# Characterizing the Resilience of Micro, Small, and Medium Enterprises (MSMEs) and Its Causal Determinants Amid the Health Crisis

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Business management Resilience Causal factors Test for independence Southern Leyte, Philippines ABSTRACT. Business resilience is the ability to quickly recover from difficulties and continue operating by applying innovative strategies. The article aims to document the resilience level of micro, small, and medium enterprises (MSMEs) in the Pacific towns of Southern Leyte, Philippines, and capture its causal determinants amid the health crisis using descriptive correlational research design. Using a research-made questionnaire, cross-sectional and primary data were collected from a random sample of MSMEs and were summarized using statistical measures. The significant determinants of the resilience of MSMEs were determined using the Chi-square test for independence via cross-tabulation of categorical data. Results depicted that, on average, MSMEs during the pandemic are "resilient", particularly in their situational awareness, keystone vulnerabilities, and adaptive capacity as they combat the disruption of the health crisis. The Chi-square test reveals that age, civil status, business job position of the MSMEs' personnel, and the estimated monthly income of the enterprise are

the highly significant factors that affect the resilience of MSMEs during the health crisis. In particular, younger age, single status, and owner of the enterprise are more active and creative in digital business technology, which increases their resilience in response to challenges brought about by the pandemic. Moreover, enterprises with lower incomes do adopt innovative business strategies that improve economic resilience and profit. Furthermore, the study suggests that enterprises must consider strategic plans and goals to enhance their capability in risk management as they will face future crises.

## 1.0. Introduction

The micro, small, and medium enterprises (MSMEs) in the Philippines have contributed a significant impact on the economy, which greatly helps the sustainable development of the country (Matias & Hernandez, 2021; Paradero et al., 2022). MSMEs have up to 99.5% of commercialized establishments, which provides about 63% of employment for Filipinos and has contributed to the country's gross domestic product (GDP) by about 40% (United Nations Development Programme [UNDP], 2020). However, in the time of the COVID-19 pandemic lockdown, some economic activities of MSMEs have been disrupted due to the limitations and barriers of health protocols (Tabinas et al., 2022). In fact, the paper of Absah et al. (2023) portrayed that the pandemic has interrupted the supply chain, and enterprises are having difficulty acquiring goods and raw materials. In addition, because of the lockdown and health protocols, MSMEs are encountering a low market demand and even a loss of loyal customers

\*Correspondence: gmondragon@southernleytestateu.edu.ph G-mar D. Mondragon, Southern Leyte State University-Hinunangan, Southern Leyte, Philippines (Shinozaki & Rao, 2021). Likewise, Lu et al. (2020) depicted tough competition in the market due to resource constraints and limited information to market access. On the face of it, MSMEs are having trouble facing the adverse impact of the pandemic, especially because of poor innovative strategies and low levels of resilience. Business strategies and mechanisms to recover from the challenges are vital, as well as their resilient level (Badoc-Gonzales et al., 2021; Hadjielias et al., 2022; Tabinas et al., 2022). In this regard, MSMEs' resilience must be investigated to improve their economic marketability and profitability as they face the health crisis.

In the case of Pacific towns in Southern Leyte, lockdown and health protocols are strictly implemented to combat the spread of COVID-19. Consequently, businesses have lower transactions, and economic activities are declining (Shinozaki & Rao, 2021). In the study by Tabinas et al. (2022), MSMEs have enforced different business strategies to survive the negative impact of the pandemic on their enterprising and marketing activities. In that case, most MSMEs are adopting innovative technologies via the Internet and social media, and most of their business activities are done online (Matias &



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Hernandez, 2021; Paul et al., 2023). And this kind of response to the unprecedented scenario is due to the resilience of MSMEs. Resilience is the ability to withstand and recover from difficult and challenging happenings wherein one must strategize and adapt to the situation (Casinillo, 2022). Ntounis et al. (2022) portrayed that resilience in business enterprises during the COVID-19 pandemic is necessary to sustain their economic activities while following the implemented health protocols. In the paper by Anggadwita et al. (2023), business resilience must be ignited during a turbulent environment since it is a prominent ability to recover and sustain economic productivity. In that case, investigating the resilience of MSMEs is one way to give a strong argument to strengthen their recovery level and improve their strategies to combat the limitations of the pandemic.

