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HOTEL RESILIENCE AND SUSTAINABLE TOURISM DEVELOPMENT: A COVARIANCE-BASED SEM MODERATION ANALYSIS OF ECONOMIC CAPITAL IN NUSA DUA, BALI

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ABSTRACT

This study seeks to examine the impact of social capital, human capital, physical capital, and economic capital on hotel resilience and its consequences for sustainable tourist development. The research additionally investigates the moderating influence of economic capital on the relationship between hotel resilience and sustainable tourist development. A quantitative methodology employing covariance-based structural equation modeling (CB-SEM) was utilized for hotels in the Nusa Dua region overseen by the Indonesia Tourism Development Corporation (ITDC). The results show that social capital, human capital, physical capital, and economic capital have positive and significant effects on hotel resilience and sustainable tourism development. Among these variables, economic capital has the strongest influence. Hotel resilience also positively and significantly affects sustainable tourism development. In addition, economic capital strengthens the relationship between hotel resilience and sustainable tourism development. The findings indicate that hotels' ability to adapt, maintain operations, and recover from crises is influenced by the integrated management of multiple forms of capital. This study contributes to the hospitality literature by proposing a multi-capital approach to explain the relationship between hotel resilience and sustainable tourism development.

KEYWORDS: CB-SEM, Moderating, Social Capital, Human Capital, Physical Capital, Economic Capital, Hotel Resilience, Sustanaible Tourism Development.

1. INTRODUCTION

The COVID-19 epidemic has precipitated substantial alterations in the tourist sector, notably in travelers' preferences, as they increasingly favor local attractions due to safety and security apprehensions. Tourism is a vital sector for the economy and well-being (Wilson et al., 2021). However, the pandemic has caused a drastic decline in this industry, including in Bali and the Nusa Dua area, which is one of Indonesia's main destinations (UNWTO, 2020). The pandemic's effects are manifest in the reduction of tourist arrivals, the shutdown of hotels and restaurants, and the heightened risk of unemployment in the tourism and hospitality industries (Gössling et al., 2020).

The revitalization of the tourism sector relies not solely on governmental policy assistance but also on an organization's intrinsic ability to react to and adjust to crises (Assaf & Scuderi, 2020; Lai & Wong, 2020). The concept of hotel resilience is relevant here, since it refers to a hotel's ability to continue operations, adjust, and recover from disturbances or crises. Hotel resilience is also pertinent for the economic, social, and environmental sustainability of tourism destinations (Ntounis et al., 2022; Sheller, 2020).

This study utilizes a multi-capital framework that includes social, human, physical, and economic capital to elucidate the evolution of hotel resilience. This approach is considered relevant because organizational resilience is influenced by various forms of capital possessed before and during a crisis (Mayunga, 2009). Furthermore, sustainable tourism development is not only determined by economic growth or the number of tourists but also by a destination's capacity to maintain social stability, environmental quality, and business sustainability (OECD).

The Nusa Dua area, managed by the Indonesia Tourism Development Corporation (ITDC), was selected as the research location because it is a premier destination with a sustainable management concept and serves as a hub for international MICE activities. However, studies on the relationship between multi-capital, hotel resilience, and sustainable tourism development in the hotel sector remain relatively limited. The aim of this study is to analyze the effect of social capital, human capital, physical capital, and economic capital on sustainable tourism development through hotel resilience with economic capital as a moderating variable.

The confirmatory character of the created model, the participation of latent variables, and the simultaneous testing of direct, indirect, and moderating interactions make it suitable to use a covariance-based structural equation modeling (CB-SEM) technique in this work (J. F. Hair et al., 2017). The implementation of this strategy is projected to provide a theoretical and practical contribution to increase the resilience of hotels and lead to sustainable tourism growth in the Nusa Dua area.

2. LITERATURE REVIEW

2.1. The Relationship Between Social Capital And Hotel Resilience

Hotels must be resilient to survive and recover from disasters. Available resources can help hotels survive and may become a determining factor in a hotel's sustainability. Hotels can address challenges through the use of social capital, facilities, and access. Network development, collaboration, and trust contribute to the formation of social capital, as previous studies indicate. A social capital approach, encompassing bonding, bridging, and linking dimensions, has demonstrated its ability to enhance hotel resilience both internally and externally.

Social interaction as capital represents a reconceptualization of social functions that emphasizes changes in economic, political, environmental, and institutional dimensions resulting from patterns of social interaction within society. One recognized advantage of the capital approach is its ability to reduce the complexity of sustainable development by measuring determinants of well-being in economic terms.

2.2. The Relationship Between Human Capital And Hotel Resilience

The resilience of hotels is crucial for long-term survival, especially for hotels and tourism destinations overall. It is characterized as an organization's capability to recuperate from stressful, unforeseen, and adverse circumstances, along with its ability to prepare for and adaptively respond to disruptive events.

