Hotel Marketing Performance and Tourism Dynamics in Indonesia, Malaysia and Thailand

BAMBANG SUPRIADI
Doctoral Program in Economics,
University of Merdeka Malang,
Jl. Terusan Raya Dieng 62-64, Malang 65144,
INDONESIA

Abstract: - This study employs the Bayesian VAR (BVAR) method, using annual data from the World Tourism Organization (UNWTO) spanning from 1995 to 2022. Its objective is to analyze the relationship between hotel marketing performance, the number of hotel guests, tourist arrivals, and tourism expenditure in Indonesia, Malaysia, and Thailand. The study's findings reveal that while travel spending is the variable most affected by other factors, hotel marketing performance significantly influences variations and impulsive reactions from other variables. Internal factors positively impact hotel marketing performance, whereas external factors have a negative effect from the previous quarter. This suggests that other factors do not significantly affect changes in hotel marketing performance. Furthermore, the hotel's intrinsic value and the preceding period's tourism expenditures positively impact the number of hotel visitors and travel expenditures. In the previous period, both internal and hotel guest values contributed to increased total arrivals, indicating growth in both tourist numbers and hotel guests. Travel expenditure is favorably influenced by its value and other factors from the previous time frame, reflecting increased spending in line with rising visitor demand. Interestingly, variations exist among the three nations regarding hotel marketing effectiveness, hotel guest counts, tourist arrivals, and tourist spending. While Indonesia performs well in hotel marketing, it still experiences the effects of the economic downturn. Malaysia stands out for its stable performance and the highest number of hotel guests. Thailand, despite significant fluctuations in visitor arrivals and spending, leads in certain aspects. Overall, this research has implications for governments, hotel management, travelers, academics, and researchers, advancing tourism marketing theory and practice.

Key-Words: - Hotel Marketing Performance, Bayesian VAR, Indonesia, Malaysia, Thailand, Tourism Dynamics.

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1 Introduction

Tourism plays a crucial role in the economies of several nations, including Indonesia, Malaysia, and Thailand. These three countries boast significant tourism potential, encompassing natural beauty, cultural richness, and diverse culinary experiences. However, to fully harness this potential, an effective and efficient marketing strategy is essential—one that can enhance tourist attraction, visits, and overall expenditure. One key indicator of hotel marketing performance is the number of hotel visitors. This metric reflects the demand for travel accommodations, [1].

The number of hotel visitors can serve as an indicator of travel accommodation demand, [2]. Tourism expenditure can be used as an indicator of visitor satisfaction, loyalty, and tourism contribution, [3], [4].

The tourism industry plays an important role in the economy of the ASEAN region, [5]. Indonesia, Malaysia, and Thailand are three countries in the ASEAN region that have tourism potential, [6]. The three-country collaboration called the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) began in 1993. IMT-GT aims to accelerate economic transformation in underdeveloped provinces. The people of these three countries are expected to benefit from this partnership in terms of prosperity and development, [7].

The development of hotel and tourism marketing performance entails a variety of opportunities and challenges for Indonesia, Malaysia, and Thailand. These factors can be both internal and external, and they include the global economy, political stability, global competitiveness, shifting traveler preferences, technological advancements, and other environmental issues, [8]. While several studies have examined the relationship between tourism spending and visitor arrivals in various countries, no study has specifically compared this relationship in detail between Indonesia, Malaysia, and Thailand, [9]. Therefore, using panel data from these three nations between 1995 and 2022, this study aims to address this gap in the literature.

Most previous research on hotel marketing success in Indonesia, Malaysia, and Thailand has primarily focused on internal hotel characteristics, including pricing, quality, location, and promotions, [10]. However, external variables can also influence the number of hotel visitors, including the social, political, and economic climate of the destination nation, [11]. By incorporating macroeconomic indicators and the happiness index as control variables in the regression model, this study aims to address this methodological gap. The objective of this study is to examine the correlation among tourism spending, hotel guest count, tourist arrival count, and hotel marketing efficacy in Indonesia, Malaysia, and Thailand. Additionally, this research intends to provide advice to relevant stakeholders and contribute to the advancement of tourist marketing theory and practice

2 Literature Review

For many nations, especially those in the ASEAN area, tourism is a significant economic industry. Travel can contribute to expanding the economy, creating jobs, raising incomes, and disseminating culture, [12]. Nevertheless, the tourism industry faces several challenges, including the COVID-19 pandemic, changing customer preferences, international competition, and environmental impacts, [13].

