Resiliency and Sustainability of Tourism Industry in Boracay Island

[1]Kuwenya A. Ibisate and [2]Mary O'T. Penetrante

[1] Central Philippine University, Aklan State University

[2]Central Philippine University

ABSTRACT

This descriptive-correlational study analyzed the resiliency and sustainability of the tourism enterprises in Boracay Island, Malay, Aklan, Philippines in 2022-2023 based on the responses of 400 respondents consisting of owners, presidents, managers, chairpersons, and employees of DOT accredited establishments in Boracay Island. Results show that the tourism enterprises in Boracay Island have an average level of organizational resilience. They reported to have set of appropriate responses to all emergencies but feel that their behavioral readiness to respond to internal and external environment is low. Their overall extent of resiliency is average and their enterprise sustainability is high. Their extent of resiliency was found to be significantly related to their extent of sustainability. Based on the findings and conclusion, the researcher encourages the tourism enterprises in Boracay Island to implement comprehensive resilience strategies that encompass both planned and adaptive measures while fostering community collaboration for agility and adaptability to respond effectively to unforeseen challenges.

Keywords: Planned and adaptive resiliency, pillars of sustainability, economic, socio-cultural, environmental and transversal

INTRODUCTION

Background of the Study

Resiliency and sustainability are pivotal pillars in the tourism industry, influencing its operation profoundly. Resilience denotes the ability to absorb disturbance, recover from disruptions, and adapt to changing conditions while maintaining core functionality (Hynes et al., 2020, Aburumman, 2020). Recognized as a vital crisis management tool, resilience enables businesses to maintain stability and adaptability amidst various risks, including natural disasters and emergencies (Supardi et al., 2020). Organizational resilience, as defined by Manus et al. (2008) encapsulates an organization's capacity to uphold situational awareness, manage vulnerabilities, and demonstrate adaptability in a dynamic, interconnected environment.

Conversely, sustainable tourism, as defined by the United Nations World Tourism Organization (UNWTO), encompasses the needs of travelers, the industry, the environment, and host communities. It seeks to balance present and future economic, social, and environmental considerations, aiming to meet the demands of visitors and host regions while preserving cultural integrity, ecological processes, biodiversity, and life support systems (UNWTO, 2005, cited in Strasdas, 2011).

The tourist sector significantly influences the world's development, particularly the expansion of the global economy. Travel and tourism's direct, indirect, and induced effects increased the world's gross domestic product by US$8.9 trillion in 2019, or 10.3% of the GDP (Aburumman, 2020). It generated 330 million jobs, or one in ten of all employment worldwide, and 7% of all exports (WTTC, 2020). However, unexpected crises like natural disasters or pandemics can severely disrupt tourism enterprises' resilience, posing significant challenges to sustainability efforts. The outbreak of Covid-19 in 2020 halted a prolonged period of tourism growth worldwide (Curtale et al., 2023). In 2020, foreign tourist arrivals decreased by 74% compared to the previous year, with a 93% decrease in June arrivals. With an 84% fall, Asia and the Pacific saw the biggest drops (UNWTO, 2021).

Boracay Island, acclaimed by Conde Nast Traveler as the "2nd finest island beaches in the world" in 2020, faced formidable challenges impacting its tourism resilience and sustainability, notably two disruptive events. The first was a 6-month shutdown due to environmental concerns, followed by the pandemic-triggered global COVID-19 crisis. Consequently, visitor numbers dropped, and tourism revenue declined significantly. The island witnesses a stark reduction in tourist arrivals and receipts due to lockdowns and quarantine protocols, leading to substantial income loss for local enterprises and widespread unemployment among tourism workers (Municipal Tourism Office of Malay, 2020).

As Boracay Island slowly reopens to tourists after nearly two years of pandemic-induced closure, tourist arrivals are gradually increasing, and tourism activities are resuming. While some displaced workers have regained employment as establishments resume operations, the island's recovery from the dual crises remains delayed. In light of these disruptive events and the ongoing challenges facing the island's tourism industry, it is important to obtain answers on the following questions:

1. What is the extent of the current resiliency and sustainability of the Boracay Island tourism industry in light of the Covid-19 outbreak?

2. Which factors can contribute to making the tourism industry resilient and sustainable enough to recover from Covid-19?

These questions aim to shed light on the complex interplay between resilience and sustainability, amidst environmental shocks in the context of Boracay Island's tourism industry, offering insights that can inform planning, and decision-making processes.

Objectives of the Study

1. Describe the profile of tourism enterprises in terms of classification, form of ownership, number of years in operation, number of employees, and status of overall capacity before, during, and after the pandemic.

2. Determine the resiliency indicators of the tourism enterprises in terms of the extent of planning and adaptive capacity.