Studying the resilience of any enterprise assures the quality of supply chains, trade, marketability, demand, and other business activities in the event of crises (Mirtsch et al., 2023). Although there has been some investigation of business resilience in the time of the COVID-19 pandemic, studying the MSMEs in the Pacific towns of Southern Leyte, Philippines, has never been done before. Plus, research on the causal determinants of the resilience of the MSMEs during the pandemic has never been executed. Whence, this article is realized. Generally speaking, this study attempted to explain the MSMEs' resilience level as they face the challenges of the COVID-19 pandemic and elucidate its governing determinants to characterize its correlates. Specifically, the article faced giving an accurate answer to the following objectives: (1) to summarize the profile of the owners of MSMEs in Southern Leyte, Philippines; (2) to measure the resilience level of the owners of MSMEs; (3) to find out the causal determinants of the resilience level of the owners of MSMEs. The results of this research may help the owners and managers of MSMEs learn the lessons of the COVID-19 pandemic concerning limitations and barriers to business transactions. In addition, the findings of our study may help policymakers improve resilience levels in terms of quality assurance in marketability and economic processes in future crises or unprecedented situations. Moreover, the study may serve as baseline information for managers and management researchers and contribute to the business and economics literature.

# 2.0. Framework of the Study

Business resiliency is a process in which a certain enterprise must adapt to economic barriers and be flexible in dealing with profitability problems (Li et al., 2021; Margherita & Heikkilä, 2021). According to McManus et al. (2008), organizational resilience

comprises three (3) dimensions: situational awareness, keystone vulnerabilities, and adaptive capacity. Ma et al. (2018) portrayed that organizational resilience must be investigated in a dynamic capability given different dimensions to gain a more inclusive concept and research agenda to improve management practices. Apparently, during the COVID-19 pandemic era, most businesses are being challenged, and some of them lead to closure and result in economic loss (Shinozaki & Rao, 2021; Tabinas et al., 2022). Most businesses are experiencing declining profitability wherein they must reduce their employees as they face the lockdown during the pandemic. And most of those affected by the declining economic activity during the pandemic are the MSMEs, who also struggle to invest due to uncertainty. However, the MSMEs are trying to carry on and continue their business despite the challenges amid the pandemic by building a resilient attitude (Badoc-Gonzales et al., 2021).

In that case, they are developing a business strategy in response to the pandemic and applying some coping mechanisms to survive and continue their economic activity (Tabinas et al., 2022). According to Elgazzar et al. (2022), business resilience is characterized as adopting innovation and new technologies to continue surviving the barriers and limitations of the health crisis. In other words, MSMEs are evolving their business processes and adopting new techniques suitable for health protocols. In the study of Casinillo (2022), resilience level is governed by several factors, including profile and experiences. Likewise, the paper of Anggadwita et al. (2023) portrayed that influencing determinants affect the business resilience level, such as the profile, status of the enterprise, current situation, and profitability, among others. Hence, the conceptual framework of this article aims to provide answers to the objectives that explain the business resilience level of MSMEs and determine the governing factors amid the COVID-19 pandemic. Moreover, the framework seeks to stipulate an argument that may improve the resilience level of MSMEs as they face other challenges or crises in the future.

# 3.0. Methodology

Research Design. This study aims to measure the level of resiliency of MSMEs regarding their awareness of the current situation, management, and adaptive capacity during the pandemic challenges and predict its correlating determinants. Hence, the research design of this study is "descriptive correlational", wherein it utilized some standard statistical measures to characterize the gathered cross-sectional data and employed correlation analysis to capture the influencing determinants of the resiliency level of MSMEs.

