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Unraveling Enterprise Continuity and Resiliency Factors: The Case of Micro, Small and Medium Enterprises

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ABSTRACT

Purpose: Whether an occurrence is natural disaster and man-made calamity, one thing is sure, it is not expected and at some instances, it cannot be avoided by any means. Just like other entities, businesses are vulnerable to these risks and it would surely cost the resources and profit of these enterprises. This study aimed to unravel the enterprise continuity and resiliency factors among Micro, Small, and Medium Enterprises in Region XII in the Philippines.

Design/methodology/approach: The survey utilized an Exploratory Factor Analysis (EFA) with 450 respondents

Findings: Results showed that there were five elements that emerged: disaster preparedness, institutional planning and control, external relations, stakeholder's support, disaster mitigation and support investment.

Research limitations/implications: Although most of the enterprises surveyed have an idea how to respond to calamities and mitigate disastrous situations, this research argues that a solid policy framework might be drawn through the local government units concerned to institutionalized this effort.

Practical implications: Findings suggest that models such as pre-disaster agreement may be initiated and policy framework can be patterned after The Sendai Framework for Disaster Risk Reduction

Originality/value: This paper is an original work.

Paper type: Research paper

Keyword*: Enterprise Resiliency, Disaster Preparedness, Disaster Risk Reduction Management, MSME's, Risk Mitigation*

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I. INTRODUCTION

Bad reputation, quick reduction in share value, losses in shares, no revenue for a specified period, and in the worst scenario, no business at all are all implications of a sudden disruption in business activity caused by catastrophic situations (Vyshnavi Jorrigala, 2017). In fact, (Wheatman & Shaffer, 2001)found that two out of every five businesses had to close down within 5 years after a disaster strike. Natural disasters pose a significant threat to Southeast Asia. This is exacerbated by the region's fast urbanization, closeness to seismically active faults, volcanic zones, and tsunami-prone beaches, as well as its vulnerability to climate change, which is expected to result in increased drought, floods, and coastal inundation (Center for Research on the Epidemiology of Disasters, 2011).

Micro, small, and medium businesses (MSME's) are a type of business that greatly works especially with the underprivileged which help them overcome financial challenges. MSME, however, faces significant damage in the event of a calamity. Their firm may collapse and manufacturing capabilities may be halted. Unfortunately,

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this circumstance has been classified as force majeure, putting MSME on the brink of a major collapse (Setyawan et al., 2017).

Even if firms recover, they will still incur significant losses as a result of their failure to get for the crisis. Resiliency was utilized and considered as an integral part of a community's attitude after a disaster hit a certain community (Kapucu et al., 2013). Tierney et al., (2013) went on to say that resilience allows social units to review their conditions, learn from their disastrous experiences, and change their approaches in light of the 'new normal'. Stressors are defined as instabilities and disruptions to a system, such as disasters, in various portions of the literature (Norris et al., 2008). The establishment and assessment of disaster interventions is especially important among countries which are located in the Pacific Ring of Fire. According to a research, Asia has seen nine of the ten biggest natural calamities in the last century. The Philippines is one of these countries, which is routinely struck by earthquakes and as often as 10-20 typhoons every year. Super Typhoon Haiyan hit many provinces in central Philippines in 2013, killing over 6,000 people and hurting about 16 million (Bilak, 2015).

The potential of MSMEs to foster a strong local economy following calamities is inextricably linked to livelihoods resilience (ProVention Consortium, 2009). However, the private sector failed to convert recovery models into economic rewards which is deemed significant part of the overall recovery of the community. The essential piece of the overall recovery of the community now lies on the MSMEs. Considering the Mindanao Strategic Development Framework (2010-2020), developing disaster resilient communities are being emphasized and in line with this, it aimed to reduce disaster risks and enhance capacities among communities in light of climate change. The National Economic Development Authority (NEDA) identified Region XII as vulnerable to a variety of natural calamities, including hydrometeorologic (storm surges, flooding, rain-caused landslide) and tsunami, earthquake-caused landslides, volcanic eruption, liquefaction, as well as climate change, particularly intense drought. Although there is an effort to mitigate or reduce the adverse effects of these unforeseen circumstances, there are challenges that seemed to be prevailing such as the lack of substantial data relative to risks reduction management mechanisms and spending on risks disaster preparedness is not sufficient. Thus, this study is proposed to fill the necessary information relative to the elements associated in determining the resiliency factors especially for Micro, Small, and Medium Enterprises (MSME's). Businesses need to be resilient as this is one of the key element that most businesses are undermining.