3. Determine the extent of sustainability of the tourism enterprises in terms of economic, socio-cultural, environmental, and transversal indicators.

4. Determine whether there is a significant relationship between the enterprise profile and extent of their sustainability.

5. Determine whether there is a significant relationship between the extent of resiliency and their extent of sustainability.

Theoretical Framework of the Study

The study was grounded on the study of Lee et.al (2013) on Organizational Resilience for the theory of resilience and the Pillars of the Sustainability Model by the United Nations Environment Program (UNEP, 2005) adapted by the Asia-Pacific Cooperation (APEC, 2013) Tourism Working Group served as the foundation for the sustainability theory. Lee et al. (2013) expanded upon a model modified by McManus (2008) to provide a tool for assessing resilience in organizations. Two essential components of organizational resilience are planning and adaptive capacity, according to Lee et al. (2013). Planned resilience refers to the use of pre-existing planning capabilities such as business continuity and risk management initiatives (Faulkner and Vikulov, 2001). Adaptive resilience refers to an individual, organization, or community's capacity to react and adjust in the face of crises or calamities. (Kendra and Wachtendorf, 2001). The pillars of sustainability model by the United Nations Environment Programme (UNEP) was used to assess sustainability which is composed of four pillars namely the economic, sociocultural, environmental, and transversal. As Boracay Island is located in the Philippines, it

was essential to adopt the Sustainability model tailored to the specific needs and context of the region, as per the adaptations introduced by the APEC.

Scope and Limitations of the Study

The study was designed to analyze the resiliency and sustainability of the DOT-accredited tourism enterprises in Boracay Island based on the responses of the 400 respondents consisting of managers, owners, and employees. A survey using a researcher-made questionnaire was conducted from October 20, 2022, to November 2023 in Boracay Island.

RESEARCH DESIGN AND METHODOLOGY

The study made use of the descriptive-correlational study to analyze the resiliency and sustainability of the tourism enterprises in Boracay Island, Malay, Aklan, Philippines in 2022-2023 based on the responses of 400 respondents consisting of owners, presidents, managers, chairpersons, and employees of DOT accredited establishments in Boracay Island. Cluster sampling method using subsectors and random sampling were used in this study. A list of establishments per sector was prepared and served as the sampling frame, then a table of random numbers was generated and identified among the listed establishments as the chosen representative of the sector, and the process was done for each industry sector. Out of 400 respondents, a large percentage (43.50 percent) belong to the top management, followed by 39 percent to the lower management, and a low percentage (17.50 percent) to the middle management. Mean, standard deviation, frequency, and percentage were utilized as descriptive statistics. Pearson's correlations were used to determine the significant relationships between the enterprise profile and the extent of sustainability, as well as between the extent of resiliency and the extent of sustainability of tourism enterprises, with a significance level set at 5%.

RESULTS AND DISCUSSION

Profile and Status of Tourism Enterprises

Table 1 outlines the enterprise profile, revealing that 34% are engaged in tourist transport service, 28.25% in accommodation, and the remainder in various sectors such as adventure and sports services, spas, wellness centers, shops, convention organizing, restaurants, and travel services. A large proportion (40.50%) are cooperatives, with corporations and partnerships constituting 21% respectively, and sole proprietorships at 15.50%. Regarding operational tenure, 53.25% have been in operation for 2 to 5 years, followed by 21.75% for 6 to 10 years, and smaller proportions for shorter or longer periods.

Before the pandemic, 94.75% of enterprises operated at full capacity, while 3% were temporarily closed, and 1.75% operated at 50% capacity with a skeletal workforce, and 0.50% with limited capacity. During the pandemic, 35% operated at 50% capacity with a skeletal workforce, 26.75% were temporarily closed, and 2.25% were fully operational. Currently, almost all enterprises are fully operational, with only 1.75% operating at 50% capacity with a skeletal workforce.

Table 1: Profile and Status of Tourism Enterprise

	f	*%*
Classification of Tourism Enterprise		
Accommodation establishments	113	28
Adventure and sports services	81	20
Shops and department stores	10	3
Spas and wellness centers	52	13
Tourist transport services	132	34