Respondents, Sampling Procedure, and Ethical Process. The target location of this study is the Pacific area of Southern Leyte, Philippines, in which the health protocols and restrictions are still in place due to the scourge of COVID-19 at the time of the survey. The research survey involved six municipalities of Southern Leyte, including (1) Hinunangan, (2) Hinundayan, (3) Silago, (4) San Juan, (5) Saint Bernard, and (6) Anahawan. In these chosen places, the researchers considered all the MSMEs that were continually operating during the study. According to the Philippine Statistics Authority (PSA, 2021), the classification of MSMEs is the following data: (a) Micro-enterprise comprises 1 to 9 employees; (b) Small-enterprise comprises 10 to 99 employees and (c) Medium-enterprise comprises 100-199 employees. In this study, the population of interest is the owners or representatives of the MSMEs in Southern Leyte, including the rental and service companies, retailing, trading, manufacturing, and import-export sections. The complete list of MSMEs was taken from the municipal office of respective municipalities. All in all, 384 MSMEs were considered as part of the survey. Due to resource constraints, the researchers decided to just get a representative sample. To get the desired sample size, Slovin's formula was used (Tejada & Punzalan, 2012). After determining the sample size, simple random sampling was employed to pick out the sample. Alternative respondents were

also obtained if the chosen sample refused or was unavailable during the survey.

Hence, the study dealt with 196 participants as a representative of the whole population of MSMEs in the Pacific towns of Southern

survey instrument for this study was a constructed structured questionnaire that consisted of the demographic profile, business profile, and business resiliency during the health crisis. As for the respondent's demographic profile, they were asked about the following: (1) age, (2) gender, (3) civil status, and (3) highest educational attainment. Under the business profile, the respondents were asked for the following: (i) position in the enterprise, (ii) type of enterprise, (iii) size of the enterprise, (iv) business capital, (v) estimated monthly income, (vi) number of years operating the enterprise, and (vii) business affected by the pandemic (Yes or No). As for the business resiliency level, the concept of organizational resilience was considered as a baseline that includes three (3) key dimensions as follows: (a) situational awareness (SA), (b) keystone vulnerabilities (KV), and (c) adaptive capacity (AC) (McManus et al., 2008). Hence, the business resiliency scale by Asgary et al. (2013) was adopted to estimate the respondents' resiliency levels as they face the challenges amid the health crisis. The resiliency questionnaire involves three parts: (a) situational awareness, (b) keystone vulnerabilities, and (c) adaptive capacity. In (a), it has 9 questions regarding enterprise situational awareness; in (b), it has 6 questions about the enterprise keystone vulnerabilities; and in (c), it comprises 5 questions about adaptive capacity. Each question follows a 5-point rating scale as follows: 1 - Strongly disagree,

 Table 1

 Business resiliency perception scores and their corresponding response and verbal description

Business resiliency perception scores	Responses	Verbal description
1.00 - 1.80	Strongly disagree	Not resilient
1.81 - 2.60	Disagree	Slightly resilient
2.61 - 3.40	Undecided	Moderately resilient
3.41 - 4.20	Agree	Resilient
4.21 - 5.00	Strongly agree	Strongly resilient

Leyte. As part of the ethical process of the survey, a letter of intent or consent was sent to the Department of Trade and Industry (DTI) in each municipality, and another letter was made for the respondents as consent to collect the desired data for the study. It is indicated that the participation was voluntary, and the data collected are treated as confidential to protect their reputation and in accordance with Republic Act 10173. Moreover, all the health protocols implemented in each area were strictly observed.

Survey Instrument and Data Collection. The

Reliability test for resiliency key dimensions questionnaire

Resiliency Key Reliability Interpretation Items Dimensions Coefficient (Fleiss, 2011) Situational awareness 9 0.91 Excellent reliability Keystone vulnerabilities 6 0.83 Good reliability Adaptive capacity 6 0.91 Excellent reliability

2 - Disagree, 3 - Neutral, 4 - Agree, and 5 - Strongly agree. Table 1 presents the interval of the resiliency score and the corresponding description.