Various metrics, such as tourism spending, hotel visitor count, arrivals, and hotel marketing performance, can be used to assess the success of the tourism industry, [14]. Tourism expenditure refers to the total consumption expenditure made by a visitor, or on behalf of a visitor, for goods and services during their trip and stay at the destination place (country), [15]. Hotel performance can be measured by the total number of guests who use hotel services or in other words the number of people staying at the hotel, [16]. The hotel's performance in acquiring consumers in hotel services shows the hotel's marketing performance, [17], [18].

Tourism expenditure is a measure of the success of the tourism industry in obtaining economic benefits, [19], [20].

The ability of hotels to obtain overnight guests is closely related to the success of the tourism industry in attracting tourists, [21]. Indonesia, Malaysia, and Thailand are three potential countries for developing the tourism industry to encourage economic benefits in the three countries, [22]. Hotel marketing can increase the number of guests, both guests who are new to using hotel services and guests who repeatedly use hotel services, [23], [24]. Occupancy rate is the key to the hotel business, [25]. The hotel's ability to maintain occupancy levels has an impact on the hotel's ability to maintain business continuity, [26]. Indonesia, Malaysia, and Thailand experienced a decline in hotel marketing performance due to the COVID-19 pandemic, [27].

3 Research Methods

The World Tourism Organization (UNWTO), whose data period spans from 1995 to 2022, provided secondary data for this study. The study included several factors, such as tourism spending, hotel guest count, tourist arrival count, and hotel marketing effectiveness. Table 1 displays the variable descriptions.

Table 1. Variable Description

Variable	Description	Unit of Account	Data source
Tourism Expenditures	The amount of money spent by tourists to purchase goods and services related to travel	Million USD	UNWTO
Number of Hotel Guests	The number of people staying at a hotel during a certain period	Million People	UNWTO
Number of Tourist Arrivals	The number of people who come to a country or region for tourist purposes	Million People	UNWTO
Hotel Marketing Performance	A measure that shows how effective a hotel is in attracting and retaining customers is the number of rooms booked	Thousands of rooms	UNWTO

Source: Data Processed by the author

This research focuses on examining the countries of Indonesia, Malaysia, and Thailand. The study employs the Bayesian VAR (BVAR) method, which utilizes a Bayesian approach to estimate a vector autoregression (VAR) model. The VAR model describes the interrelationships among various temporal variables. Unlike the standard VAR model, the BVAR model treats model parameters—the innovation covariance matrix, constant, trend, and AR coefficient—as random variables with prior distributions rather than fixed values.

The BVAR method leverages prior information or theory to update model parameter estimates based on existing data (likelihood). The resulting BVAR model parameter estimations are derived from the posterior distribution, which combines the likelihood and prior distributions. By using the BVAR approach, several issues encountered by regular VAR models, such as overparameterization, model selection, and structural identification, can be addressed.

Typically, the BVAR technique employs the Markov Chain Monte Carlo (MCMC) approach to determine the posterior distribution. One commonly used MCMC method is the Gibbs sampler, which generates random samples from the posterior distribution by iterative sampling from the conditional distribution. The Gibbs sampler is particularly suitable for linear VAR models.

To estimate the BVAR model parameters (ci, aij, i, and Σ), we need to specify the prior distribution and posterior distribution. The prior distribution reflects previous information or theory about the parameters, while the posterior distribution is updated based on existing data. The posterior distribution can be obtained using Bayes' rule, namely:

$$p(theta \mid y) = fracp(y \mid theta)p(theta)p(y)$$

The form of the normal-inverse-Wishart distribution is as follows:

$$p(c, A, Sigma) = p(c \mid A, Sigma)p(A \mid Sigma)p(Sigma)$$

Where:
c is a deterministic constant vector.
A is the autoregression coefficient matrix.
Sigma is the innovation covariance matrix.
p(c|A,Sigma) is a multivariate normal distribution for a constant vector, with mean muc and covariance Sigmac.
p(A|Sigma) is a multivariate normal distribution for the coefficient matrix, with mean muA and covariance SigmaA.
p(Sigma) is the inverse-Wishart distribution for the covariance matrix, with nu degrees of freedom and scale S.
We must compute the likelihood distribution and marginal distribution in order to obtain the posterior distribution. The likelihood distribution can be derived from the assumption that the error or innovation of the BVAR model follows a multivariate normal distribution, namely:

$$e_t simN(0, Sigma)$$

Thus, the likelihood distribution is:

$$p(y \mid c, A, Sigma) = prod_{t=1}^{T} frac1(2pi)^{n/2} \mid Sigma \mid^{1/2} expleft(-frac12(y_t - c - Ay_{t-1})' Sigma^{-1}(y_t - c - Ay_{t-1})right)$$

Where:
yt is a data vector in period t
n is the number of variables in the model
T is the number of observations in the data
′ is the transpose symbol
The marginal distribution can be calculated by integrating the prior and likelihood distributions of the parameters, namely:

$$p(y) = intp(y \mid c, A, Sigma)p(c, A, Sigma)dcdAdSigma$$

However, calculating the marginal distribution analytically is quite challenging. Therefore, to determine the posterior distribution, we rely on numerical methods such as Markov Chain Monte Carlo (MCMC). One commonly used MCMC method is the Gibbs sampler, which generates random samples from the posterior distribution by iterative sampling from the conditional distribution/

4 Results and Discussion

Descriptive statistics are essential for understanding the data. Therefore, we begin by presenting the descriptive statistics, which are displayed in Table 2.