Convention organizers, restaurants, and travel and tour services	10	3
	400	100
Form of Ownership		
Cooperative	162	41
Corporation	91	23
Partnership	85	21
Sole Proprietorship	62	16
	400	100
Number of Years in Operation		
20 years and above	27	7
11 to 20 years	31	8
6 to 10 years	87	22
2 to 5 years	213	53
Less than 2 years	42	11
	400	100
Number of Employees		
More than 200 employees	64	16
100 to 199 employees	62	16
10 to 99 employees	184	46
Less than 10 employees	90	23
	400	100
Operational Capacity before the pandemic (2019)		
Fully operational	379	95
50% operational capacity with 50% skeletal workforce	7	2
Operational with limited capacity	2	1
Temporarily closed	12	3
	400	100
Operational Capacity during the pandemic (2020- 2022)		
Fully operational	9	2
50% operational capacity with 50% skeletal workforce	144	36
Operational with limited capacity	140	35
Temporarily closed	107	27
	400	100
Current Operational Capacity Current status (2023)		
Fully operational	393	98.20
50% operational capacity with 50% skeletal workforce	7	1.75
	400	100.00

Organizational Resiliency of the Tourism Enterprises

Table 2 presents the organizational resilience of the tourism enterprises. In planned resilience, over half (61.0 %) exhibit average levels, while more than a third (38.5%) demonstrate high levels, with a minimal portion (0.5%) showing low planned resilience. In adaptive resilience, the majority (56.8%) rank average, less than half (42.0%) are deemed high, and only a small fraction (1.3%) fall into the low category.

Planned resilience, with a mean score of 2.64 and a standard deviation of 0.461, and adaptive resilience, with a mean score of 2.63 with a standard deviation of 0.512 both register as average. Overall organizational resilience reflects this trend, with a mean of 2.65 and a standard deviation of 0.49.

Among planned resilience statements, the highest mean score (2.7140) pertains to the development of appropriate responses to emergencies (Statement 5), while the lowest mean scores (2.5837 and 2.5867) relate to risk and contingency planning (Statement 1) and behavioral readiness (Statement 2) respectively.

In adaptive resilience, engagement and involvement of staff (Statement 17) garnered the highest mean score (2.6680), whereas maintaining sufficient funds during the Covid-19 pandemic (Statement 8) scored the lowest (2.5400).

The findings underscore the importance of building adaptive capacities within tourism enterprises to effectively navigate changes and shocks. Resilience is seen as synonymous with transformation, involving anticipatory pre-action and the creation of a new, open-ended order (Lew et al., 2016).

Table 2: Organizational Resiliency of the Tourism Enterprises (N=400)

Organizational Resilience	f	%
A. Planned		
High	154	39
Average	244	61
Low	2	1
Total	400	100
Mean	2.64	Average
SD	0.46	Low
B. Adaptive		
High	168	42
Average	227	57
Low	5	1
Total	400	100
Mean	2.63	Average
SD	0.51	Low
Overall		
High	170	43
Average	228	57
Low	2	1

Total	400	100
Mean	2.64	Average
SD	0.44	Low

Legend: 0-1.66 Low; 1.67-3.33 Average; 3.34-5.0 High

Extent of Sustainability of the Tourism Enterprises

Table 3 displays the sustainability levels of tourism enterprises across four pillars. In the Economic pillar, half (50.2%) are rated high, with nearly as many (48.3%) falling into the average category and a minimal portion (1.3%) rated low. Similarly, in the Socio-cultural pillar, over half (50.7%) are high, with 48.3% being average and only 1.0% rated low. For the Environmental pillar, over half (59.8%) rank average, with over a third (39.5%) rated high and a minimal portion (0.8%) rated low. In the Transversal Pillar, more than half (54.8%) are average, less than half (44.0%) are high, and only 1.3% are low.

In the Economic Pillar, prioritizing the quality of tourist visits (Statement 19) holds the highest weight, while maintaining steady revenue for employees (Statement 9) holds the lowest weight. In the Socio-Cultural Pillar, community support for the tourism sector (Statement 2) receives the highest weight, while soliciting suggestions and complaints from residents (Statement 10) holds the lowest weight. In the Environmental Pillar, efforts to protect water quality (Statement 4) carry the highest weight, while engagement in reducing energy consumption (Statement 1) holds the lowest weight.

In the Transversal Pillar, compliance with safety and security standards (Statement 7) is weighted highest, while the existence of integrated public transport services (Statement 11) is weighted lowest. Overall, the sustainability assessment reveals predominantly high and average ratings across all pillars, with minimal instances of low sustainability. This aligns with the principle of achieving balance across economic, socio-cultural, environmental, and transversal dimensions for sustainable development, as emphasized by UNEP (2020) and APEC (2013).

Sustainable tourism should ensure economic viability, equitable socio-economic benefits, preservation of cultural authenticity, environmental conservation, and safety standards to foster long-term sustainability.