In the hotel sector, the hotel service settings require human capital for enhancing organizational resilience. Employee training and development, good communication and cooperation, and strong leadership and innovation are important components that improve a hotel's resilience in facing shocks and challenges.

The health and education systems are the main bases of human capital in tourist development, directly linked to overall well-being. Human Capital Development (HCD) is an important policy for

stimulating growth and optimal utilization of economic resources since the development of human capital contributes to sustainable development and economic progress.

2.3. The Relationship Between Physical Capital And Hotel Resilience

Organizational capital is the resource that is available now and in the future. The organizational capital paradigm stresses the significance of equal distribution and management of the available resources or physical capital in an organization. This idea is highly associated with organizational planning. This paradigm emphasizes the organization's ability to adjust to crises and disasters. The idea of organizational resilience manifests its survival in the context of disruptive events and transformations. Previous studies have shown a positive link between physical capital and resilience.

Physical capital is important for sustainable tourism growth. Physical capital (strong physical buildings, reliable infrastructure, and enough hotel facilities and supplies) is one of the components that enable the resilience and sustainable development of tourism. Local infrastructure such as road networks and utilities is also important in providing tourists with a secure and enjoyable experience while also guaranteeing the sustainability of the local ecosystem. If we have sound physical capital along with conservation of the environment and optimal use of resources, sustainable tourism may be developed. The availability and resilience of physical capital not only create a safe environment for tourists but also contribute to the local economic growth and long-term benefits for the local community, making them significant aspects in sustainable tourism development.

2.4. The Relationship Between Economic Capital And Hotel Resilience and Sustainable Tourism Development

Businesses must consider their current organizational capital, such as economic capital (N. A. Brown et al., 2017). Hotels need to have a diverse customer base and the flexibility to build stronger economic capital. This implies that in the absence of revenue from guests or tourists, hotels may consider alternative funding sources and explore other markets, such as the accommodation sector. According to (D. J. Brown, 2010; N. A. Brown et al., 2017), hotel owners' concern for revenue continuity even under adverse conditions indicates that employees are also valuable assets to the hotel. Furthermore, diverse revenue streams can help businesses navigate market changes (N. A. Brown et al., 2017).

Economic capital represents the ability to secure the means of livelihood, enhance a country's resilience by mitigating the impact of disasters, and accelerate the recovery process (Mayunga, 2009). In the tourism sector, capital methodologies are interconnected and interdependent. Despite its longstanding existence, the application of capital methodologies is still infrequent within the tourism sector. Strengthening resilience to disasters and the COVID-19 pandemic can be accomplished by developing capital resources. The analysis results demonstrate that economic capital exerts a favorable and considerable influence on the advancement of sustainable tourism.

2.5. The Relationship Between Hotel Resilience and Sustainable Tourism Development

Sustainable development is one of the main frameworks of community and social development that emphasizes a long-term perspective of resource use. Sustainable development in tourism communities is normally described by the so-called "triple- bottom-line" idea, which tries to balance the social, economic, and environmental benefits. Tourism is seen mostly as an economic activity, but it needs to take into account environmental and cultural sustainability. Sustainable development is also an important way for building community resilience, as communities with sustainable development policies are more resilient to change and crises.

3. METHODOLOGY

This research design utilizes an explanatory strategy, with data collecting executed in a singular phase (one-time study) or cross-sectionally. An explanatory study strives to elucidate causal linkages between variables by hypothesis testing or seeks to furnish suitable assessments to derive causal conclusions (cause and effect) between variables, thus facilitating the selection of different courses of action. The population in this study is the hotel employees in Nusa Dua, Bali, while the sample is 193 respondents. The respondents in this study consisted of hotel employees working at hotels located in the Nusa Dua tourism area, which is managed by the Indonesia Tourism Development Corporation (ITDC). Respondents were selected because they are directly involved in hotel operations and have a sufficient understanding of hotel resilience and sustainable tourism practices. Simple random sampling was used to provide equal opportunity for

all hotel employees to participate in the study and to minimize selection bias. A sample size of 193 respondents was considered adequate for covariance-based structural equation modeling (CB-SEM) analysis. The probability sampling method used is simple random sampling. Simple random sampling is the process of randomly selecting a sample from the population without consideration to its stratification and giving every member of the population an equal opportunity of being selected. The analysis of this work was done using CB-SEM.

The variables of this study are divided into two groups: external latent variables and endogenous latent variables. Exogenous variables are variables that can influence endogenous variables or cause changes. On the other hand, external variables affect endogenous variables. The exogenous latent variables consist of social capital (X1), human capital (X2), and physical capital (X3). The moderating variable is economic capital (Z). The intervening latent variable is hotel resilience (Y1). The endogenous variable is sustainable tourism development (Y2).