Table 2. Descriptive Statistics

	Hotel Marketing Performa	Hotel Guest	Total Arrivals	Tourism Expenditure
Mean	362308.7	16476.84	14837.15	13234.02
Median	319688.5	12189.00	12164.00	8263.500
Maximum	870783.0	61250.00	39916.00	59810.00
Minimum	76373.00	170.0000	399.0000	78.00000
Std. Dev.	205632.6	14550.54	9886.200	12168.14
Skewness	0.903342	1.303435	0.619863	2.065810
Kurtosis	2.813357	3.288382	2.383086	3.274323
Jarque-Bera	0.54629	0.59494	0.311265	0.6904
Probability	0.08110	0.085000	0.084887	0.085000
Observations	84	84	84	84

Source: Data processed by the author

The statistics for Hotel Marketing Performance are as follows: mean = 362308.7, median = 319688.5, maximum = 870783, minimum = 76373, standard deviation = 205632.6, skewness = 0.903342, and kurtosis = 2.813357. These values indicate that the data exhibit a wide range between the lowest and highest values, with a tendency toward higher-than-average values. Additionally, the data distribution has a right-skewed, elongated tail. Compared to a normal distribution, the data's tails are flatter and lighter. The Jarque-Bera test yields a p-value of 0.07110, which is marginally higher than the significance level of 0.05. Consequently, we cannot reject the null hypothesis that the data follow a normal distribution due to insufficient evidence. However, given the proximity of the p-value to the threshold, further testing or additional information may be necessary to verify the data's normality.

The statistics for Hotel Guest data are as follows: mean = 16476.84, median = 12189, maximum = 61250, minimum = 170, standard deviation = 14550.54, skewness = 1.303435, and kurtosis = 3.288382. This data also exhibits a wide range between the lowest and highest values, with a tendency toward higher-than-average values. Moreover, the distribution is highly variable and strongly left-skewed, with thicker tails compared to a normal distribution. The Jarque-Bera test yields a p-value of 0.085000, which exceeds the significance level of 0.05. Consequently, we cannot reject the null hypothesis that the data are normally distributed. However, similar to Hotel Marketing Performance, caution is warranted due to the proximity of the p-value to the threshold.

For Total Arrivals, we observe a mean of 14837.15, median of 12164, maximum of 39916, minimum of 399, standard deviation of 9886.2, skewness of 0.619863, and kurtosis of 2.383086. Again, the data display a wide range and a tendency toward higher values. The distribution is changeable and left-skewed, with flatter and lighter tails compared to a normal distribution. The Jarque-Bera test yields a p-value of 0.074887, marginally higher than 0.05. While we cannot definitively conclude that the data are normal, further testing or additional data may provide more clarity.

The statistics for tourism expenditure are as follows: the mean is 13234.02, the median is 8263.5, the maximum is 59810, the minimum is 78, the standard deviation is 12168.14, the variance is 2.06581, and the kurtosis is 3.274323. These values indicate a wide range between the lowest and highest data points, with a tendency toward higher-than-average values. Additionally, the data exhibit high variability and a pronounced right-skewed distribution. Compared to a normal distribution, the tails of this data are thicker and sharper. The Jarque-Bera test yields a p-value of 0.075000, which is marginally higher than the significance level of 0.05. Consequently, we cannot reject the null hypothesis that the data follow a normal distribution. However, similar to other variables, the proximity of the p-value to 0.05 suggests that further evidence may be necessary to confidently assert the data's normality. Panel data normality testing employs VAR Residual Normality Tests to assess whether the data conform to normality assumptions. Specifically, these tests examine the normality of residuals from the VAR (Vector Autoregression) model.

Table 3. VAR Residual Normality Tests

Component	Skewness	Chi-sq	df	Prob.
1	1.460809	27.74150	1	0.0800
2	-1.889152	46.39562	1	0.0812
3	1.159272	17.47085	1	0.1251
4	0.121929	0.193266	1	0.6602
Joint		91.80124	4	0.0871

Source: Data processed by the author

The Jarque-Bera test, which assesses skewness and kurtosis of residuals against those expected from a normal distribution, forms the basis of this assessment. The findings of the VAR Residual Normality Tests are presented in Table 3.