Table 3: Sustainability of the Tourism Industry Enterprises (N=400)

Sustainable Tourism	*f*	*%*
A. Economic		
High	201	50
Average	194	48
Low	5	1
Total	400	100
Mean	2.49	Average
SD	0.52	Low
B. Socio-Cultural		
High	203	51
Average	193	48
Low	4	1
Total	400	100

Mean	2.50	Average
SD	0.52	Low
C. Environmental		
High	158	40
Average	239	60
Low	3	1
Total	400	100
Mean	2.39	Average
SD	0.50	Low
D. Transversal		
High	176	44
Average	219	55
Low	5	1
Total	400	100
Mean	2.43	Average
SD	0.52	Low
E. Overall		
High	212	53
Average	184	46
Low	4	1
Total	400	100
Mean	2.68	Average
SD	0.43	Low

Legend: 0-1.66 Low; 1.67-3.33 Average; 3.34-5.0 High

Relationship between the Profile of Tourism Enterprises and Overall Extent of Sustainability

Table 4.1 depicts the relationship between the profile of tourism enterprises and overall sustainability. Findings indicate that all profile variables - enterprise classification, form of ownership, years in operation, number of employees, status of operation before and during the pandemic - exhibit weak positive correlations with overall sustainability (r<=.30, df = 398).

However, only the number of employees (200 or more) significantly correlates positively with sustainability, leading to the rejection of the null hypothesis, which suggests no significant relationship between the number of employees and overall sustainability. Conversely, the remaining profile variables are statistically insignificant to overall sustainability, thus accepting the null hypothesis due to insufficient evidence to the contrary.

This underscores the significant role of large enterprises with 200 or more employees in enhancing overall sustainability. Studies by Burnard and Bhamra (2011), Dahles and Susilowati (2013, 2015), Harrison (2008), Ingirige et al. (2008), Jiang et al. (2019), Sobaih (2018), and Zhao (2009) support this view, highlighting the resilience of large enterprises with robust human resource practices, substantial financial resources, and comprehensive strategic planning compared to their smaller counterparts.

As per the Philippine Statistics Authority's (PSA) classification, micro-enterprises in the country are defined as those with less than ten (10) employees, small enterprises as those with between ten and ninety-nine (10-99) employees, medium enterprises as those with between one hundred and ninety-nine (100-199) employees, and large enterprises as those with two hundred (200 or more) employees (DTI, 2019). Small enterprises have been particularly vulnerable during the pandemic, facing challenges in adapting without external support (Bartik et al., 2020). Bartik et al. (2020) noted mass layoffs and closures among small enterprises in the first quarter of 2020 due to the COVID-19 pandemic. Additionally, employees in regions heavily reliant on tourism, characterized by simplified economic structures and limited capacity to transition to telework, encounter heightened financial difficulties (OECD, 2020).

Table 4.1: Relationship between the Profile of Tourism Enterprise and the Extent of Sustainability (N=400)

Relationship between the Profile of Tourism Enterprises and the Extent of Sustainability (N=400)

Variables N=400	Enterprises' Sustainability		
	Pearson's r[a]	*df*	*p-value*
Enterprise Classification (Travel & Tours and Convention)	0.120	398	0.016
Form of Ownership	0.049	398	0.327
Years in operation	0.041	398	0.419
Number of employees (200 or more)	0.152	398	0.002*
Status of Operation before pandemic	0.040	398	0.429
Status of operation during pandemic	0.027	398	0.596

*Significant at 5% level of significance; 2-tailed test

Legend: 0- No correlation; ±>=.1-.30 Weak positive or negative correlation; ±>=.31-.5 Moderate positive or negative correlation; ±>=.51 Strong positive or negative correlation (Lane, D., 2021)
https://onlinestatbook.com/2/describing_bivariate_data/pearson.html

Relationship between the Profile of Tourism Enterprises and the extent of their Economic Sustainability

Table 4.2 displays the results of the relationship between the profile of tourism enterprises and the extent of their economic sustainability. The status of operation during the pandemic was found to be statistically positively related to the extent of economic sustainability with a p-value <0.05. However, the remaining variables were not statistically significant.

Therefore, only the null hypothesis regarding the status of operation during the pandemic and its relationship with economic sustainability is rejected, while hypotheses concerning other variables are retained due to insufficient evidence to reject them. The findings underscore the severe impact of the pandemic on tourism business operations, leading to constraints such as temporary closures, mass unemployment, and dynamic government restrictions (Gossling, 2021). Business activity in the sector witnessed a significant downturn during the pandemic, affecting nearly all jobs and leaving a considerable number of workers unemployed for extended periods (ILO, 2020b). In the Asia-Pacific region alone, the COVID-19 crisis affected approximately 15.3 million tourism sector jobs across 14 countries, either through reduced hours, extended leave with partial wages, or job loss (WTTC, 2020).