The research questionnaire has been validated by some experts in business management, and they have found that it is valid for use and does not contain sensitive questions that harm the respondents' reputations. In addition, they depicted that the questionnaire captures the resiliency level and well-being of the personnel of MSMEs during the COVID-19 pandemic. Moreover, the resiliency

> questionnaire is reliable based on the reliability test (Cronbach's alpha) computed by STATA software and presented in Table 2.

> > Data Management. In

summarizing the data collected, standard descriptive measures were calculated such as mean (M), standard deviation (SD), frequency counts, and percentages (%), and presented in tabular form. As for the business resiliency level, the following calculations are considered:

Situational awareness (SA) = 
$$\frac{\sum_{i=1}^{n} SA_i}{n}$$
,  $i \in \{1, 2, ..., 9\}$ ;

$$\text{Keystone vulnerabilities (KV)} = \frac{\sum_{j=1}^{n} KV_{j}}{n}, \quad j \in \{1, 2, ..., 6\};$$

$$\mbox{Adaptive capacity (AC)} = \frac{\sum_{k=1}^{n} AC_k}{n}, \qquad k \in \{1,2,\ldots,6\}; \mbox{ and}$$

Overall business resilience (OBR) = 
$$\frac{SA + KV + AC}{3}$$

In determining the factors of business resiliency, OBR was categorized based on Table 1, and the Chisquare test for independence was used to compute the association with respect to the various profiles, which are categorical in nature. The calculation was then tested to standard significance levels (1%, 5%, and 10%), and all computations in this study were done with STATA software.

#### 4.0. Results and Discussion

## **Demographic and Business Profile**

Table 3 depicts that 30.1% of the respondents who own or manage the MSMEs are male, and the majority (68.88%) are female. Only 1.02% of them revealed themselves as LGBTQi. About 37.24% of them are 20-30 years old, which is considered the youngest age interval for the respondents. In addition, 23.47% of them aged 31-40 years old, 17.86% are aged 41-50 years old, 11.73% are aged 51-60 years old, and the oldest age interval is 61-70 years old, which consists of 9.69% of the respondents. More than half (53.06%) of the respondents are married, about 44.39% are still single, and only 2.55% are widowers. The dominant

Table 3
Demographic profile of MSMEs' personnel

Demographic profile	Category	f	%
	Male	59	30.10
Gender	Female	135	68.88
	LGBTQi	2	1.02
	20-30 years old	73	37.24
	31-40 years old	46	23.47
Age	41-50 years old	35	17.86
	51-60 years old	23	11.73
	61-70 years old	19	9.69
	Single	87	44.39
Civil Status	Married	104	53.06
	Widower	5	2.55
	High school level	24	12.24
	High school graduate	61	31.12
Educational	College level	71	36.22
Attainment	College Graduate	34	17.35
	Master's degree level	4	2.04
	Doctoral degree level	2	1.02

(36.22%) of these respondents are college level as their highest educational attainment; next to that, about 31.12% finished high school, and about 12.24% are just high school level. In addition, about 17.35% of them have finished a bachelor's degree, 2.04% are at a master's degree level, and 1.02% have finished a master's degree and are pursuing a doctorate.

As seen in Table 4, most (55.10%) of the respondents are owners of the enterprises, about 18.37% are owners at the same time managing their enterprises, about 17.86% are just staff, and 8.67% are managers. Dominant (93.88%) of the enterprises are in the form of single proprietorships, 2.04% are partnerships, about 1.53% are in the form of corporations, and approximately 2.55% are cooperatives. Most (90.31%) of these enterprises are at the micro level, comprising 1 to 9 employees only; about 5.10% are small enterprises comprising 10 to 99 employees, and about 4.59% are medium enterprises comprising 100-199 employees. dominant (94.90%) of them have a business capital of approximately below 2 million (PHP), about 4.59% of them have a business capital of between 3-15 million (PHP), and only 0.51% have a capital of 15 million (PHP) above. About 52.55% of them say that their estimated monthly income during the pandemic is 10,000 (PHP) below, about 35.20% of them say that their income falls between 10,001.00-50,000.00 (PHP), about 9.69% say that it is between 50,001.00-500,000.00 (PHP), about 1.53% of them says that it falls between 500,001.00-999,999.99 (PHP), and only 1.02% says that it falls 1 million (PHP) and above. Plus, the dominant (42.35) of these enterprises have just been operating for less than 3 years, which means that they are relatively new to the economic activity. There is 22.96% of them have been operating for about 3-5 years, 13.27% have been operating for about 6-8 years, 4.08% are between 9-10 years, and 17.35% have been operating for over 10 years. Furthermore, the majority (78.57%) of them