II. METHODOLOGY

This research endeavor discovered the elements/factors with regards to enterprise continue and resilience in the aftermath of a disaster among MSME's. To address the research problem, the study made used of the quantitative approach. Quantitative research is composed of inferential reasoning, utilizes a structure protocol for the survey and undergo a statistical data analyses. This research used a descriptive approach, specifically exploratory factor analysis, to determine the underlying elements of enterprise continuity and resiliency.

As mentioned earlier, this study used a researchers-developed questionnaire to conduct a survey, and it was assessed for reliability using Cronbach's alpha for construct validity. In addition, the investigators conducted a pilot-testing of the survey questionnaire with fifty (50) business owners and managers from a different barangay that had also been hit by a calamity. The Cronbach alpha was .994 signifying the reliability of the instrument used. According to scholars, an instrument can be reliable it gains a score of at least .70 or higher (Hair et al., 2006). This study utilize a 7-point Likert scale, as (Finstad & Kraig, 2010) argued that this scale is more accurate and assess the respondent's perception more precisely.

Table 1. The Seven-Point Likert Scale of the Survey Instrument

Score	*Mean Range*	*Description*	*Interpretation*
7	*6.50 – 7.00*	*Strongly Agree*	*Very High*
6	*5.50 – 6.49*	*Agree*	*Moderately High*
5	*4.50 – 5.49*	*Somewhat Agree*	*Slightly High*
4	*3.50 – 4.49*	*Moderately Agree*	*Moderate*

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3	*2.50 – 3.49*	*Somewhat Disagree*	*Slightly Low*
2	*1.50 – 2.49*	*Disagree*	*Moderately Low*
1	*1.00 – 1.49*	*Strongly Disagree*	*Very Low*

III. RESULTS AND DISCUSSION

A. Socio Demographic Profile

Presented in table 2 is the demographic profile of the respondents based on the sectoral group of their business, the type of ownership, asset size, and years in operation. As shown in the table, the largest part of the respondents came from wholesale and retail trade (19%) followed by the business establishments which are not categorized (18%) under the given choices. Also, accommodation and food service (17%) sector is the third group of respondents in this study. The other sectors have almost equal number of participation ranging from administrative to professional and technical service sectors.

For the ownership type, business under the category of sole proprietorship (43%) forms part as the largest group of respondents followed by partnership businesses (36%). As to the asset size, small scale businesses with a total asset of 3,000,000 to 15,000,00 (40%) has the biggest participation rate and businesses operating form 1-5 years (40%) was the largest participant in this research.

Table 2. Socio-Demographic Profile of the Respondents

Profile	*F*	*%*
Sectoral Distribution		
Wholesale, retail trade, and repair of vehicles	*84*	*19*
Accommodation and food service	*76*	*17*
Merchandise and grocery distribution	*40*	*9*
Financial and insurance services	*34*	*8*
Agriculture	*34*	*8*
Hardware and furniture stores	*29*	*6*
Arts, entertainment, and recreation	*16*	*4*
Professional and technical services	*15*	*3*
Administrative and support services	*12*	*3*

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Construction	*12*	*3*
Education	*8*	*2*
Manufacturing	*9*	*2*
Others	*81*	*18*
Ownership Type		
Partnership	*151*	*34*
Cooperative	*40*	*9*
Sole proprietorship	*193*	*43*
Corporation	*66*	*15*
Asset Size		
Micro: Up to 3M	*160*	*36*
Small: 3,000,001-15,000,000	*182*	*40*
Medium: 15,000,001-100,000,000	*108*	*24*
Years of Operation		
0-11 months	*37*	*8*
1-5 years	*180*	*40*
6-10 years	*121*	*27*
11 years and above	*112*	*25*
Profile	*F*	*%*