Structural Equation Modeling (SEM) is a multivariate analytical technique to study the simultaneous linear relationship between observable variables (indicators) and unobservable variables (latent variables). Latent variables are unobservable constructs that can be modeled or operationalized by one or more indicators (J. Hair et al., 2010).

Structural Equation Modeling (SEM) is a statistical analytic method that (i) simultaneously estimates a set of interrelated dependent equations to produce a structural model and (ii) represents latent variables by indicator variables, producing a measurement model (Raykov & Marcoulides, 2012). The construction of SEM model entails the creation of models with theoretical rationale and the empirical validation of the model using SEM analysis (Mulaik, 2009).

Data analysis was done using Covariance-Based Structural Equation Modeling (CB-SEM) with the aid of AMOS software. The analytical phases were performed systematically, namely the development of a theoretical model, construction of a path diagram, transformation of the model into structural equations, selection of input matrices, model estimation, assessment of the measurement model, evaluation of the structural model, and moderation testing.

The initial step is the development of a theory model. The concept is founded on ideas of capital, organizational resilience, and sustainable tourist growth. This paradigm connects social capital, human capital, physical capital, and economic capital to hotel resilience and sustainable tourism development. Recent studies show that resilience and networks are important in increasing the sustainability and competitiveness of hotels (Rienda et al., 2024).

The subsequent phase entails the creation of a path diagram. The theoretical model is illustrated as a path diagram. This diagram depicts the directional relationships among exogenous variables, endogenous variables, and moderating variables. Subsequently, the path diagram is converted into measurement model and structural equation model equations.

The third stage is the selection of input matrices and model estimation. This study uses the covariance matrix as the primary input. The covariance matrix is used because CB-SEM focuses on reproducing the covariance matrix between empirical data and the theoretical model. The estimation technique used is Maximum Likelihood Estimation (MLE). This technique is commonly used in CB-SEM when the data meet the assumption of multivariate normality.

3.1. Data Normality Test

A normality test was performed to verify that the data satisfied the assumptions necessary for Maximum Likelihood Estimation. The test is performed by examining the critical ratio (C.R.) value in the assessment of normality. The data is considered to meet the normality assumption if the C.R. value falls within the range of -2.58 to 2.58. If the data does not meet the assumption of multivariate normality, the researcher may consider using the bootstrap procedure to obtain more stable estimates.

3.2. Construct Validity and Reliability Tests

Validity assessment was performed by Confirmatory Factor Analysis (CFA). CFA was used to ensure that each indicator accurately measures the specified latent construct. An indicator is considered valid if it has a standardized factor loading greater than 0.50. A higher loading value indicates that the indicator more strongly represents its latent variable.

Construct reliability was evaluated by Construct Reliability (CR) and Average Variance Extracted (AVE). A construct is deemed credible if the CR value exceeds 0.70. The construct's convergent validity is considered strong if the AVE is more than 0.50. Discriminant validity can be assessed by comparing the square root of the Average Variance Extracted (AVE) with the interconstruct correlation. Discriminant validity is demonstrated when the square root of the Average Variance Extracted (AVE)

surpasses the correlation of the constructs.

3.3. Model Goodness-Of-Fit Test

The goodness of fit evaluates the alignment between the theoretical model and the actual data. A model is considered acceptable if it meets certain model fit indices and cutoff values. The indices used in this study include (calculated Chi-square < table Chi-square value), (probability ≥ 0.05), (RMSEA ≤ 0.08), (GFI, AGFI, TLI, and CFI ≥ 0.90), and (CMIN/DF ≤ 2.00) (J. Hair et al., 2010).

Should the model fail to satisfy the goodness-of-fit criteria, the researcher may assess the model on theoretical foundations, standardized residuals, and modification indices. Model modifications may only be made if they have strong theoretical justification. Modifications should not be made solely to improve the model's fit statistics.

3.4. Hypothesis Testing and Model Interpretation

After completing the steps and ensuring that the criteria for the SEM-AMOS analysis are met, the next step is to test the hypotheses. The direct and indirect effects are analyzed to do the hypothesis testing. The p-value obtained from the regression weight computations is used for hypothesis testing. If the p-value is less than the significance level of 5% (< 0.05), then we can conclude that the independent variable has a significant and direct effect on the dependent variable. But if the p-value is greater than 0.05, then the variable has no significant effect (J. F. Hair et al., 2017).

