

# Post-Disaster Recovery: Evaluating Business Resilience in Msmes in Monkayo, Davao De Oro

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## ABSTRACT

In a post-disaster context, business resilience faces several challenges. Among these difficulties are the requirements for total command over institutional matters and progressive planning (Cutillas et al., 2022). This study aims to assess the business resilience of MSMEs in the municipality of Monkayo, Davao de Oro, Philippines in the context of post-disaster recovery. The researchers employed a quantitative descriptive design and specifically selected 300 owners or managers of MSMEs in the municipality of Monkayo, Davao de Oro as respondents. Data were collected through adapted survey questionnaire and analyzed with statistical tools, including mean and standard deviation to measure the level of each variable. Findings revealed the high level of several factors to business resilience: Institutional control which emphasized the effectiveness of strong leadership and management practices, Planning and Preparedness, Philosophy and Integrity, and External support and linkages, which indicates strong performance across various aspects of external support, and Communication and media.

**Keywords:** Business Resilience, Institutional Control, Planning and Preparedness, Philosophy and Integrity, External Support and Linkages, Communication and Media, Philippines

## INTRODUCTION

Business resilience in the context of post-disaster recovery involves the factors of institutional control, planning and preparedness, philosophy and integrity, external support and linkages, and communication and media (Campos, 2016). Being able to bounce back from disruptions after a disaster is crucial for a business, however, many businesses lack comprehensive disaster preparedness plans, leading to confusion and delays in recovery efforts (Fischer et al., 2017). Ballesteros & Domingo (2015) highlighted the high vulnerability among various businesses in the Philippines, emphasizing the need for comprehensive coping strategies.

In a post-disaster context, business resilience faces several challenges. Among these difficulties are the requirements for total command over institutional matters and progressive planning (Cutillas et al., 2022). Further, Xiao et al. (2022) asserted that business resilience also depends on maintaining a strong framework for adaptive capacity and fortifying ties outside of company operations. Furthermore, Liang et al. (2023) stated that some companies tend to put short-term financial gain ahead of long-term investments in disaster risk reduction, which could limit their ability to build long-term resilience.

In recent years, the significance of business resilience has increased, especially given the unpredictable and ever-changing global landscape. Kotsios (2023) emphasized the critical role of business resilience for small and medium enterprises (SMEs) during times of crisis. Tharshanth et al. (2020) highlighted the importance of business resilience in minimizing operational interruptions. In this digital transformation era, business resilience is essential, more so for a business's survival and adaptation (Akib et al., 2022). Additionally, Benabed (2023) asserted the importance of business resilience for companies and SMEs in international markets. In the era of the Sustainable Development Goals, Ford et al. (2021) further emphasized business resilience as a framework for mitigating social and environmental risks.

This study is grounded in Bertalanffy's (1968) General Systems Theory, which focuses on identifying shared

principles and commonalities among various systems, rather than solely focusing on their distinctions. According to this theory, businesses are seen as integrated wholes, and problems in one area can affect the entire company. It is essential to comprehend these relationships to create resilience strategies that work. Furthermore, businesses operate in dynamic environments where they must maintain internal stability while simultaneously adapting to external changes. A proposition from Campos (2016) supports of this theory, that the resilience of businesses involves multifaceted factors. These factors all contribute to the resilience of the business in the context of post-disaster.

This study aims to assess the business resilience of MSMEs in the municipality of Monkayo, in the context of post-disaster recovery. Furthermore, the study will also investigate if there is a significant difference in the status of business resilience of MSMEs when grouped according to their institutional profile.

Given the Municipality of Monkayo, Davao de Oro's recent exposure to calamities, the imperative of business resilience emerges as a pivotal concern. This study aims to analyze the profound implications of enhancing business resilience within the local context, thereby bridging a crucial knowledge void. The study seeks to explore this topic to not only clarify the importance of strengthening resilience but also to facilitate specific interventions that address the distinct needs and challenges encountered by the community. Additionally, the study aims to assist the Monkayo local government unit and the Department of Trade and Industry in formulating strategic measures to enhance the business resilience of local businesses.

## MATERIALS AND METHODS

This study is quantitative research employing descriptive design. According to Mertler (2014), descriptive research aims to describe and interpret the state of people, situations, circumstances, or events. In this study, this design outlines how the researchers handle the variable, including the institutional profile of the MSMEs and their business resilience.

