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Covid-19 Impacts and Building New Resilience: A Comparative Analysis between Japan and Philippines

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Abstract: In light of the world leaders' response to the critical time of pandemic, this paper offers first-hand evidence of the perceived impacts of pandemic and perceived resiliency in the context of health-quarantined communities in two Asian countries. The study utilized Partial Least Square Structural Equation Modeling (PLS-SEM) to determine perceived impacts of Covid 19 and to analyze comparatively the social resilience of two countries with opposing global economic statuses, the Philippines and Japan. Due to the global condition caused by the pandemic, the online survey was administered in both countries. Resiliency survey questions were tailored for suitability within the context of the coronavirus pandemic and for face validity. The instruments used in this study consist of a Japanese translation for ease of understanding of the community respondents in Japan. Data analysis using PLS-SEM revealed impacts of Covid-19 pandemic significantly influence the social resilience of communities in both countries. Impacts of Covid-19 outbreak similarly showed significant influence on building new normal resilience of communities in two countries. Resilience was anchored on reactive and proactive capacities of communities. Implications of this study contribute to the sustainable futures of the communities focusing on intervention models to mitigate the long-term impacts of the pandemic. Further research should be done on the development of policies and programs for government implementation to manage and mitigate social complexities brought about by the pandemic or other adversities. Linking through mediation analysis of resilience factors for sustainable development can be explored for future research.

Key Words: Impacts of Covid-19, Japan, Philippines, building new resilience,communities

1. INTRODUCTION

Coronavirus disease 2019 (Covid-19) caused a lot of stress for people and communities (CDC, 2019). As the number of new cases spike globally, a lot of things had changed drastically at the peak of the disease outbreak. Even the most powerful countries around the world were caught unprepared. The coronavirus pandemic is extremely damaging to a country's economy and it did not spare Japan (Takeshita, 2020) and Philippines. This pandemic had severely impacted people's activities from all walks of life whether the country is a developing one or a first-world country (Takeshita, 2020; UNDP, 2022; World Bank, 2020).

It has been more than three years since Covid-19 outbreak started in Wuhan, China, and found the following in Japan and many other countries. National government tried to balance the economy and the prevention and restraint of Covid-19, but the disease is highly contagious. This pandemic is a critical condition that leaders cannot respond to by having plans drawn up in advance. Responses are improvised since there is unfamiliarity and uncertainty (D'Auria & De Smet, 2020).

Albeit, the government's pandemic response contains human rights elements, it appears to fail in ensuring that no one will be left behind or discriminated against (UNDP, 2022). Local governments that are mostly scant in financial resources provide actual assistance including medical systems (Legido-Quigley, 2020). On an individual level, it enforced non-urgent going out, wearing masks, hand washing, and gargling. The three conditions that facilitate the transmission of infectious diseases – closed spaces, crowds, and close contact.
The Covid-19 pandemic worsened the quality of life of millions of people as they experience increased poverty

and hunger when they lost their jobs and livelihoods. Hence, there is a greater need for social resilience, "the capacity of a social entity (e.g. a group or community) to bounce back or respond positively to adversity" (Maguire & Hagan, 2007, p.16).

The concept of resilience. Resilience has complex dimensions and its properties and pathways are worth reviewing (Saja et al., 2021). Thus, this study aims to determine the perceived *Covid-19 impacts* and *resilience* of the communities coming from two countries in different economic situations and new normal settings. Moreover, this paper aims at a comparative study between countries on the immediate impacts of coronavirus outbreak and the perceived resiliency of communities (PCR) amid pandemic.

People in the communities, not just the business organizations, were hit badly by the coronavirus pandemic in social and economic aspects. Moriarty et al. (2020) warned individuals that there's a need to be careful when traveling as there is still a need to contain the spread of coronavirus. This has been consistent with World Health Organization's report on Covid-19 global cases (WHO, 2023).

Resilience theory is both a process and an outcome (Obrist et al., 2010). It has three components i.e. adversities, mediating process, and outcome (VanBreda, 2018). A study on resilience between two international communities is justified and worth conducting based on the impacts of the global business economic downturns brought about by the coronavirus pandemic.

Thus, this study is framed on reactive and proactive capacities the five process factors as components of social resiliency in communities as explained in the context of this study: Leadership, resources, preparedness, information and communication, and social support.