Structural Equation Modeling (SEM) only takes into account direct or indirect connections. A method has been developed that allows for the moderation of the relationship between an independent and a dependent variable by additional latent variables. The impact of a latent variable that modifies the relationship between an independent latent variable and a dependent latent variable is termed moderating Structural Equation Modeling (MSEM). The Ping method is a technique used to assess the moderating impact in complex SEM. A general structural equation model can be expressed in the subsequent matrix equation.

$$\eta = \alpha + \gamma_{11}\xi_1 + \gamma_{12}\xi_{21} + \omega_{12}\xi_1\xi_2 + \zeta \quad (1)$$

Where η represents the endogenous latent variable, α the coefficient of the endogenous latent variable, γ signifies the coefficient of the exogenous latent variable, ξ is the exogenous latent variable, and ζ indicates the model error.

The research framework is delineated as follows:

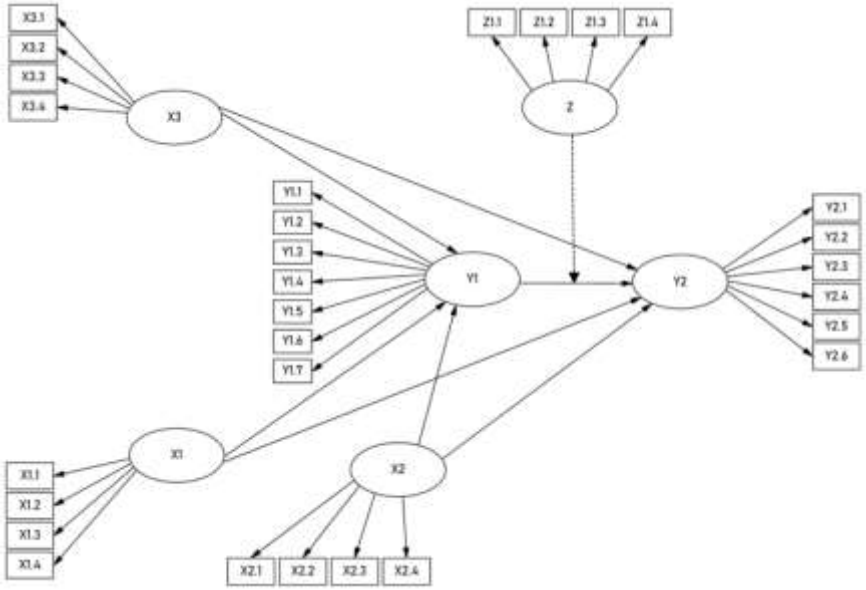

Figure 1: Conceptual Framework Of Economic Capital As A Moderator Of The Relationship Between Hotel Resilience And Sustainable Tourism Development.

4. RESULTS AND DISCUSSION

4.1. Respondent Characteristics

The respondents in this study consisted of hotel employees working in the Nusa Dua tourism area. Respondents were selected from various managerial positions within the hotel industry to ensure adequate representation of organizational perspectives regarding hotel resilience and sustainable tourism development. The demographic characteristics of the respondents, including job position, gender, age, educational background, and

work experience, are presented in Table 1.

Table 1: Respondent Characteristics.

Characte-ristics	Category	Frequency	Percentage (%)
Job Position	Supervisor	92	47.7
	Manager	59	30.6
	General Manager	42	21.8
Gender	Male	131	67.9
	Female	62	32.1
Age	20-25 years	11	5.7
	26-30 years	21	10.9
	31-40 years	92	47.7
	> *40* years	69	35.8
Education	High School	37	19.2
	Diploma	43	22.3
	Bachelor	103	53.4
	Postgraduate	10	5.2
Work Experience	< 3 years	89	46.1
	3-7 years	87	45.1
	> 7 years	17	8.8

Table 1 shows that the majority of respondents held supervisory positions (47.7%), followed by managers (30.6%) and general managers (21.8%). In terms of gender, male respondents dominated the sample (67.9%). Most respondents were between 31 and 40 years old (47.7%) and held a bachelor's degree (53.4%). Additionally, the majority of respondents had less than three years of work experience (46.1%), followed by those with three to seven years of experience (45.1%). These findings indicate that respondents possess sufficient professional experience and organizational understanding regarding hotel resilience and sustainable tourism development.

4.2. Measurement Model

This study assessed the measurement model via tests of convergent validity, discriminant validity, and construct reliability utilizing confirmatory factor analysis (CFA) in the AMOS software. Validity assessments were performed to confirm that the indicators accurately represented the latent construct, while reliability was evaluated using composite reliability with a threshold of ≥ 0.70.

The test results showed that all latent variables met the validity and reliability criteria. The Economic Capital (Z) variable had indicator loadings ranging from 0.819 to 0.869, with a Composite Reliability (CR) value of 0.906 and a root AVE of 0.841. The Social Capital variable (X1) has loadings of 0.808–0.921, a CR value of 0.912, and a root AVE of 0.850. The Human Capital variable (X2) shows loadings of 0.789–0.860, a CR value of 0.901, and a root AVE of 0.834. The Physical Capital variable (X3) has loadings of 0.741–0.880 with a CR value of 0.895 and a root AVE of 0.825. Meanwhile, the Sustainable Tourism Development variable (Y2) has indicator loadings of 0.836–0.889, a CR value of 0.946, and a root AVE of 0.863.