There will be 300 respondents for this study, who are owners or managers of MSMEs in the municipality of Monkayo, Davao de Oro. Hair et al. (2018) suggested that the sample size is appropriate for conducting business research. As to the selection of respondents, the researcher will use the following criteria, their businesses must be registered in the Department of Trade and Industry and the local government unit; they must be the owners or managers of the business; they must be of legal age, and willing to participate voluntarily in the study.

There is one set of questionnaires adapted from the study of Campos (2016) which utilized a five-point Likert-type scale. The questionnaire will be used to identify the institutional profile of the MSMEs in the municipality of Monkayo, Davao de Oro, and to assess the status of the business resilience in the context of post-disaster recovery.

The data gathered in this study were classified, analyzed, and interpreted using the following appropriate statistical tools: Mean and standard deviation will be used to measure the level of the variable of the study.

## RESULTS AND DISCUSSION

Table 1. Level of Institutional Control

Indicators/Statements	Mean	SD	Description
<b>INSTITUTIONAL CONTROL</b>			
1 Maintains a sense of control about what happens to the business	4.43	0.67	Very High
2 Generates fund sources to revitalize business operations	4.23	0.70	Very High
3 Does disaster preparedness and drills for earthquakes, fires, and typhoons	4.26	0.85	Very High
4 Requests employees to cooperate in rebuilding the business	4.17	0.89	High
5 Maintains adequate number of staff	4.18	0.83	High
6 Adapts well to differing conditions	4.24	0.81	Very High
7 Invests in training its personnel for risky situations	4.25	0.94	Very High
8 Keeps a stock of supplies and materials that can be used in times of emergencies	4.32	0.86	Very High
9 Conducts post-disaster assessments on the extent of damages that have hit the business	4.28	0.84	Very High
10 Invests for insurance of the building and of the products and inventory in it from possible earthquake, fire or force majeure	4.32	0.81	Very High
11 Prepares post-disaster plans to see the weaknesses of the establishment after the damage	4.28	0.79	Very High
12 Has a mentor or consultant who discusses business preparedness with the owners	4.17	0.93	High
13 Provides a resource manual for risk reduction and management	4.25	0.86	Very High
14 Takes business risk management to a new level	4.29	0.83	Very High
15 Hires a disaster and risk mitigation officer	4.25	0.84	Very High
16 Stoves a contact list of all personnel	4.27	0.87	Very High
<b>Categorical Mean</b>	<b>4.26</b>		Very High

Presented in Table 1 is the Level of Institutional Control of MSMEs in Monkayo Davao de Oro. The results indicate a strong level of institutional control among the surveyed MSMEs. The categorical mean for Institutional Control is 4.26, classified as "Very High," suggesting a high degree of capability in this area. This is further supported by the individual item scores, which consistently fall within the "Very High" category, indicating a consistent pattern of strong performance across different aspects of institutional control.

While there is some variation in responses as indicated by the standard deviations, the overall consistency suggests a high level of agreement among respondents. This high level of institutional control likely reflects strong leadership and management practices within these MSMEs, enabling them to navigate challenges effectively. Additionally, their focus on disaster preparedness, insurance, and risk management demonstrates a proactive approach to mitigating potential threats.

The results for the Planning and Preparedness as presented in Table 2 demonstrate a strong level of proactiveness among the surveyed MSMEs. The categorical mean score of 4.27, categorized as "Very High," suggests a high degree of planning and preparation efforts. This is further supported by the individual item scores, which predominantly fall within the "Very High" category. This indicates a consistent pattern of strong performance across various aspects of planning and preparedness.

Table 2. Level of Planning and Preparedness

<b>PLANNING AND PREPAREDNESS</b>				
17	Has a long-term plan to strengthen the business	4.37	0.75	Very High
18	Has a plan to address governance and compliance issues	4.26	0.82	Very High
19	Has a sound financial management plan	4.24	0.84	Very High
20	Have risk and vulnerability assessments	4.21	0.89	Very High
21	Initiates researches relative to disaster risk reduction and management	4.33	0.77	Very High
22	Has a business continuity plan	4.26	0.80	Very High
23	Ensures that transport vehicle is prepared at all times in case disaster sets in	4.22	0.89	Very High
24	Can improvise when usual resources are not available	4.19	0.86	High
25	Has a workplace health and safety plan	4.21	0.88	Very High
26	Conducts pre-disaster assessments on the extent of damages that will hit the business	4.28	0.87	Very High
27	Ensures that readiness is observed at all times	4.30	0.81	Very High
28	Encourages all personnel to get insurance for future claims	4.30	0.79	Very High
<b>Categorical Mean</b>		<b>4.27</b>		<b>Very High</b>

The scores show a high level of agreement among the respondents, despite some variation as indicated by the standard deviations. The comprehensive approach to managing potential challenges is evident in the focus on long-term plans, governance and compliance, financial management, risk assessments, business continuity, and workplace health and safety.