Factors Influencing Resiliency. Resilience influenced health risk behaviors to change over time and revealed what factors influence the resilience process. This is the reality in managing resilience in difficult times.

In an early study of Nguyen (2012), policymakers had been provided with adequate information on the role of resilience in health risk behaviors.

It has been noted that only a few studies have been done to assess measures and indicators of resilience. The literature shows a lack of evidenced-based reports to assess the appropriateness of resilience indicators (Rodriguez-Llanes et al, 2013). Thus, this study provides the following essential factors influencing resiliency based on relevant literature:

Leadership. Leaders should be aware of how they think and behave and are perceived by others as being aware of the context in which they operate. These leaders are not just confident, hopeful, and optimistic, but they are also resilient (Avolio et. al, 2003). In this critical time, what people need is authentic *leadership*.

Resources. Pfefferbaum et al. (2016) and Legido-Quigley (2020) highlight the importance of resources not only in terms of financial but people can get the services they need in times of adversities. This has been linked with leadership.

Preparedness. In the study of De Rooij et. al, (2020), "resilience" begin with *preparedness* during threats of infectious disease outbreak, and this requires a standardized preparedness system. On the other hand, Nguyen (2012) supports the idea that resilience is a dynamic process.

Social Support. It was recommended that "resilience-based intervention should increase the positive outcome by increasing *emotion attributes* and *social support*" (Nguyen, 2012, p.135).

Consequently, this paper offers first-hand evidence of the impact of pandemic and resiliency between two Asian countries with opposing economic conditions as impacted by the real threatening pandemic and the various measures that changed the world.

A Multi-layered Social Resilience Framework is suggested in an earlier study of Obriste et al. (2010) as a new

framework for studying social resilience in communities. This has been linked with reactive capacity or "the capacity of actors to access capitals in order to – not only cope with and adjust to adverse conditions" as well as proactive capacity which refers to the capacity to "search for and create options" that develop positive outcomes in dealing with threats (Obrist et al. 2010, p.289).

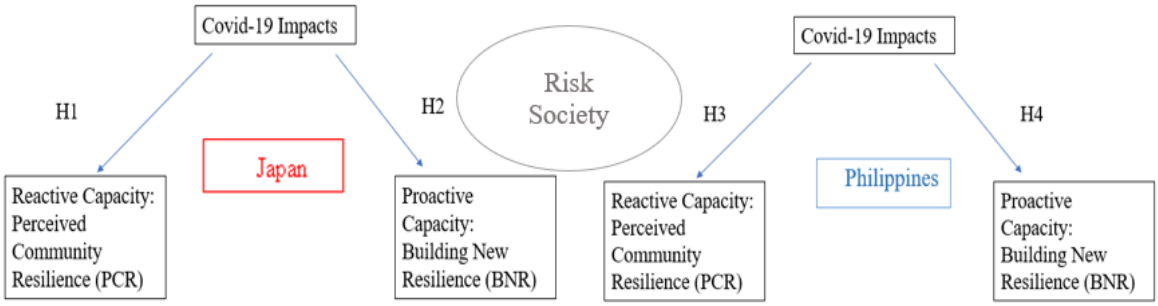

Figure 1: **The Research Framework**

Beck's theory of the risk society states that people live in risk society (Morning Future, 2020). The wealthy can easily buy safety and freedom from risk, while those in poverty attract risks. Consequently, poor nations are more vulnerable to risks as compared with rich nations (as cited in Supriya, n.d.)

The knowledge contribution of this study arises from the following hypotheses of the study and its implications on the development of a framework for mitigating risk society, building new resilience, and making the community sustainably resilient.

Research Hypothesis:

H_1: Impacts of Covid-19 significantly influence Perceived Community Resilience in Japan

H_2: Impacts of Covid-19 significantly influence Building New Normal Resilience in Japan

H_3: COVID-19 impacts significantly influence Perceived Community Resilience in the Philippines

H_4: Impacts of Covid-19 significantly influence Building New Normal Resilience in the Philippines

2. METHODOLOGY

Social resiliency between Japan and Philippines was analyzed utilizing partial least squares structural equation modeling (PLS-SEM). Comparative analysis was based on structural equation models of the two countries.