B. Measures of Sampling Adequacy and Sphericity Test

The measure of sampling adequacy (MSA) was determined using Kaiser-Meyer-Olkin (KMO) statistics. It forecasts if the data were possibly to factor well on the basis of the relationship and partial relationship. Its values range from 0 to 1 in which 0 signifies dispersal in the pattern of relationship to which it may result to the uselessness of the factor analysis (A. . Field, 2005). Looking at the KMO, it has a value of .968 which is close to 1 signifying that there is a pattern for correlations that are reasonably compact that generates reliable factors. KMOs were calculated and sampling was considered adequate for scores >0.5 (A. Field, 2013; Hadi et al., 2016). To not significantly, (Kaiser, 1974) pointed the following rules of thumb for KMO coefficients: 0.00 to 0.49-unacceptable, 0.50 to 0.59-miserable, 0.60 to 0.69-mediocre, 0.70 to 0.79-ordinary, 0.80 to 0.89-commendable and 0.90 to 1.00-excellent. Moreover, the Bartlett's Test of Sphericity has obtained a value of

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23237.308 which is significant ($p<0.05$) confirming the it was not an identity matrix, thus, this verify that the factors showed significant association to justify the enterprise continuity and resiliency.

Table 3. Table 1. Kaiser Meyer Olkin (KMO) and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		*.968*
Bartlett's Test of Sphericity	*Approx. Chi-Square*	*23237.308**
	df	*1225*
	Sig.	*0.000*

C. Latent Roots Criterion

This study followed the principle of Eigen-value one rule or the Kaiser-Guttman rule in identifying the valid number of factors. As reflected in table 3, there were five (5) components which were found to be legitimate which garnered an eigenvalue that ranges from 1.108 to 27.378. These factors explain 71.1195 of data variation.

Table 4. Latent Roots Criterion

Component	*Eigenvalue*	*% of Variance*	*Cumulative Percentage*
1	*27.378*	*54.756*	*54.756*
2	*2.995*	*5.989*	*60.745*
3	*1.629*	*3.259*	*64.003*
4	*1.495*	*2.990*	*66.993*
5	*1.261*	*2.522*	*69.515*

Furthermore, the table showed the degree of variance as illuminated by the components of enterprise continuity and resiliency factors. The first factor obtained an eigenvalue of 27.378 and explains 54.756 percent of the enterprise continuity and resiliency. The second component has an eigenvalue of 2.995 and explains 5.989 percent variance of enterprise continuity and resiliency. The third factor has an eigenvalue of 1.629 and explains 3.259 percent variance. Component 4 garnered an eigenvalue of 1.495 and explains 2.990 percent of variance. The fifth component gained and eigenvalue of 1.261 and explains 2.522 percent of variance and finally, the last component got an eigenvalue of 1.108 and explains 2.216 percent of the variance of enterprise continuity and resiliency. Overall, the six components explain 71.730 percent of the variance of enterprise continuity and resiliency in Region XII.

D. Scree Plot

Scree plot is one of the most typical ways of defining the total number of factors being retained. To identify the elements/factors using the scree plot, the primary graph is shaped by plotting the values of all the factors/elements. Then, the slope amongst the values are being inspected. If there is a meaningful slope, this can explain the significant number of available variance. The nominal elements can be situated in the slopes that may not be that strong. Therefore, when you examine the scree plot, you have to look into the slope that flattens

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and then begin counting the elements to the left from that point (Costello & Osborne, 2005). Presented in the scree plot is the number of components extracted in the X-axis and the eigenvalues in the Y axis.