The emphasis on pre-disaster assessments, ensuring readiness, and encouraging insurance coverage highlights a proactive mindset towards mitigating risks and building resilience. However, it is important to note that the ability to improvise when resources are unavailable received a slightly lower score, indicating a potential area for improvement.

Table 3. Philosophy and Integrity

<b>PHILOSOPHY AND INTEGRITY</b>				
29	Emphasizes a culture of putting in the best effort in the business	4.29	0.70	Very High
30	Imbibes with a compassionate corporate philosophy of taking care of the other before self-interest	4.25	0.81	Very High
31	Shows compassion to others who are victimized by calamities	4.24	0.85	Very High
32	Compensates the efforts of volunteers to rebuild the business	4.27	0.82	Very High
33	Indicates readiness of external forces in its vision and/or mission statement	4.23	0.86	Very High
34	Maintains the philosophy of "business as usual"	4.25	0.83	Very High
35	Understands that risks are existing	4.26	0.87	Very High
36	Embed responsibility for business continuity throughout the organization	4.27	0.78	Very High
37	Must be confident in its future activities	4.30	0.80	Very High
<b>Categorical Mean</b>		<b>4.26</b>		<b>Very High</b>

The Philosophy and Integrity indicator results as shown in Table 3 reveal a strong emphasis on ethical conduct and social responsibility among the surveyed MSMEs. The categorical mean score of 4.26, categorized as "Very High," suggests a high level of alignment with these values. This is further supported by the individual item scores, which consistently fall within the "Very High" category. This indicates a consistent pattern of strong performance across various aspects of philosophy and integrity.

Although there is some variability, as indicated by the standard deviations, the overall consistency of the scores implies a high level of agreement among the respondents. The organization's emphasis on fostering a culture of giving their best effort, showing compassion towards others, compensating volunteers, and integrating responsibility for business continuity throughout the organization reflects a strong commitment to ethical practices and social welfare.

Table 4. External Support and Linkages

<b>EXTERNAL SUPPORT AND LINKAGES</b>				
38	Has a strong relationship with its customers/clients	4.32	0.79	Very High
39	Sources expert assistance concerning disaster preparations in times of need	4.32	0.76	Very High
40	Coordinates with local planners, emergency managers, and public works officials to prepare for instances of damages or loss of properties	4.25	0.78	Very High
41	Keeps a network of contacts with government agencies and NGOs	4.25	0.84	Very High
42	Is well supported by the local community	4.33	0.79	Very High
43	Meets with other businesses in working together to rebuild what was left of their establishments	4.32	0.79	Very High
44	Participates in talks or discussions about climate change or any environmental issue	4.34	0.81	Very High
45	Develops strong relationships with suppliers	4.30	0.83	Very High
<b>Categorical Mean</b>		<b>4.30</b>		<b>Very High</b>

The level of External Support and Linkages as demonstrated in Table 4 indicates a robust network and collaborative approach among the surveyed MSMEs. The categorical mean score of 4.30, categorized as "Very High," strongly emphasizes external relationships and support. This is further supported by the individual item scores, which consistently fall within the "Very High" category. This indicates a consistent pattern of strong performance across various aspects of external support and linkages.

The scores show a high level of agreement among the respondents, despite some variation as seen in the standard deviations. The proactive approach to building and leveraging external support networks is demonstrated by the focus on strong customer relationships, seeking expert assistance, coordinating with government agencies, maintaining community connections, and collaborating with other businesses.

The emphasis on participating in discussions about climate change and environmental issues shows a greater awareness of external factors that can affect the business environment. Additionally, the focus on building strong relationships with suppliers emphasizes the importance of supply chain management and resilience.