Overall, all indicators have loading values above 0.50, a Composite Reliability value exceeding 0.70, and AVE square root values that meet the criteria for discriminant validity. Thus, the measurement model is deemed valid and reliable for use in subsequent structural analyses.

4.3. Structural Model

Subsequent to performing validity and reliability assessments, the following phase involves evaluating the assumptions in Structural Equation Modeling (SEM), which encompass multivariate normality, singularity, multicollinearity, and outliers.

The normality assessment was performed utilizing skewness, kurtosis, and Critical Ratio (CR) values. The data is deemed regularly distributed if the CR value lies between −1.96 and 1.96. The test findings indicated a multivariate CR value of 2.229, signifying that the data satisfies the assumption of multivariate normalcy.

The singularity test was performed using the determinant of the sample covariance matrix. The results showed a determinant value of 0.008, and so there is no problem of singularity in the data. Additionally, the multicollinearity was evaluated using the correlations among the exogenous latent variables. The p-values of the associations of the exogenous variables X1 with X2 (0.211), X2 with X3 (0.198), and X1 with X3 (0.299) are all greater than $\alpha = 0.05$. The results show that the model has no multicollinearity problem.

Mahalanobis distance was used for outlier testing. An observation was considered to be an outlier if the

Mahalanobis distance value was larger than the chi-square value or p1 < 0.001. The results of the test showed that there was just one outlier. Thus, the study data were typically within the permissible ranges and suitable for further investigation.

The test findings showed that all latent variables were valid and reliable and matched the SEM assumptions; therefore, the research could continue to structural equation modeling and testing of the relationships among variables.

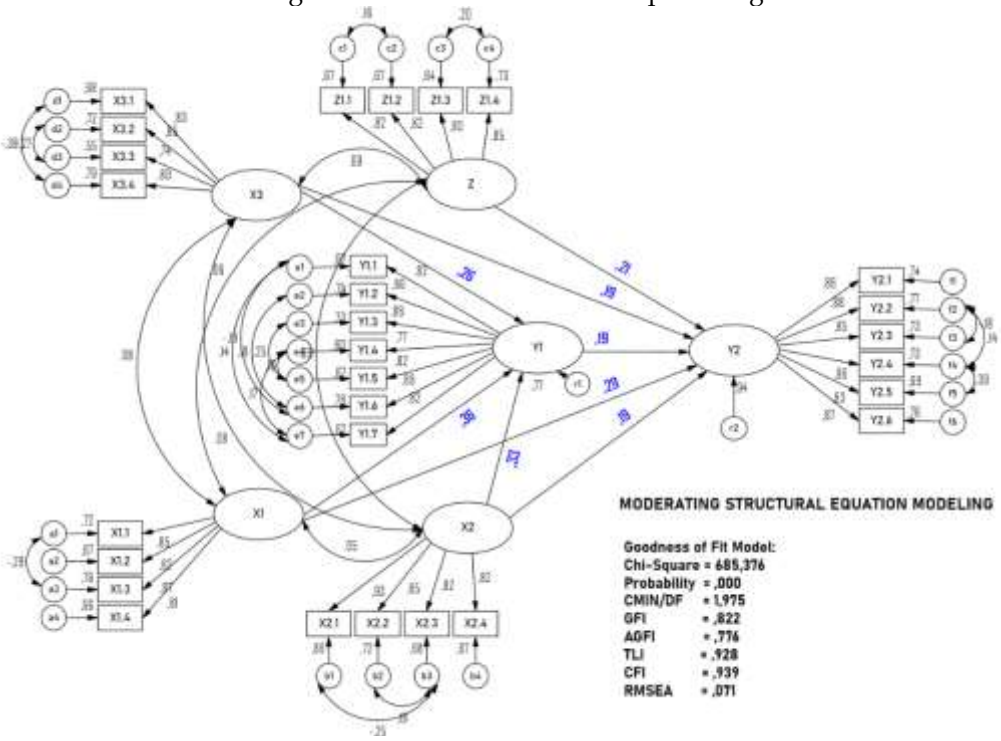

Figure 2: Structural Model Of Hotel Resilience And Sustainable Tourism Development (Stage 1).

The comprehensive outcomes of the model evaluation utilizing the AMOS software are presented in the subsequent table:

Table 2: Goodness-of-Fit Results for the Structural Model (Stage 1).