Employees faced heightened financial challenges, particularly in regions heavily reliant on tourism, with simplified economic structures and limited capacity for remote work (OECD, 2020). This aligns with Burgos Jr.'s report (2020) highlighting the need for assistance among businesses in Boracay, especially small establishments and their workers. Many availed themselves of government programs such as the Department of Labor and Employment's COVID-19 Adjustment Measures Program (CAMP), yet some workers remained unsupported due to fund limitations.

Table 4.2: Relationship between the Profile of Tourism Enterprises and Extent of their Sustainability in terms of Economic Indicator (N=400)

Profile Variables	Extent of Economic Sustainability		
	Pearson's r	df	p-value
Enterprise Classification	.002	398	.975
Form of Ownership	.081	398	.107
Years in operation	.042	398	.399
Number of employees	.101	398	.043
Status of Operation before pandemic	.023	398	.653
Status of operation during pandemic	.004	398	.004*

*Significant at 5% level

Legend: 0- No correlation; $\pm>=.1-.30$ Weak positive or negative correlation; $\pm>=.31-.5$ Moderate positive or negative correlation; $\pm>=.51$ Strong positive or negative correlation (Lane, D., 2021) https://onlinestatbook.com/2/describing_bivariate_data/pearson.html

Relationship between the Profile of Tourism Enterprises and the extent of their Socio-Cultural Sustainability

Table 4.3 presents the relationship between tourism enterprises' profile and their socio-cultural sustainability. Only the number of employees was found to be statistically positively correlated with socio-cultural sustainability, with a p-value <0.05. However, the remaining variables were not statistically significant. Therefore, only the null hypothesis regarding the number of employees and its relationship with socio-cultural sustainability is rejected, while hypotheses concerning other variables are retained due to insufficient evidence to reject them. The findings emphasize the significant impact of workforce size on socio-cultural sustainability in island destinations. Larger enterprises, with more employees, tend to contribute more positively to the local community. This aligns with Neto's principle (2003) that socio-cultural sustainability and empowerment involve shaping one's lived reality, emphasizing the importance of considering culture in tourism for sustainability. Maintaining harmonious relationships with all parties involved is necessary to create a healthy socio-cultural environment. This includes politely engaging with local populations and interacting authentically with guests (Venturini, 2020). The study supports Calanog, Reyes, and Eugenio (2011) and the Tourism Guidebook for Local Government Units (2017) in promoting culturally appropriate tourism aligned with the Philippine Agenda 2021, respecting indigenous knowledge systems and honoring local customs to achieve sustainable tourism.

Table 4.3: Relationship between the Profile of Tourism Enterprises and the extent of their Sustainability in terms of Socio-Cultural Indicator (N=400)

Profile Variables	Extent of Socio-Cultural Sustainability		
	Pearson's r	df	p-value
Enterprise Classification	.136	398	.006
Form of Ownership	.037	398	.455
Years in operation	.068	398	.172
Number of employees	.153	398	.002*
Status of Operation before pandemic	.033	398	.512
Status of operation during the pandemic	.039	398	.440

*Significant at 5% level of significance; 2-tailed test

Legend: 0- No correlation; ±>=.1-.30 Weak positive or negative correlation; ±>=.31-.5 Moderate positive or negative correlation; ±>=.51 Strong positive or negative correlation (Lane, D., 2021) https://onlinestatbook.com/2/describing_bivariate_data/pearson.html

Relationship between the Profile of Tourism Enterprises and the Extent of their Environmental Sustainability

Table 4.4 shows the results of the relationship between the profile of tourism enterprises and the extent of their environmental sustainability. Results show that enterprise classification and number of employees were found to be statistically positively related to the extent of environmental sustainability with a p-value <0.05. The rest of the variables were found to be not statistically significant. Therefore, only the null hypothesis which states that the enterprise classification is not statistically related to the extent of environmental sustainability is rejected. The same is true with a number of employees, however, regarding the hypotheses on the other variables, they are rejected as there is not enough evidence to reject these hypotheses.

The enterprise classification and number of employees can influence its ability to adopt innovative and environmentally friendly technologies. Larger enterprises may have the financial resources and workforce needed to invest in sustainable infrastructure, energy-efficient technologies, and waste reduction measures, contributing to improved environmental sustainability.

The findings support the research of Nasalipour (2019), which found that long-term sustainability and tourism development are expected to be able to satisfy the needs of host communities as well as present and prospective tourists. Mohd et al. (2022) provide more support for the idea that in order to make a substantial contribution to long-term destination management, there needs to be a greater focus placed on the creation of sustainable livelihoods, community engagement, and environmental awareness.