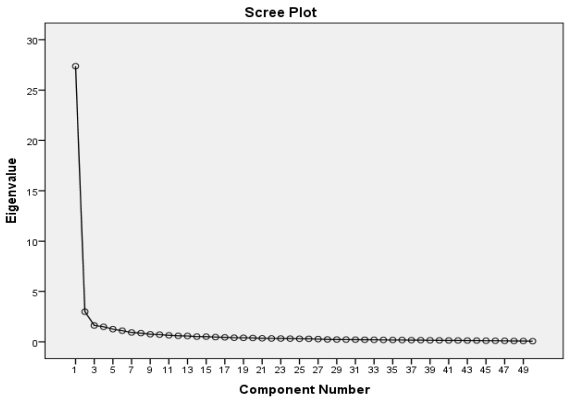

Figure 2. Scree Plot

As shown in the figure, there were five components before the plateau was reached. Hence, only six factors were considered.

E. Rotated Component Matrix

The primary purpose of presenting this matrix is to improve the interpretation of the factors generated. Displayed in table 4 is the results of the rotated component matrix which formed part of EFA in which the data was analyzed using the Principal Component Analysis (PCA) in order to describe the structure. Principal Component Analysis is a mathematical techniques which allows the researcher to lessen the number of interrelated constructs to a small quantity of factors (linear mixture of constructs), making it independent with others, which denotes a fraction of the overall covariance (Hair et al., 2006; Meyers et al., 2006). Principal Component Analysis sums up the groups of related constructs and, on that note, is comparatively empirical, being a technique of exploratory analysis (Tabachnick et al., 2007; Schneeweiss & Mathes, 1995).

Table 5 displays the result of the rotated component matrix and it also presented the six generated factors with their corresponding loadings. Items that got a loading of .40 and above were considered in each factor. The following factors were presented in accordance to the decreasing values of correlation: (1) disaster preparedness, (2) institutional planning and control, (3) external relations, (4) stakeholder's support, and (5) disaster mitigation and support investment.

Table 5. Rotated Component Matrix

	Components				
	1	*2*	*3*	*4*	*5*
Q17	*.635*				
Q14	*.694*				
Q28	*.682*				
Q3	*.687*				
Q6	*.692*				
Q34	*.762*				

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Q21	*.769*				
Q5	*.768*				
Q30	*.691*				
Q33		*.712*			
Q48		*.709*			
Q20		*.780*			
Q12		*.713*			
Q42		*.717*			
Q19		*.739*			
Q27		*.699*			
Q31		*.592*			
Q35		*.567*			
Q24			*.556*		
Q1			*.623*		
Q11			*.523*		
Q43			*.532*		
Q10			*.698*		
Q29			*.722*		
Q37			*.739*		
Q7			*.666*		
Q35				*.568*	
Q44				*.678*	
Q49				*.744*	

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Q22	*.611*	
Q26	*.786*	
Q8	*.603*	
Q15		*.625*
Q41		*.686*
Q47		*.693*
Q16		*.633*
Q36		*.594*

Table 6 reflects the first factor generated which is disaster preparedness. It has 9 items with coefficients ranging from .635 to .769. The item that obtained the highest coefficient has the statement stating "Generates fund sources to revitalize business operation" and the lowest item was "employs technology in observing and evaluating the degree of the destruction of the calamity" with a coefficient of .635. Other items also showed that businesses in Region XII have displayed a significant amount of preparation and measures to mitigate the adverse effects of disastrous circumstances or calamities. It is also worth noting how the business community in this region gradually adopts the technology for their advantage.