Goodness of Fit (GoF)	Cut-Off Value	Calculation Results	Description
Chi – Square	Expected to be small	685.376	χ^2 with df = 347 Is 222.076 Not Good
Significance Probability	≥ 0.05	0.000	Not Good
RMSEA	≤ 0.08	0.071	Good
GFI	≥ 0.90	0.822	Fairly Good
AGFI	≥ 0.90	0.776	Fairly Good
CMIN/DF	≤ 2.00	1.975	Good
TLI	≥ 0.90	0.928	Good
CFI	≥ 0.90	0.939	Good

The test results for the path coefficients depicted in Figure 2 are provided in the subsequent table:

Table 3: Path Coefficient Results of the Structural Model (Stage 1).

Variable	Coefficient	Critical Region (C.R)	p-value	Description
Social capital (X1) → Hotel Resilience (Y1)	0.411	4.183	0.000	Significant
Human capital (X2) → Hotel Resilience (Y1)	0.224	2.168	0.030	Significant
Physical capital (X3) → Hotel Resilience (Y1)	0.301	3.041	0.002	Significant
Social capital (X1) → Sustainable tourism development (Y2)	0.183	2.641	0.008	Significant
Human capital (X2) → Sustainable tourism development (Y2)	0.194	2.761	0.006	Significant

Physical capital (X3) → Sustainable tourism development (Y2)	0.228	3.341	0.000	Significant
Economic capital (Z) → Sustainable tourism development (Y2)	0.283	4.045	0.000	Significant
Hotel Resilience (Y1) → Sustainable tourism development (Y2)	0.182	2.577	0.010	Significant

Table 3 indicates that Economic Capital (Z) exerts a positive and statistically significant influence on Sustainable Tourism Development (Y2), evidenced by a path coefficient of 0.283, a critical ratio (C.R.) of 4.945, and a p-value of 0.000 (< 0.05). The results suggest that an augmentation of Economic Capital can improve Sustainable Tourism Development. This finding aligns with (Mayunga, 2009), who states that Economic Capital represents an organization's ability to maintain business continuity, absorb the impact of crises, and accelerate the recovery process. Consequently, Economic Capital is posited to function as a moderating variable that amplifies the impact of Hotel Resilience on Sustainable Tourism Development, facilitating progression to the subsequent modeling phase.

The outcomes of the structural model estimations for tourism support are illustrated in the subsequent figure:

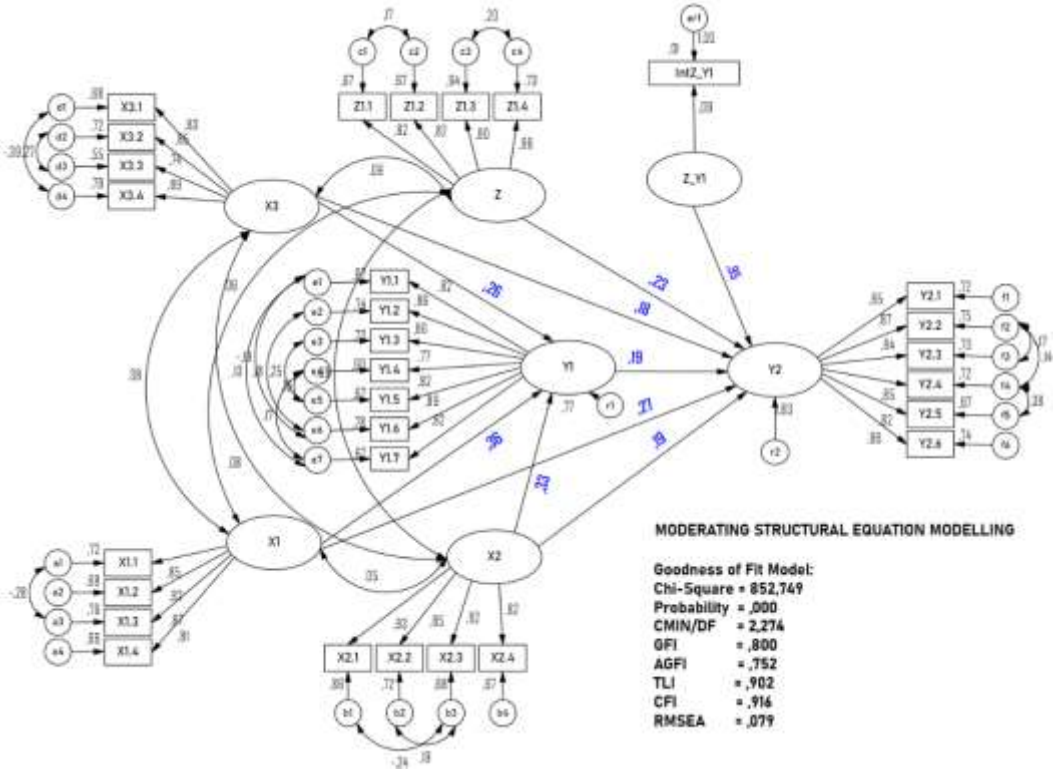

Figure 3: Moderating Structural Model With Economic Capital (Stage 2).