2.1 Respondents and Sampling Method. Population and samples come from identified communities of the two research scholars from Japan and Philippines. Online survey was conducted amid the coronavirus outbreak. The snowball sampling technique was considered appropriate for this study to be able to generate more respondents who belong to the same quarantined community in the critical time of pandemic in two country settings. The referral approach for conducting online survey is found appropriate considering the risks brought by pandemic.

2.2 Instruments. This section is divided into three parts: Resiliency survey questions utilized a 5-point Likert scale which was initially adapted from the Resiliency Assessment Tool of Pfefferbaum (2013). The questions were modified for suitability within the context of coronavirus pandemic and for face validity. Instruments used contain a Japanese translation for the benefit of the community respondents in Japan. The pilot examination involved 16 and 24 submitted google forms from Japan and Philippines respondents respectively. The total

number of respondents for the pilot test in both countries was excluded from the final survey. The initial internal consistency for these two countries ran in Jamovi for windows differently. Cronbach's alpha coefficient results of 16 and 24 respondents from Japan and Philippines as shown in Table 1 of this study respectively. Cronbach's values for each construct in both countries reported greater than 0.70 is simply interpreted that measurement items are reliable. Thus, the instrument can be adopted for the main survey.

Table 1: ***Discriminant Validity and Construct Reliability***

Discriminant Validity HTMT: Heterotrait-Monotrait Ratio of Correlations (JAPAN CASE)			
Japan Variables	**Building New Normal Resilience (JP)**	**Perceived Community Resilience (JP)**	**COVID 19 IMPACT (JP)**
Building New Normal Resilience (JP)			
Perceived Community Resilience (JP)	0.715		
COVID 19 IMPACT	0.813	0.829	
Discriminant Validity HTMT:Heterotrait-Monotrait Ratio of Correlations (PHILIPPINES CASE)			
Philippines Variable	**Building New Normal Resilience (PH)**	**Perceived Community Resilience (PH)**	**COVID 19 IMPACT (PH)**
Building New Normal Resilience (PH)			
Perceived Community Resilience (PH)	0.836		
COVID 19 IMPACT (PH)	0.878	0.881	
Construct Reliability And Validity : Japan			
Japan	**Cronbach's Alpha**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Building New Normal Resilience (JP)	0.928	0.941	0.668
Perceived Community Resilience (JP)	0.808	0.872	0.631
COVID 19 IMPACT (JP)	0.935	0.945	0.609
Construct Reliability And Validity : Philippines			
Philippines	**Cronbach's Alpha**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Building New Normal Resilience (PH)	0.912	0.928	0.589
Perceived Community Resilience (PH)	0.752	0.842	0.571
COVID 19 IMPACT (PH)	0.917	0.931	0.573

The Heterotrait-Monotrait Ratio of Correlations adopted predefined threshold in comparing the constructs (Hair et al., 2019). Composite reliability describes the factor loadings of the composite in the model, and this could be used to validate measurement models. Nevertheless, the recommended composite reliability above 0.7 (Hair et al., 2019) is shown in Table 1.

The Cronbach alpha ranging from 0.752 to 0.917 indicates good reliability of the factors. This indicates the composite reliability (CR) ranges from 0.842 to 0.931, and the average variance extracted (AVEs) ranges from 0.571 to 0.589 which support construct reliability and validity results, hence, indicators of variables were utilized in this study (Hair et al., 2019).

2.3 Data Collection and Analysis. Due to the global situation caused by the pandemic, administration of the online survey questionnaire was done over a period of eight weeks. Bootstrapping was performed and created with randomly drawn observations from the original set of data (34) *with replacements.* The subsample is then used to estimate the PLS path model (Hair et al., 2014). Japan, considering a small sample size gathered and

could not assume a normal distribution, it is assumed difficult to get estimates of SE. The sample is thought of as a representative of the population, we performed a resampling distribution of all estimates using the bootstrap method, thereby increasing the number of resamples. This process is repeated until a larger number of random subsamples 103 have been created for Japan responses and originally, 405 responses from the Philippines. These were all gathered from Google survey through social media, personal emails, Facebook (FB) friends, and FB messenger of the respondents in both countries.

3. RESULTS AND DISCUSSION

Impacts of Covid-19, has been perceived by respondents from Japan and Philippines based on the measures of perceived community resilience (PCR). After cleaning the data and obtaining factor loadings of higher than (0.7), these are the common items used to measure PCR in both Japan and Philippines: PCRL1-community leaders are knowledgeable and confident in fighting Covid-19 outbreak and PCRC8-the community provides relevant updates and reliable information to people.