Table 4.4: Relationship between the Profile of Tourism Enterprises and the Extent of their Sustainability in terms of Environmental Indicator (N=400)

Profile Variables	Extent of Environmental Sustainability		
	Pearson's r	df	p-value
Enterprise Classification	.154	398	.002*
Form of Ownership	.045	398	.374
Years in operation	.070	398	.162
Number of employees	.147	398	.003*
Status of Operation before pandemic	.076	398	.129
Status of operation during pandemic	.056	398	.267

*Significant at 5% level of significance; 2-tailed test

Legend: 0- No correlation; ±>=.1-.30 Weak positive or negative correlation; ±>=.31-.5 Moderate positive or negative correlation; ±>=.51 Strong positive or negative correlation (Lane, D., 2021) https://onlinestatbook.com/2/describing_bivariate_data/pearson.html

Relationship between the Profile of Tourism enterprises and the Extent of their Transversal Sustainability

Table 4.5 shows the results of the relationship between the profile of tourism enterprises and the extent of their transversal sustainability. The enterprise classification and number of employees were found to be statistically weakly related to the extent of transversal sustainability with a p-value of <0.05. All of the variables were found to be not statistically significant. Therefore, only null hypothesis which states that the enterprises classification is not statistically related to the extent of economic sustainability is accepted.

Therefore, the entire tourism community, including politicians, businesses, travelers, other tourism stakeholders, and the development community at large must collaborate to promote responsible and sustainable tourism globally in order to maximize the good effects of tourism and minimize any possible risks. To promote sustainable tourist development, governments must create strong and functional policy frameworks. The private sector needs to incorporate improved actions into fundamental business models to show that it is fully committed to sustainability. To fulfill tourism's potential as a catalyst for sustainable development and to meet the Sustainable Development Goals (SDGs), the international community should also take a more positive and comprehensive approach to supporting tourism (UNWTO & UNDP, 2017).

Table 4.5: Relationship between the Profile of Tourism Enterprises and Extent of their Sustainability in terms of Transversal Indicator (N=400)

Profile Variables	Extent of Transversal Sustainability		
	Pearson's r	df	p-value
Enterprise Classification	.123	398	.014*
Form of Ownership	.077	398	.124
Years in operation	.044	398	.378
Number of employees	.116	398	.020*
Status of Operation before pandemic	.003	398	.955
Status of operation during pandemic	.000	398	.994

*Significant at 5% level of significance; 2-tailed test

Legend: 0- No correlation; ±>=.1-.30 Weak positive or negative correlation; ±>=.31-.5 Moderate positive or negative correlation; ±>=.51 Strong positive or negative correlation (Lane, D., 2021) https://onlinestatbook.com/2/describing_bivariate_data/pearson.html

Relationship between Tourism Enterprise Extent of Resiliency and Sustainability.

Table 5 shows the correlation between tourism enterprise resiliency and sustainability. Results revealed that both planned and adaptive resiliency and the overall resiliency are strong positive correlates of economic, social, environmental, and transversal sustainability (r>=.51, p-value <0.05). Therefore, the null hypothesis which states that there is no significant relationship between resiliency and sustainability is rejected. That means the ability of tourism enterprises to control keystone vulnerabilities, and adapt to changing situations in a complex, dynamic, and linked environment is significantly related to their ability to address the demands of tourists, the industry, the environment, and host communities while fully accounting for its present and future economic, social, and environmental implications.

This finding is consistent with the study of Anderies et al. (2013), which shows that resilience thinking is a complementary development that recognizes the synergies each provides to the effort of social-ecological resilience rather than a replacement for sustainability. When it comes to communities, sustainability is about preserving and restoring certain features of the community, whereas resilience is about adjusting to changes and even transforming them. Additionally, to balance deliberate conservation with sensible development a sustainable tourism approach should be accompanied by a tourist resilience approach (Cheer & Lew, 2017).

Table 5: Relationship between Tourism Enterprise Extent of Resiliency and Sustainability.

Sustainability	Planned Resilience			Adaptive Resilience			Overall Resilience		
	R	df	p-value	R	df	p-value	r	Df	p-value
Economic	0.517	398	0.000*	0.593	398	0.000*	0.611	398	0.000*

Socio-Cultural	0.627	398	0.000*	0.607	398	0.000*	0.676	398	0.000*
Environmental	0.528	398	0.000*	0.637	398	0.000*	0.642	398	0.000*
Transversal	0.563	398	0.000*	0.617	398	0.000*	0.648	398	0.000*
Overall Sustainability	0.661	398	0.000*	0.726	398	0.000*	0.762	398	0.000*

*Significant at 5% level of significance; 2-tailed test

Legend: 0- No correlation; ±>=.1-.30 Weak positive or negative correlation; ±>=.31-.5 Moderate positive or negative correlation; ±>=.51 Strong positive or negative correlation (Lane, D., 2021) https://onlinestatbook.com/2/describing_bivariate_data/pearson.html

CONCLUSION

The tourism enterprises in Boracay Island are characterized by a high percentage of employees in tourist transport services, mostly cooperatives, operating for 2 to 5 years, with 10 to 99 employees (small enterprises). They were fully operational before the pandemic and operated at 50% capacity with a 50% skeletal workforce during the pandemic.