The complete results of the model testing using the AMOS program can be seen in the following table:

Table 4: Goodness-Of-Fit Results for the Moderating Structural Model (Stage 2).

Criteria	Cut-Off Value	Calculation Results	Description
Chi – Square	Expected to be small	852.749	$\chi^2_{(375,0.05)}$ =1052.90 Not Good
Significance Probability	≥ 0.05	0.000	Not Good
RMSEA	≤ 0.08	0.079	Good
GFI	≥ 0.90	0.800	Fairly Good
AGFI	≥ 0.90	0.752	Fairly Good
CMIN/DF	≤ 2.00	2.274	Fairly Good
TLI	≥ 0.90	0.902	Good
CFI	≥ 0.90	0.916	Good

Each path coefficient can be interpreted according to the relevant model. The path coefficients represent the hypotheses of this investigation, which can be articulated in the subsequent structural equation:

Y1 = 0,364 X1 + 0,326 X2 + 0,260 X3

Y2 = 0,271 X1 + 0,189 X2 + 0,184 X3 + 0,229 Z + 0,951 Z_Y1

Where,

X1 : Social capital
X2 : Human Capital
X3 : Physical Capital
Z : Economic Capital
Y1 : Hotel resilience
Y2 : Sustainable tourism development
Z_Y1 : Interaction between economic capital and hotel resilience

The test results for the path coefficients depicted in Figure 3 and the preceding equation are elaborated in the subsequent table:

Table 5: Path Coefficient Results of the Moderating Structural Model (Stage 2).

Variable	Coefficient	Critical Region (C.R)	p-value	Description
Social Capital (X1) → Hotel resilience (Y1)	0.364	4.171	0.000	Significant
Human Capital (X2) → Hotel resilience (Y1)	0.326	3.903	0.000	Significant
Physical Capital (X3) → Hotel resilience (Y1)	0.260	2.899	0.004	Significant
Social Capital (X1) → Sustainable tourism development (Y2)	0.271	3.980	0.000	Significant
Human Capital (X2) → Sustainable tourism development (Y2)	0.189	2.850	0.004	Significant
Physical Capital (X3) → Sustainable tourism development (Y2)	0.184	2.680	0.007	Significant
Economic Capital (Z1) → Sustainable tourism development (Y2)	0.229	3.305	0.000	Significant
Hotel resilience (Y1) → Sustainable tourism development (Y2)	0.189	2.676	0.007	Significant
Economic Capital (Z1)* Hotel resilience (Y1) → Sustainable tourism development (Y2)	0.951	2.849	0.004	Significant

Table 5 The elucidation of each path coefficient is as follows:

Social Capital (X1) exerts a positive and significant influence on Hotel Resilience (Y1), evidenced by a coefficient of 0.364, a C.R. value of 4.171, and a p-value of 0.000. The findings suggest that networks, trust, and collaboration among stakeholders are essential for enhancing a hotel's resilience and recovery from crises. These findings align with the assertions of Pongtanalert & Assarut (2022) and Gu et al. (2023), who underscore the significance of stakeholder connections in fostering hotel resilience.

Human Capital (X2) exerts a positive and significant influence on Hotel Resilience (Y1), evidenced by a coefficient of 0.326, a C.R. value of 3.903, and a p-value of 0.000. This signifies that employees' competence, innovation, and adaptability are crucial elements in bolstering hotel resilience. These results corroborate the studies conducted by Ervina et al. (2022) and Ngoc Su et al. (2021).

Physical Capital (X3) exerts a positive and substantial influence on Hotel Resilience (Y1), evidenced by a coefficient of 0.260 and a p-value of 0.004. The hotel's amenities, technological resources, and infrastructure enhance its operational efficiency and adaptability in times of crisis. These findings align with those documented by Gu et al. (2023) and El-Said et al. (2023).

Additionally, Social Capital (β = 0.271), Human Capital (β = 0.189), Physical Capital (β = 0.184), and Economic Capital (β = 0.229) exert a positive and significant influence on Sustainable Tourism Development (Y2). These findings demonstrate that sustainable tourism development is contingent upon the robustness of social networks, the caliber of human resources, the preparedness of infrastructure, and the economic capacity of hotels.

Hotel Resilience (Y1) exerts a positive and significant influence on Sustainable Tourism Development (Y2), evidenced by a coefficient of 0.189 and a p-value of 0.007. This suggests that hotels that can adapt, continue operations, and recover from crises significantly enhance the sustainability of tourism destinations.