Table 6. Item Loadings for Component 1- Disaster Preparedness

Item No.	*Statements*	*Coefficient*
Q17	*Employs technology in observing and evaluating the degree of the destruction of the calamity*	*.635*
Q14	*Imbibes with a considerate business philosophy on taking good care of others before personal-interest*	*.694*
Q28	*Guaranteed that transport automobile is ready all the times especially when calamities hit*	*.682*
Q3	*Conducts pre-calamity evaluations on the*	*.687*
Q6	*Prepared post-calamity plans to understand the fragilities of the enterprise after the destruction*	*.692*
Q34	*Conducts post-calamity-evaluations on the degree of harms that have hit the enterprise*	*.762*
Q21	*Generates fund sources to revitalize business operations*	*.769*
Q5	*Prepares speedy management procedures in periods of disasters/calamities*	*.768*
Q30	*Maintains the philosophy of "business as usual"*	*.691*

Disaster preparedness in this study would mean the amount of preparation or degree of readiness by a particular business establishment in mitigating the adverse effects of disasters in the future. As shown in the

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literature, disaster preparedness includes taking the measures to develop working schemes and capabilities prior to a disaster (United Nations International Strategy for Disaster Reduction, 2009). Actions undertaken at the preparedness phase can reduce the immediate risk of damage and loss during an earthquake event, and can lead to less reliance on the emergency responses, which in turn frees up resources for other tasks (National Research Council, 2011; Becker et al., 2012; Sadiq, 2011). Therefore, the level of pre-disaster preparedness of the organization is recognized as one of the contributing factors to post-disaster response, recuperation and continuity (Corey & Deitch, 2011; Tierney et al., 2013). Thus, analyses of the units to anticipate the likely impacts and proceeds with the development of ways to address these impacts (Lindell, 2013). This process of disaster preparedness can increase control over the subsequent disaster response at the individual, organizational, and community levels (Dahlhamer, J. M. & D'Souza, 1995).

Given the financial difficulties of putting up an enterprise, low market stability, and higher levels of informal practices, firms are more exposed to disruptions. Nevertheless, the findings on the number of years of existence and natural disaster susceptibility is inconclusive. For example, just 25% of Pakistani MSMEs that succumbed to disasters during the floods in 2010 were 5 years old or younger (Asgary et al., 2012).

The second factor attributed to enterprise continuity and resiliency among businesses in the region is *institutional planning and control*. This concept may sound to be too academic and theoretical for traditional business owners but this is quite different for the local businesses in this area. The degree of confidence among these business owners are also considerably extreme, in fact the highest coefficient (.780) states that businesses are "confident in its future activities". This might be attributed to the fact that they have a long-range plans to intensify the business operation (.739). In addition to that, the last element of managerial responsibility which is planning seemed to be practiced as well. This can be gleaned for the statement asserting "preserves a sense of control over situations that may occur in the enterprise" (.567).

Table 7. Item Loadings for Component 2- Institutional Planning and Control

Item No.	*Statements*	*Coefficient*
Q33	*Shows readiness of outside factors in its vision mission, and goals (VMG)*	*.712*
Q48	*Sourced out expert support relating to calamity preparations when needed*	*.709*
Q20	*Confident in its future activities*	*.780*
Q12	*Has a workplace health and safety plan*	*.713*
Q42	*Has a sound financial management plan*	*.717*
Q19	*Has long-range plans to intensify the business operation*	*.739*
Q27	*Understands that risks are existing*	*.699*
Q31	*Has a plan to address governance and compliance Issues*	*.567*
Q35	*Preserves a sense of control over situations that may occur in the enterprise*	*.592*

For the past years, enterprises have provided a better way to prepare for calamitous situations and planning played a significant contribution in their overall efforts. The efficiency of most institutional domains is dependent on the attributes of what have become known as "highly reliable enterprises". The study of the mechanisms that promote vulnerability and persistence in these entities can benefited from a thorough examination of these aspects. Many of the qualities of high-reliability businesses can be found in these social systems, including vision, mitigation, response plans, and the readiness to change present practices and formalize new ones in order to foresee or even eradicate future issues and calamities (Aguirre et al., 2005).

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A summary of the people involved, their contact details, and an information of their roles must form part of any emergency response system. Information systems could be utilized to improve the likelihood of emergency response plans interacting with rescuers to make it successful (Turoff, 2002). Systems that allow for continuous communication between authorities during an emergency, as well as communication with other individuals who may not be rescuers but need accessibility about how the incident is progressing, are also critical (Odegard & van Wyngaarden, 2006). Communicating with external parties is essential considering the connectivity of local and global enterprises. This may be done with a complete list of the suppliers of emergency equipment that may help in the recovery of the enterprise and the whole community.