> are affected by the adverse impact of the COVID-19 pandemic in regard to economic activity and profitability, and 21.43% of them say that they are not affected.

# **Business Resilience Level**

Table 5 reveals that the enterprises during the COVID-19 pandemic are resilient (M=4.03, SD=0.64) in regard to situational awareness. This implies that the owner, manager, and staff are aware of what is going on during the pandemic and are informed about the situation so they can perform better. The personnel of respective enterprises have assigned

obligations and duties aligned to the health crisis, and they are oriented to understand the hazards and consequences of their actions during the pandemic. According to Chandra et al. (2022), it is necessary to be prepared for every disaster or uncertain event, and situational awareness is vital in mitigating the negative impact of a crisis. Moreover, the enterprise is enhancing innovative ideas that may help the business survive the risk of the pandemic. In that case, enterprises are penetrating to connection, insurance, and any other recovery techniques.

In the study of O'Connor et al. (2020), being aware of the uncertainty of health crises, businesses must think of economic recovery plans and sustainable techniques to avoid loss and even business bankruptcy. Table 5 shows that enterprises are resilient (M=3.99, SD=0.60) in terms of their keystone vulnerabilities in response to the COVID-19 pandemic. This means that enterprises are applying some strategies and adapting to digital technologies as they face the disruption of the pandemic to economic activities. Robertson et al. (2022) depicted

that MSMEs are adapting to the digital business model as their keystone vulnerability to continually operate during the difficulties of the pandemic. Plus, Table 5 portrays that enterprises during the pandemic are resilient (M=4.16, SD=0.69) because of adaptive capacity. This implies that enterprises can adjust and adopt some changes, especially to digital

business strategies that suit the lockdown caused by the pandemic. The enterprises have invented strategic vision and outcome expectancy that will combat the barriers and limitations brought by the health crisis (Tabinas et al., 2022). In addition, enterprises must strengthen

the leadership, management, and structures of the business so that they can easily cope with risk factors involved in the pandemic disruptions (Obrenovic et al., 2020; Robertson et al., 2022).

As shown in Table 6, 45.41% of the enterprises are resilient, and another 45.41% are very resilient during the pandemic. And only 9.18% of the enterprises are moderately resilient and below. As a whole, MSMEs are resilient (M=4.07, SD=0.59) during the pandemic as they combat the challenges and economic disruption (Table 5). Business resilience and strategies are vital for any organization to cope with uncertainty and necessary risks amid the

Table 4 Business profile of MSMEs

Business Profile	Category	f	%
Business job position	Owner	108	55.10
	Manager	17	8.67
	Owner-manager	36	18.37
	Staff	35	17.86
	Single Proprietorship	184	93.88
Type of enterprise	Partnership	4	2.04
	Corporation	3	1.53
	Cooperative	5	2.55
	Micro	177	90.31
Size of enterprise	Small	10	5.10
	Medium	9	4.59
Business Capital (PHP)	Below 2 million	186	94.90
	Between 3 - 15 million	9	4.59
	Between 15 - 100 million	1	0.51
Estimated monthly income (PhP)	10,000.00 & below	103	52.55
	10,001.00 - 50,000.00	69	35.20
	50,001.00 - 500,000.00	19	9.69
	500,001.00 - 999,999.99	3	1.53
	1 million - 5 million	2	1.02
	below 3 years	83	42.35
Number of years	3 – 5 years	45	22.96
operating the enterprise	6-8 years	26	13.27
	9-10 years	8	4.08
	above 10 years	34	17.35
Is business affected by the	Yes	154	78.57
pandemic?	No	42	21.43

Note: PHP - Philippine peso (1 PHP - 0.018 US dollar)

economic and health crisis (Li et al., 2021; Robertson et al., 2022; Tabinas et al., 2022).