Surprisingly, factor loadings for Japan showed the following measures of perceived community resilience i.e. PCRL2 -community leaders are committed to the well-being of the people and PCRP3-people in community help each other to fight COVID-19.

On the contrary, Philippines' survey measures of PCR are the following: PCRS11-the community has adequate quarantine and healthcare facilities for the Covid -19 infected patients and PCRR12- the community believes that Covid-19 will be contained and controlled.

In building new resilience (BNR), both countries share in common in terms of the following latent variables: Building new resilience leadership (BNRL1): community has reliable and effective leaders; BNRL2: People in this community just know what to do and where to go if there is a problem to solve or goals to achieve, BNRP3: community proactively prepares for the long-term impact and trends of pandemic; BNRP4: community works in partnership with organizations and agencies outside the community to provide the needs of the people; BNRC8: community can keep us informed about important things to do in times of second wave of pandemic or disaster; BNRC9: people in this community, communicate with leaders and authorities to reduce the risks caused by pandemic; and BNRS10: community can provide health and social services needed in case of emergencies found common to Japan and Philippines in terms of Building New Resilience.

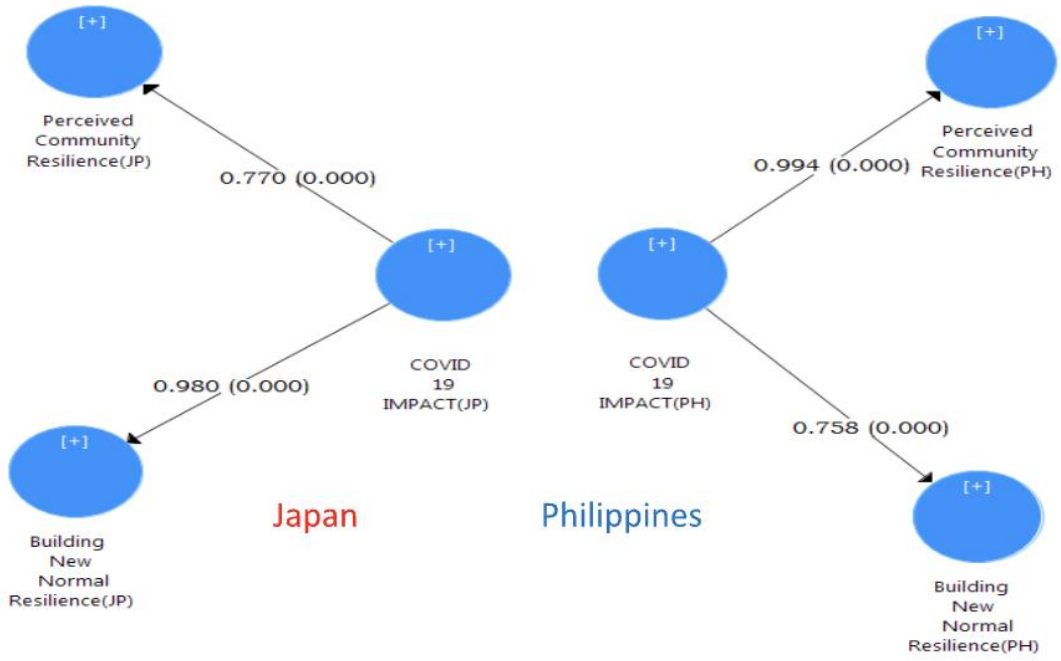

Figure 2: Japan and Philippines Comparative Structural Equation Models

P-values less than 0.05 justified regression paths. The factor loadings on each latent variable were used to rank the indicators, and variance explained was used to forecast the model's good fit.

3.1 Covid-19 impacts' influence on perceived social resilience and building new resilience in Japan

As shown in Table 2, the PLS-SEM results for the Philippines showed the p-values<.05, Philippines' impacts of Covid 19 significantly influence their perceived community resilience (β=0.993; SD=.05) and building new resilience obtained path coefficients=0.760; SD=0.001.

With all p-values<.05, impacts of Covid 19 in Japan significantly influence respondents' *perceived community resilience* (β=0.770; p-value<0.05) and *building new resilience* (β=0.980; p-value<0.05).