Organizational resilience in in Boracay's tourism enterprises shows an average level in both planned and adaptive capacities. Key factors influencing resilience include preparedness for emergencies and staff engagement. However, there are opportunities for improvement in terms of financial preparedness and behavioral readiness.

Overall sustainability in Boracay's tourism sector is high, with economic and socio- cultural pillars rated high, environmental pillar average, and transversal pillar average. Priorities include enhancing the quality of tourist visits, strengthening community support, and protecting water quality.

RECOMMENDATIONS

Encourage tourism enterprises to develop comprehensive resilience strategies encompassing planned and adaptive measures to effectively respond to crises.

Foster collaboration among enterprises, industry associations, and local communities to share best practices and resources, enhancing industry resilience.

Promote sustainable tourism practices across economic, socio-cultural, and environmental aspects through training programs and incentives.

Provide targeted support to smaller tourism enterprises to enhance their resilience and sustainability efforts.

Encourage enterprises to stay responsive to changing consumer preferences and market demands by diversifying services and leveraging technology.

These recommendations aim to strengthen the resilience and sustainability of tourism enterprises in Boracay Island, fostering long-term viability and positive socio-economic impacts.

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REFERENCES

1. Aburumman, A. A. (2020). COVID-19 impact and survival strategy in business tourism market: The example of the UAE MICE industry. Humanities and Social Sciences Communications, 7(1), 141. https://doi.org/10.1057/s41599-020-00630-8
2. Anderies, J., Folke, C., Walker, B., & Ostrom, E. (2013). Aligning key concepts for global change policy. Robustness, resilience, and sustainability. Ecology and Society, 18 (2).
3. APEC (2013). Sustainable Development of Tourism Destinations. Asia Pacific Economic Cooperation
4. Bartik, A., Bertrand, M., Cullen, Z., Glaeser, E., Luca, M., & Stanton, C. (2020). How Are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey (No. w26989). National Bureau of Economic Research, 1–35.
5. Burgos Jr., N. P. (2020, May 19). Boracay sinks in pandemic. Inquirer.net. https://newsinfo.inquirer.net/1276273/boracay-sinks-in-pandemic
6. Burnard, K., Bhamra, R. (2011). Organizational resilience: Development of a conceptual framework for organizational responses. Int. J. Prod. Res. 49 (18), 5581–5599.
7. Calanog, L. A., Reyes, D. P. T., & Eugenio, V. F. (2012). Making ecotourism work. A manual on establishing Community-based Ecotourism Enterprise (CBEE) in the Philippines. Makati City: Philippines Office, Japan International Agency.
8. Cheer, J., & Lew, A. (2017). Understanding tourism resilience: Adapting to social, political, and economic change. In Understanding Tourism Resilience (pp.1-14).
9. Curtale, R., Batista E Silva, F., Proietti, P., & Barranco, R. (2023). Impact of COVID-19 on tourism demand in European regions—An analysis of the factors affecting loss in number of guest nights. Annals of Tourism Research Empirical Insights, 4(2), 100112. https://doi.org/10.1016/j.annale.2023.100112
10. Dahles, H., & Susilowati, P. (2013). Entrepreneurship in the informal sector: The case of the Pedicab Drivers of Yogyakarta, Indonesia. Journal of Small Business & Entrepreneurship, 26(3), 241–259.
11. Dahles, H., & Susilowati, T. (2015). Business resilience in times of growth and crisis.
12. Annals of Tourism Research, 51(1), 34–50. Department of Trade and Industry (2019). Defining (MSME's). Retrieved from https://dtiwebfiles.s3-ap-southeast amazonaws. com/elibrary/growng+ a+ Business? MSME+ Statistics/2018/2018+Philippin e+MSME+Statistics+in+Brief.pdf
13. Faulkner, B., Vikulov, S. (2001). Katherine, washed out one day, back on track the next: a post-mortem of a tourism disaster. Tour. Manage. 22 (4), 331–344
14. Gössling, S., Scott, D., & Hall, C. M. (2021). Pandemics, tourism and global change: A rapid assessment of COVID-19. Journal of Sustainable Tourism, 29(1), 1–20.
15. Harrison, 2008. Pro-poor tourism: a critique. Third World Quarterly, 29 (5), 851-868.
16. Hynes, W., Lees, M. & Mueller, J-M. (2020). Systemic Thinking for Policy Making: The Potential of Systems Analysis for Addressing Global Policy Challenges in the 21st Century. 10.1787/879c4f7a-en
17. ILO. (2020, April 24). COVID-19 and employment in the tourism sector: Impact and response in Asia and the Pacific. International Labour Organization.
18. Ingirige, M., Jones, K., & Proverbs, D. (2008). Investigating SME Resilience and Their Adaptive Capacities to Extreme Weather Events: A Literature Review and Synthesis.
19. Jiang, Y., Ritchie, B., & Verreynne, M. (2019). Building tourism organizational resilience to crises and disasters: A dynamic capabilities view. International Journal of Tourism Research, 21(6), 882–900. http://usir.salford.ac.uk/id/eprint/18262/1/SMEs.pdf
20. Kendra, James M., and Tricia Wachtendorf. 2003. Elements of Resilience after the World Trade Center Disaster: Reconstituting New York City's Emergency Operations Center. Disaster 27: 7-53.
21. Lee, A. V., Vargo, J., & Seville, E. (2013). Developing a Tool to Measure and Compare Organizations' Resilience. Natural Hazards Review, 14(1), 29–41. https://doi.org/10.1061/(ASCE)NH.1527-6996. 0000075
22. Lew, A.A., Ng, P.T., Ni, C. (Nickel), Wu, T. (Emily). (2016). Community sustainability and resilience: similarities, differences and indicators. Tour. Geographies. 18 :18–27. https://doi.org/ 10.10.1080/ 14616688.2015.1122664 Malay Tourism Crisis Management Plan. (2020.) Malay Tourism Office. (2020)
23. McMannus, S., Seville, E., Vargo, J., & Brunsdon, D. (2008). A facilitated process for improving