#### **Determinants of Business Resilience**

Using the Chi-square test for association, it is shown in Table 7 that the business resilience of MSMEs during the COVID-19 pandemic is independent of the gender of personnel ( $X^2=1.35$ , p-value=0.99) and highest educational attainment

**Table 5**Business resilience for three key dimensions

Key dimensions	M	SD	Interpretation <sup>a</sup>
Situational awareness	4.03	0.64	Resilient
Keystone vulnerabilities	3.99	0.60	Resilient
Adaptive capacity	4.16	0.69	Resilient
Overall business resilience	4.07	0.59	Resilient

Note: a - See Table 1.

( $X^2$ =33.99, p-value=0.37). Moreover, the resilience level of these enterprises is not associated with the type of enterprise ( $X^2$ =17.02, p-value=0.38), size of enterprise ( $X^2$ =11.73, p-value=0.47), business capital ( $X^2$ =7.35, p-value=0.83), number of years operating the enterprise ( $X^2$ =12.48, p-value=0.90), and impact of COVID-19 pandemic ( $X^2$ =3.73, p-value=0.44). It is revealed that the business resilience of MSMEs is associated with the age ( $X^2$ =68.78, p-value<0.001) of personnel at a 1% level of significance. This suggests that the resilience level varies at different age intervals during the pandemic. Based on the cross-tabulation of resilience and age categories, younger ages are more likely to be resilient during the

pandemic. It is worth noting that digital technology is widely used during the lockdown for communication and various transactions, wherein younger individuals are most knowledgeable in this aspect (Al-Dmour et al., 2021). Additionally, Lashitew (2023) portrayed that technology adoption is the most effective solution to continue the success of businesses and

avert the adverse impact of the health crisis on their economic activities. Hence, younger personnel in MSMEs are the ones who can easily adapt to digital technologies and are expected to be more resilient during unprecedented times (Trinugroho et al., 2022). Secondly, the civil status (X²=68.78, p-value<0.001) of the personnel of MSMEs is correlated to their business resilience during the health crisis. Single personnel are more resilient based on the crosstabulation of civil status and business resilience. This result supports the idea that younger people are more resilient since most young ones are single. This implies

that if the personnel are young, focused on their job, and have no other responsibilities at home, they tend to be more resilient in the business.

Thompson and Jones (2022) portrayed that single-status employees have positive wellbeing at work and are more active during the pandemic. Moreover, the resilience of personnel of MSMEs is dependent on the business job position

(X<sup>2</sup>=43.57, p-value=0.009) and it is significant at the 1% level. Owners are more resilient based on the cross-tabulation of job position and business resilience. This implies that the owners can improve the enterprise despite the disruption of the health crisis. Endrawati et al. (2022) stated that business owners initiate innovative strategies to progress their enterprises through digital technology. This makes them resilient and effectively productive through their efficient efforts and adaptive techniques despite the challenges during the pandemic. Lastly, business resilience is associated with the enterprise's estimated income (X2=43.57, p-value=0.009), which is highly significant at the 1% level. According to the crosstabulation between two categorical variables, lower income tends to be more resilient during the COVID-19 pandemic. This implies that enterprises with low profits are applying relevant business strategies to

**Table 6**Distribution of overall business resilience during the pandemic

Distribution of overall business resinence during the pandenne				
Responses	f	%	Description	
Strongly disagree	2	1.02	Not resilient	
Disagree	3	1.53	Slightly resilient	
Undecided	13	6.63	Moderately resilient	
Agree	89	45.41	Resilient	
Strongly agree	89	45.41	Strongly resilient	

cope with the negative impact of the pandemic, and this result is parallel to the findings of Elgazzar et al. (2022) and Tabinas et al. (2022). To avoid total closure of the enterprises, they adapt to the digital transaction between them and their customers and find ways to increase marketability (Trinugroho et al., 2022). In that case, to continue their demand marketability and increase their economic profitability, being resilient to the limitations and obstacles during the pandemic is a great help to various enterprises.