Table 2: Summary of Tested Hypothesis

Hypothesis	Path Coefficients	SD	P-value
H1: Covid 19◥ PCR (JP)	0.770	0.784	0.000
H2: Covid 19▼ BNR (JP)	0.980	0.009	0.000
H3: Covid 19◥ PCR (PH)	0.993	0.050	0.000
H4: Covid 19◥ BNR (PH)	0.760	0.001	0.000
Note: Significant at p<.05,**p*<.01,***p*<.001			

Hypothesis 1 (H1) is supported, which indicates that the perceived impacts of Covid-19 pandemic significantly influence building new resilience (BNR) in Japan. Likewise, with p-values lower than *a*=.05, Hypothesis 2 (H2), which states that perceived impacts of Covid-19 significantly influence respondents' perceived social resilience (PSR) in Japan is likewise supported. PLS-SEM also showed significant influence of Covid-19 impacts on BNR in Japan. Overall results were highly significant indicating p-values<.001.

3.2 Covid-19 Impacts influence on Perceived Social Resilience and Building New Resilience in the Philippines

Both hypotheses (H3 and H4) are supported given the p-values lower than *a*=0.05. Covid-19 impacts significantly influence *building new resilience* in the Philippines. In the Philippines, Covid-19 impacts showed a significant influence on both perceived community resilience and building new normal resilience.

With all hypotheses tested and found to have significant findings, this result complements the resilience-as-balance perspective and reflects mitigation capabilities (Vanpoucke & Ellis, 2020). Consequently, in enhancing community resilience, the social, cultural, and environmental aspects must attain balance (Adekola et al., 2020).

3.3 Comparative analysis between Japan and Philippines

The comparative structural equation models resulted in significant influence of Covid-19 impacts on perceived community resilience and building new resilience.

Japan's influence of pandemic on the *perceived social resilience in communities* obtained R-Square=0.593 and *building new normal resilience* has R-Square=0.961. On the other hand, the Philippines' *perceived community resilience* achieved R-Square (0.575 and 0.987) for *building new resilience*. This implies that endogenous latent variables are substantial (Hair, Ringle, & Sarstedt, 2013) and measured in the structural equation models of both countries.

Surprisingly, both countries share moderate R-Squares in terms of reactive capacity, PCR. Whereas, Japan and Philippine communities revealed substantial R-Squares for proactive capacity, BNR. The above results support

the projections of World Bank (2020) the pandemic may have the worst impacts of all because it has features of "a simultaneous supply and demand shock; domestic, regional, and global in scope." The global economy sinks into a major recession caused by this pandemic (World Bank, 2020, p.3). Therefore, the challenge focuses on the importance of proactive capacities of the community in terms of building new resilience to face the threats of another wave of pandemic. Thus, there is the crux of policy risks and management of complexities in a changing dynamic systems within the context of limited resources (Cavaye & Ross, 2019; Adekola et al., 2020).

4. CONCLUSIONS, LIMITATIONS, AND RECOMMENDATION

This study explored the impacts of Covid-19 outbreak and its influence on the perceived community resilience and building new social resilience in two countries, Japan and Philippines, from different global economic conditions. Results of PLS-SEM revealed overall significant findings suggesting that social resiliency and threats of the same global-scale crisis may occur again (Bozkurt, 2022). Implications of this study recommend that a standardized pandemic community preparedness system and a model intervention for a more resilient community should come into place. The threats of the same global-scale crisis may occur again. Moreover, implications of this study in the business context and leadership are expected to implement changes and ensure resilience in the future to withstand threats (Peter, 2021).

Findings of this study have confirmed the need for a holistic framework for development of policies and programs for government implementation to mitigate and manage risks. In relation to this framework, policymakers and or decision-makers in government need to strengthen resilience by formulating effective strategies to develop resilience (Saja et al., 2021).

For future research, there is a need to investigate further which capacities would lead to the development of increasing resilience. It would be noteworthy, likewise, to determine variations of perceived risks and capacity between countries, contexts, and regions. Since resilience is a process, it is unstable and not durable (Obrist et al, 2010). Hence, this study recommends an exploration of factors driving sustainability of resilience.

Limitations exist in this study where future research can address the limited number of respondents in Japan.

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6. CONFLICT OF INTEREST

The authors did not receive funding for this research project anddeclare that there is no conflict of interest in the publication of this article.

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