Practically, businesses may also practice may have an organized business continuity plans. The findings is further supported by various studies demonstrating that a higher degree of planning and forecasting on the vulnerabilities of the enterprise is so much better (Federal Emergency Management Agency, 2011).

The third factor generated in this study is external relations. Businessmen did not seem to undermine the purpose of establishing linkage with the external environment. They believe that their business will not solely achieve its optimum capacity if they do constantly in contact with the external world. For instance, they "retains a list of contacts with various government and non-government agencies" (.722) to carry out efforts relating to survival in calamitous times. Thus, the statement "ensures disaster readiness and conducts simulations for earthquakes, fires and storms (.698) showed that they do not only support government efforts to disaster management, rather they have displayed.

Table 8. Item Loadings for Component 3-External Relations

Item No.	*Statements*	*Coefficient*
Q24	*Maintains adequate number of staff*	*.556*
Q1	*Hires a disaster and risk mitigation officer*	*.623*
Q11	*Maintains supplies and resources that which can be utilized during emergencies*	*.523*
Q43	*Used various social media platforms to disseminate information*	*.532*
Q10	*Ensures disaster readiness and conducts Simulations for earthquakes, fires and storms*	*.698*
Q29	*Retains a list of contacts with various government and non-government agencies*	*.722*
Q37	*Compensates the efforts of volunteers to rebuild the business*	*.739*
Q7	*Conducts studies relating to disaster risk reduction, mitigation and management*	*.666*

According to BAPPENAS et al., (2004), knowledge transfer, techno-transfer, and trade facilitation were key elements/interventions that needed to be implemented in order for MSMEs to not just to survive but also enhance their pre-disaster condition. Disasters which are typically viewed as large-scale or high-impact calamities that necessitate outside aid. External variables such as political, behavioral, judicial, financial, logistics, philosophical, and organizational, influences the enterprise reaction to disaster assessments and warnings. External stakeholders are crucial in forming and educating the enterprises as well as supplying them with emergency supplies including shovels, first-aid supplies, stretchers, walkie-takies, lights, watercraft, and even tents. This indicates that external stakeholders will continue to be involved and assist community readiness and enterprises must consider the long-term viability of local preparedness once aid comes to an end (Twigg & John, 2015).

Severe disruptions in a community's normal functioning as a result of dangerous physical natural calamities interacting with susceptible social conditions, resulting in widespread negative human, material, economic, or ecological impacts that necessitate an immediate crisis response to meet crucial human needs and may necessitate external help for rehabilitation. Financing can be provided through external support in the form

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of loans. It may also assist in the development of creative tactics, for example, by convening panels of highly regarded specialists who can advise on the best course of action (Jha & Stanton-Geddes, 2013).

According to Benson & Clay, (2003), an enterprise management's collaboration and implementation ability with agencies involved in crisis management is linked to a speedier recovery of its activities. As part of the change to a more strategic role, the sort of coordination required should be less of a top-down oversight role and more participative. At both the national and international levels, better administrative, management, and task coordination would be required. Yet, according to (Patwardhan et al., 2007), there are certain flaws in the policies and execution of business risk reduction strategies due to a severe lack of external assistance. Rapid action in times of disaster is hampered by a lack of coordination across agencies and public sectors. Each agency's responsibility should be clearly stated in all scenarios.

Factor four has something to do with stakeholder's support as displayed in table 9. As shown by the highest coefficient of .786, the statement saying, "develops strong relationships with suppliers" is a clear manifestation that one of the factors that made the business stronger and resilient is the support they have gained from one of their most valuable stakeholders, the suppliers. Aside from that, the business also got support from their patrons as they evidenced by a coefficient value of .744. In both theory and practice, consumers are the most important stakeholders of the business. The community where the business is situated also supported their operation in times of calamities as demonstrated by the result (.611).