## 5.0. Conclusion

The main goal of this study is to elucidate the

 Table 7

 Determinants influencingbusiness resilience during the pandemic

C 114 : 4	CHI-SQUARE TEST			
Causal determinants	$\chi^2$ -computed	df	p-value	
Gender	1.35 <sup>ns</sup>	8	0.995	
Age	68.78*	16	< 0.001	
Civil Status	74.25*	8	< 0.001	
Educational Attainment	33.99 <sup>ns</sup>	20	0.372	
Business job position	43.57*	12	0.009	
Type of enterprise	17.02 <sup>ns</sup>	12	0.384	
Size of enterprise	11.73 <sup>ns</sup>	8	0.468	
Business capital	7.35 <sup>ns</sup>	8	0.834	
Estimated monthly income	37.84*	16	0.009	
Number of years operating the enterprise	12.48 <sup>ns</sup>	16	0.898	
Is business affected by the pandemic?	3.73 <sup>ns</sup>	4	0.444	

Note: ns - not significant;\* - significant at 1%; df - degrees of freedom

business resilience of MSMEs amid the health crisis and capture the explanatory variables affecting them. The findings revealed that during the COVID-19 pandemic, MSMEs are "resilient" in that they continue operating and applying suitable innovative strategies as they face obstacles during the crisis. In addition, results depicted that MSMEs are "resilient" particularly in their situational awareness, keystone vulnerabilities, and adaptive capacity. This implies that they know what is happening, so they assign their staff responsibilities and duties to align with the crisis. They have set their goals in risk management and recovery plans for uncertainties. Enterprises can continue operating during the lockdown since they have adapted digital technologies that maintain their economic activities. Moreover, the Chi-square test for independence revealed that age, civil status, and business job position of the MSMEs' personnel, and

the estimated monthly income of the enterprise are the highly significant factors that govern the resilience of MSMEs during the pandemic. In particular, younger age, single civil status, and an owner of the enterprise tend to be more active, innovative, and creative in digital business technology, which increases their resilience in response to challenges. In addition, enterprises with lower incomes tend to adopt more innovative business strategies that improve their economic resilience and profit.

On the face of it, the study suggests that enterprises must prioritize strategic plans and goals to enhance capability in risk management as they will face future crises. Long-term business plans must be established by the MSMEs to remain sustainable and productive in times of economic crisis. It is also recommended that the government implement a policy that supports the MSMEs to combat the economic crisis in the country.

# 6.0. Limitations of the Findings

This current article has limited participants since the study only dealt with MSMEs in the Pacific towns of Southern Leyte and does not reflect all enterprises in the Philippines. In addition, the study does not gather data from the consumers, which can practically support the findings of the current research.

# 7.0. Practical Value of the Paper

The findings of this article are relevant to the owners and managers of MSMEs since it can be a great help to learn the practical lessons of the COVID-19 pandemic concerning the barriers to their business transactions. Additionally, the results of this study are useful information to create a business strategy for the unprecedented situation in business that may come shortly. Moreover, the findings have valuable insights that help policymakers in business and economics improve the resilience and coping strategies of the MSMEs in the Philippines and beyond regarding quality assurance and marketability.

## 8.0. Directions for Future Research

It is suggested that a similar study must be conducted in a bigger scope of the country Philippines to gather more insights into the resilience of MSMEs during times of unprecedented situations. In addition, one may estimate and model the economic profitability of MSMEs during the health crisis and elucidate the statistically significant factors affecting them using the regression model, which is considered a potential weakness of the methodology of the current study.

#### 9.0. Declaration of Conflict of Interest

The authors have no conflict of interest to declare.

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