The interaction between Economic Capital and Hotel Resilience positively and significantly influences Sustainable Tourism Development, evidenced by a coefficient of 0.951 and a p-value of 0.004. The findings demonstrate that Economic Capital enhances the impact of Hotel Resilience on sustainable tourism growth, especially by facilitating investment, innovation, and operational stability in hotels.

This finding is particularly relevant in the context

of post-pandemic tourism recovery policies. Hotels with stronger economic capital are more capable of maintaining operational continuity, investing in service innovation, adopting digital technologies, and implementing sustainable tourism practices during periods of crisis and recovery. In tourism destinations such as Nusa Dua, Bali, economic capital enables hotels to adapt more effectively to changing tourist preferences and market uncertainties following the COVID-19 pandemic. Therefore, strengthening economic capital through financial support, investment incentives, and sustainable tourism recovery programs is essential to enhance hotel resilience and support long-term sustainable tourism development.

Based on a comparison of direct effects, Social Capital has the greatest impact on hotel resilience compared to Human Capital and Physical Capital. This finding indicates that social networks, trust, cooperation, and relationships with stakeholders are dominant factors in strengthening hotel resilience. Nonetheless, Human Capital and Physical Capital remain essential in facilitating a hotel's capacity to adjust and sustain operations during a crisis.

Theoretically, the results of this study support a multi-capital approach to building hotel resilience. The resilience of a hotel is contingent upon both its physical infrastructure and the caliber of its human resources, as well as the robustness of its social connections. These findings align with those of Ervina et al. (2022) and Ntounis et al. (2022), who assert that resilience in the tourism industry encompasses the ability to withstand, recover from, and adapt to disruptions.

The findings of this study are consistent with previous resilience studies in the hospitality and tourism sector. Prior studies by N. A. Brown et al. (2017), Gu et al. (2023), and Ntounis et al. (2022) also reported that organizational resilience in the hotel industry is strongly influenced by the availability of strategic resources, adaptive capacity, and stakeholder collaboration. Similar to previous studies, the present study confirms that social networks, human resource capabilities, infrastructure readiness, and financial capacity are important determinants of hotel resilience and sustainable tourism development. However, this study extends previous research by integrating multiple forms of capital within a single CB-SEM framework and examining the moderating role of economic capital in strengthening the relationship between hotel resilience and sustainable tourism development.

Practically, hotel management needs to prioritize strengthening Social Capital through collaboration with local communities, the government, tourism associations, customers, and business partners. Additionally, Human Capital development can be achieved through training, competency enhancement, and adaptive leadership, while Physical Capital needs to be strengthened through facility modernization, service digitization, and improvements to supporting infrastructure.

The research findings demonstrate that Economic Capital, Social Capital, Human Capital, Physical Capital, and Hotel Resilience are essential aspects in promoting Sustainable Tourism Development. Economic Capital plays the most dominant role because it not only directly influences Hotel Resilience and Sustainable Tourism Development but also strengthens the relationship between the two. Thus, sustainable tourism development must be managed through an integrated multi-capital approach so that hotels can weather crises, maintain business sustainability, and support long-term tourism destination development.

5. CONCLUSION

The study's results utilizing the CBSEM technique demonstrate that Economic Capital, Social Capital, Human Capital, Physical Capital, and Sustainable Tourism Development satisfy the criteria for convergent validity, construct dependability, and discriminant validity. The results demonstrate that all employed indicators effectively and reliably measure their latent variables. The Sustainable Tourism Development model is a well-fitting model. The dominant factors influencing Sustainable Tourism Development, in order, are Social Capital, Economic Capital, Physical Capital, and Human Capital.

Social capital, human capital, physical capital, and economic capital exert a positive and significant influence on hotel resilience. Enhancing social capital, human capital, physical capital, and economic capital can bolster a hotel’s resilience against fluctuations, pressures, and obstacles within the tourism sector.

Moreover, these four criteria were identified as having a positive and significant influence on sustainable tourism development. This suggests that the quality of social interactions, human resource capabilities, availability of physical facilities, and economic power of hotel sector stakeholders significantly impact sustainable tourism development.

The research findings reveal that hotel resilience positively and significantly influences sustainable

tourism development. Thus, the higher a hotel's level of resilience, the greater its contribution to sustainable tourism. Resilient hotels are able to adapt, maintain performance, and support sustainable tourism practices.

Furthermore, Economic Capital was found to strengthen the influence of Hotel Resilience on Sustainable Tourism Development. This finding indicates that economic capital plays a crucial role as a reinforcing factor. When hotels have strong economic support, their resilience becomes more effective in driving sustainable tourism development.

This study affirms that bolstering social capital, human capital, physical capital, and economic capital are essential measures for improving hotel resilience and fostering sustainable tourism development. Among the variables tested, economic capital had the greatest impact; therefore, economic aspects should be a primary focus in hotel management and sustainable tourism development.

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