Table 5. Level of Communication and Media

<b>COMMUNICATION AND MEDIA</b>				
46	Utilizes social media as a tool to disseminate information regarding risks	4.27	0.77	Very High
47	Utilizes technology in monitoring and assessing the extent of the damage of the disaster	4.20	0.81	Very High
48	Handles the communication channels of the organization effectively	4.17	0.80	High
49	Formulates quick decision-making protocols in times of disasters	4.23	0.85	Very High
50	Get essential updates regarding impending disasters from the Internet	4.28	0.85	Very High
<b>Categorical Mean</b>		<b>4.23</b>		<b>Very High</b>
<b>Overall Mean/SD</b>		<b>4.27</b>	<b>0.58</b>	<b>Very High</b>

The findings in Table 5 show a strong focus on effective communication and media usage among the surveyed MSMEs. With a categorical mean score of 4.23, classified as "Very High," it indicates a high level of proficiency in this area. Individual item scores consistently fall within the "Very High" category, except for one item.

Though there is some variation in responses, as shown by the standard deviations, the overall consistency of the scores suggests a high level of agreement among the respondents. The emphasis on using social media for risk communication, employing technology for damage assessment, managing communication channels effectively, and making quick decisions during disasters indicates a proactive approach to crisis communication.

The Importance of obtaining crucial updates about Impending disasters from the Internet underscores the need to stay informed about potential threats. However, the slightly lower score for handling communication channels effectively suggests an area for improvement.

Table 6. Level of Business Resilience

<i>Business Resilience</i>		
<b>Institutional Control</b>	4.26	Very High
<b>Planning and Preparedness</b>	4.27	Very High
<b>Philosophy and Integrity</b>	4.26	High
<b>External Support and Linkages</b>	4.30	Very High
<b>Communication and Media</b>	4.23	Very High
<b>Overall Mean</b>	<b>4.27</b>	Very High

The level of Business Resilience in the context of post-disaster recovery of MSMEs in Monkayo Davao de Oro as presented in Table 6 shows that they have a high level of business resilience. With an overall mean score categorized as very high, these businesses demonstrate a strong ability to withstand and recover from disruptions.

Key indicators such as Institutional Control, Planning and Preparedness, and External Support and Linkages show particularly strong performance. This suggests effective leadership, comprehensive planning, and strong external relationships. While Philosophy and Integrity also exhibit a high level, there's room for improvement in this area. Effective Communication and Media utilization further contribute to the overall resilience profile of these MSMEs.

## CONCLUSIONS AND RECOMMENDATIONS

The assessment of the business resilience in the context of post-disaster recovery of Micro, Small, and Medium Enterprises (MSMEs) in Monkayo, Davao de Oro indicates a high level of capability in various aspects. These enterprises demonstrate a proactive approach to disaster preparedness, risk management, and building external support networks, showcasing effective leadership, comprehensive planning, and strong external relationships. Their strong performance in institutional control, planning and preparedness, external support and linkages, and communication and media highlights their resilience.

In conclusion, the MSMEs in Monkayo, Davao de Oro show commendable business resilience. Emphasizing ethical conduct, social responsibility, and effective crisis communication further contributes to their overall resilience profile. However, there are areas for potential improvement, such as enhancing communication channels, focusing on improvisation and resource management, and continuous improvement in philosophy and integrity.

Based on the assessment, several recommendations can be made to further enhance the resilience of these MSMEs. Firstly, there should be a focus on continuous improvement in philosophy and integrity, encouraging

a culture of ethical practices and social welfare. Additionally, improving the handling of communication channels effectively and addressing the ability to improvise when resources are unavailable can further strengthen the resilience of the businesses. Furthermore, providing training and education on disaster risk reduction and management, as well as business continuity planning, can enhance the proactive approach of the MSMEs in addressing potential challenges. Encouraging continued collaboration with government agencies, NGOs, and other businesses can further strengthen the external support and linkages of the MSMEs, contributing to their overall resilience. Lastly, regular review and update of plans, including long-term plans, governance and compliance issues, financial management plans, risk assessments, and workplace health and safety plans, is essential to ensure their effectiveness and relevance in the face of evolving challenges.

The findings of this study affirm the General System Theory of Bertalanffy's (1968), considering that the business resilience of the MSMEs is predicted by factors such as Institutional Control, Planning and Preparedness, Philosophy and Integrity, External support and Linkages and Communication and Media.

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## Declaration of Conflict

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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