action	Objectives	Expected Outcomes	Persons/ Work Units Involved
Increase Awareness and Preparedness of SMEs Before Crisis	* Create a Business Continuity Plan (BCP) specifically detailed for the Organizational demand	*To have specific guidelines in case a disruption occurs. *To assess risks and the likelihood of its happening *And to Assess Possible Business Impact	Continued operation with minimal to zero losses due to disruption.	SME Owner Manager Employees IT/ Technical Department HR Department Managers, Supervisors, Employees
Increase Alertness on Implementation Strategy During Crisis	* Creation and execution of a Crisis Management Plan (CMP) specifically intended for the current crisis	*To ensure the safety and well-being of employees, customers, visitors, and other stakeholders during a crisis by implementing appropriate safety protocols and evacuation procedures. *Minimize the impact of the crisis on critical business operations, services, and functions to maintain continuity and prevent or mitigate financial losses, reputational damage, and other adverse consequences.	*Reducing Panic *Well-coordinated employees *Plans properly executed *Continued operation	Crisis Management team/ SME Owner Manager Employee
Strategy formulation for recovery After Crisis	* Creation of a Recovery Plan including Recovery Time Objectives (RTO)	*To get things back up and run as swiftly and smoothly as possible, while minimizing long-term damage *Financial recovery *Improved Resilience	*To conduct Damage Assessment *Stabilized Operations *Review and monitor plans *Learn and adapt	*SME Owner *Manager *Employees *Consultants if needed

4. Conclusions and recommendations

Based on the findings of the study, the following conclusions were drawn: The respondents agreed with regards Business Continuity Management as to risk management, crisis management, and disaster recovery. Although there is room to improve on documentation of plans such as BCP, CMP, and RTO for some of the Small and Medium Enterprises in Batangas City primarily in the service and merchandising industry. The respondents demonstrated strong agreement in Organizational Resilience in terms of Operational Resilience, Strategic Resilience, and Cultural Resilience. There is a significant correlation between business continuity management and organizational resilience, indicating that the greater the preparedness in business continuity management, the stronger the organizational resilience becomes. An action plan was developed for Small-Medium Enterprise owners to implement and ensure the continuity of business.

The following recommendations are forwarded as an offshoot of the conclusions drawn. Service and Merchandising industries may review and validate the outlined action plan provided in the study for proper implementation. Businesses may enhance their understanding and implementation of Business Continuity Management (BCM) and organizational resilience through BCM training and profound education. Future researchers may compare resilience and BCM practices across different industries, organizational sizes, geographic regions, and cultural contexts. Identify similarities, differences, and contextual factors that influence resilience outcomes, allowing for more nuanced and contextually relevant recommendations. Future researchers may also delve deeper by focusing on specific segments such as risk assessment for specific lines of business, documentation of plans, updates, and implementation strategies.

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