Table 9. Item Loadings for Component 4-Stakeholder's Support

Item No.	*Statements*	*Coefficient*
Q35	*Preserves a sense of control over situations that may occur in the enterprise*	*.568*
Q44	*Highlights a culture of setting the best efforts in the enterprise*	*.678*
Q49	*Has a strong relationship with its customers/clients*	*.744*
Q22	*Is well supported by the local community*	*.611*
Q26	*Develops strong relationship with suppliers*	*.786*
Q8	*Kept a contact list of all personnel*	*.603*

Because of the disaster's terrible nature and consequences, surrounding nations were impacted directly or indirectly (Shimp, T. A. & Andrews, 2013). This has prompted calls for regional collaboration among surrounding countries to help each other minimize and mitigate natural disasters. Finally, the town and its residents, are the most essential stakeholders and are frequently at the receiving end of every crisis. As a result, every policy dealing with regards to disaster risk management must carefully include them (Haworth & Bruce, 2015). It is in the business's and key stakeholders' best interests to achieve resilience in case of calamity. Stakeholders are those who are involved in or may become involved in a program, either independently or in collaboration with other institutions. In the event of a crisis, the business as an entity within which a diverse set of stakeholders have stakes and a part to play is critical. In pre / post situations, business organizations or groups of interested stakeholders must be in charge of producing relevant data in order to optimize allocation of resources efficiency and get a shared and complete image of the issue from a variety of angles (ILO, 2013).

Owing to the program's complexities and urgency, the interests and engagement of certain people or enterprise stakeholders may be more strong in the aftermath of a natural disasters (Chang et al., 2010). Stakeholder participation is critical for good disaster risk reduction management (Karanci & Aksit, 2000) and its long-term consequences (Ross & Jordan, 2004). Emergency management are increasingly focusing more on long-term, sustained recovery (Labadie, 2008), which is a worldwide phenomena that involves a range of stakeholders (Kramar, 2014). Effective restoration recognizes the importance of both difficulties: catastrophe response and crisis preventive culture (Guarnacci, 2012). Long-term sustainability highlights the need of including stakeholders and partners in the rehabilitation process (Jigyasu, 2013).

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Table 10 displays the fifth generated factor which is disaster mitigation and support investment. Most businesses appeared to have significantly invested in preparing the teams to respond to risky situations (.686) and made sure that the communication channels are functional at all times (.625). For large-scale businesses, they have invested enough to protect and insured their assets. Calamitous situations especially 'force majeure' are inevitable, however, these measures and initiatives were employed to mitigate, at the very least, the hostile effects of natural disasters and calamities.

Table 10. Item Loadings for Component 5- Disaster Mitigation and Support Investment

Item No.	*Statements*	*Coefficient*
Q15	*Manages the communication networks of the enterprise effectively and efficiently*	*.625*
Q41	*Finances the training of the personnel for involving risky conditions*	*.686*
Q47	*Keep a resource handbook for risk mitigation and management*	*.693*
Q16	*Spends for insurance of buildings, products, and inventories*	*.633*
Q36	*Assures that preparedness is observed at all times*	*.594*

Practically, disasters posed a risk to businesses and these risks cannot be simply eradicated or omitted in the picture, however, they can be reduced or mitigated. Disaster mitigation is linked to a sound planning, coordination, and support which also needs to be invested both in capital and human resources. One best example that can be seen here is purchasing insurance plans, training the people, and ensuring a constant communication within the organization especially for matters pertaining to disaster preparedness and forecasts.