organizational resilience. Natural Hazards Review, 9(2), 81-90.

24. Mohd Rasdi, A. L., Mat Som, A. P., Azinuddin, M., Muhamad Nasir, M. N., & Abd Hadi Khan, N. F. (2022). local community perspective on responsible tourism and destination sustainability. planning malaysia, 20. https://doi.org/10.21837/pm.v20i22.1143

25. Nadalipour, Z., Imani Khoshkhoo, M. H., & Eftekhari, A. R. (2019). An integrated model of destination sustainable competitiveness. Competitiveness Review, 29(4), 314–335. https://doi.org/10.1108/CR-12-2017-0086

26. Neto F. (2003). A new approach to sustainable tourism development: Moving beyond environmental protection. Natural Resources Forum 27(3): 212–222.

27. OECD. (2020). OECD Tourism Trends and Policies 2020. https://doi.org/10.1787/6b47b985-en

28. Philippine Statistics Authority. (2020a). Share of tourism to GDP is 12.7 percent in 2019.
Retrieved November 18, 2020, from https://psa.gov.ph/ tourism/satellite- accounts/id/162606

29. Sobaih, A. (2018). Human resource management in hospitality firms in Egypt: Does size matter? Tourism and Hospitality Research, 18(1), 38–48.

30. Supardi, S. & Syamsul, H. (2020). New Perspective on the Resilience of SMEs Proactive, Adaptive, Reactive from Business Turbulence: A Systematic Review. Journal of Xi'an University of Architecture and technology, Volume XII, 4068-4076.

31. Tourism Guidebook for Local Government Units (2017). Revised Edition by DOT, DILG, DENR & DAP.

32. UNEP (2020). UNEP environmental, social, and sustainability framework/UNEP – UN Environment Programme.

33. Venturini, B. (2020, November 27). Sustainability in Tourism: The Socio-Cultural Lens, Hospitality Insights.

34. World Tourism Organization (UNWTO) & United Nations Development Programme (UNDP). (2017). Tourism and the Sustainable Development Goals – Journey to 2020. World Tourism Organization (UNWTO).

35. World Tourism Organization (UNWTO) (2021, January 28). 2020: Worst year in tourism history with 1 billion fewer international arrivals.

36. WTTC (World Travel and Tourism Council). (1998). Agenda 21 for the travel and tourism industry—towards environmentally sustainable development. London.

37. Yap, T. (2020, March 11). 40-percent slump in Boracay tourist arrivals recorded due to COVID-19 scare. Manila Bulletin. https://mb.com.ph/2020/03/11/40-percent-slump-in- boracay-tourist-arrivals-recorded-due-to-covid-19-scare

38. Zhao, W. (2009). The nature and roles of small tourism businesses in poverty alleviation: Evidence from Guangxi, China. Asia Pacific Journal of Tourism Research, 14(2), 169–182.