Structured and non-structural strategies to lessen the negative impacts of natural disasters are included in mitigation or risk reduction efforts (Atmanand, 2003; Bosher et al., 2007; Moe et al., 2007). Preparedness, response, and recovery are the three major aspects of disaster prevention and response. Establish crisis mechanisms and partner organizational capability advance as part of preparedness exercises to develop a preventive reaction to the adverse impacts of natural disasters. Creating warning systems, identifying clearing courses and safe homes, maintaining crisis supplies and permanent connection, and managing disaster activity to educate and equip employees and locals are among the activities that may be done (Altay & Green III, 2006; Moe & Pathranarakul, 2006). A positive attitude while dealing with disasters helps to reduce deaths, injuries, damage to property, and financial losses. Preparedness recognizes that there is still an unabated risk, and it aims to assist society in minimizing the negative consequences that may occur if a physical event occurs (Bechtel, 2019).

As per the G20 & OECD, (2012), if calamity hazards are minimal in contrast to risk-bearing capability, former risk management may be a feasible option, allowing money to be more efficiently spent elsewhere, promoting accumulation of capital, and thereby expanding financial ability. Ex ante financial solutions, on the other hand, could provide substantial protection by assisting to overcome finance gaps if calamity risks are significant; conversely, investing in risk mitigation may produce rewards in terms of lower exposure to risk. These procedures, though, need a financial commitment, with associated opportunity costs due to other capital uses. Insurance could provide effective safeguard for people who face greater disaster risks than their risk-bearing ability.

Whereas the majority of humanitarian systems support crisis and post-crisis response, some of these funds serve to sustain more proactive disaster risk reduction efforts (Kellett & Peters, 2014). Systems to spread risk are a good example; insurance is important for states, corporations, and individual citizens, and it shows how the state may collaborate with the private industry to fund disaster risk management. and Private sector involvement in disaster risk management in poor nations are also allowed via development banks, which are backed by governments, via the use of loans, equities for instance. Private public partnerships for disaster recovery are also on the rise, notably for infrastructure (ISDR, 2004). They share risk and strive to integrate the capabilities of both state and corporate players. They may also develop collaborations that assist to remove barriers to private-sector activity (Becker-Birck et al., 2013).

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Investments which are disaster-resistant paves the way for long-term development. Calamities are intrinsically related to progress. The poor and the underprivileged members of populations are adversely impacted by disasters. Calamities c reate vulnerabilities and social inequities, affect people's health, and slow economic progress (Mitchell et al., 2013). As a result, risk-resilient development is required. Placing risk reduction and management (DRR) at the forefront of the future growth strategy which guarantee that calamities do not hinder ongoing development, including attempts to eliminate poverty, and that growth does not unintentionally generate new dangers.

Private enterprise are putting money into risk reduction and making decisions based on risk and resiliency. Several private sector players are decreasing calamity risks as a result of cost reductions, increased brand image and reputation, competitive edge, or new business prospects (PwC, 2013). States have a critical role in making sure that investment flows diminish instead of raising the risk of disaster. A robust national DRR strategy establishes the appropriate legislative and regulatory structures to guarantee that risk in both private and publics investments are mitigated, not produced (ISDR, 2009).

IV. CONCLUSION AND RECOMMENDATION

Based on the findings, the researchers arrive at a conclusion that business resiliency and continuity in Region XII is characterized by five factors (disaster preparedness, institutional planning and control, external relations, stakeholder's support, disaster mitigation and support investment).

On the basis of the foregoing findings, the researchers offered the following recommendations.

1. The local government unit of the Region may consider this framework in developing a more comprehensive and in-depth policy that protects the MSME's in disaster related risks as they are the most vulnerable in all types of hazards.
2. The local authorities may also initiate a so called 'Pre-Disaster Agreements' patterned after Japan where it involves emergency transport, supply fuel, and lifeline recovery. Under this agreement, the government may request that financial entities may provide special attention on the dishonored checks and bills and longer repayment time for Micro, Small and Medium Enterprises (MSME's). Grace period may also be extended along with special loan agreements. This may permit severely affected enterprises to quickly save the employment of the locals.
3. A roadmap is required in order to collate and prioritize areas for enhancement or initial action in order to effectively cope with calamitous situations. The researchers also recommend that this roadmap may be patterned after The Sendai Framework for Disaster Risk Reduction 2015-2030.

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