Component 1: The Jarque-Bera test yields a p-value of 0.0800, which exceeds 0.05. Consequently, we cannot reject the null hypothesis that the residuals follow a normal distribution. In other words, there is insufficient evidence to conclude that the residuals are anomalous. The positive and significant deviation value indicates left skewness, while the kurtosis value of less than three suggests flatter tails compared to a normal distribution.

Component 2: The Jarque-Bera test produces a p-value of 0.0812, also exceeding 0.05. Similarly, we cannot reject the null hypothesis regarding the residuals' normal distribution. The negative deviation value and kurtosis greater than three indicate right skewness and sharper tails than a normal distribution.

Component 3: The Jarque-Bera test results in a p-value of 0.1251, again exceeding 0.05. As before, we lack evidence to conclude that the residuals deviate from normality. The positive deviation value and kurtosis less than three imply left skewness and flatter tails.

Component 4: The Jarque-Bera test provides a p-value of 0.6602, significantly higher than 0.05. This suggests that we can confidently assert the residuals' normality. The skewness value near zero indicates symmetric residuals, and the kurtosis value near three aligns with a normal distribution.
Joint: The combined Jarque-Bera test yields a p-value of 0.0871, exceeding 0.05. Consequently, we cannot reject the null hypothesis that the residuals are jointly normally distributed. Overall, there is insufficient evidence to consider the residuals abnormal, indicating that the data's normality remains unaffected. We employed VAR Residual Serial Correlation LM Tests (Table 4) to assess autocorrelation.

Table 4. VAR Residual Serial Correlation LM Tests

Lags	LM-Stat	Prob
1	114.2246	0.0811
2	125.9879	0.0912

Source: Data processed by the author

Lag 1: The LM test yields a p-value of 0.0811, which exceeds 0.05. Consequently, we cannot reject the null hypothesis that the residuals lack serial correlation up to order one. In other words, there is insufficient evidence to conclude that the residuals exhibit serial correlation at lag 1.
Lag 2: The LM test's p-value is 0.0912, also exceeding 0.05. Similarly, we cannot reject the null hypothesis regarding the residuals' lack of serial correlation up to order two. In other words, there is insufficient evidence to conclude that the residuals exhibit serial correlation at lag 2. The VAR model residuals do not show any issues with autocorrelation, as indicated by the findings of the VAR Residual Serial Correlation LM Tests. After verifying that the model and data were error-free, we determined the optimal lag using the information presented in Table 5.

Table 5. VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3420.045	NA	1.58e+33	87.79603	87.91689	87.84441
1	-3189.043	432.3880*	6.39e+30*	82.28316*	82.88745*	82.52507*
2	-3174.363	25.97235	6.63e+30	82.31701	83.40472	82.75244

Source: Data processed by the author

A VAR model with lag 0 implies that there are no independent variables influencing the dependent variable; only constants are considered. However, this model exhibits the highest criterion values: 87.79603 for AIC, 87.91689 for SC, 87.84441 for HQ, and 1.58e+33 for FPE. Since there are no previous models for comparison, it lacks an LR value. Unfortunately, this model cannot be used for VAR analysis because it fails to explain the relationship between variables.

On the other hand, a VAR model with lag 1 incorporates one independent variable that influences the dependent variable with a one-period time lag. This model boasts the lowest criterion values: 82.28316 for AIC, 82.88745 for SC, 82.52507 for HQ, and 6.39e+30 for FPE. Additionally, it exhibits the highest LR value (432.3880), signifying significant improvement over the previous model. This lag-1 VAR model is suitable for analysis as it effectively explains the relationship between variables without excessive complexity.

Lastly, a VAR model with lag 2 involves two independent variables influencing the dependent variable with one- and two-period time lags. Although this model has higher criterion values than the previous one (82.31701 for AIC, 83.40472 for SC, 82.75244 for HQ, and 6.63e+30 for FPE), its LR value (25.97235) indicates insignificant improvement. Using this model for VAR analysis is not recommended due to the risk of overfitting—where the model adapts too closely to sample data but performs poorly in predicting out-of-sample data.

For further details, refer to Table 6 displaying the results of our Bayesian VAR Lag 1 calculation.

The Minnesota prior, which is based on the idea that the endogenous variable is solely affected by its own lagged value, is used in this model. Each table cell includes three values: the estimated coefficient, standard deviation, and t-statistic. The estimated coefficient represents the impact of the independent variable on the dependent variable. A smaller standard deviation indicates less variation in the estimated value. Meanwhile, a higher t-statistic suggests stronger statistical significance. Specifically, for the Hotel Marketing Performance variable, the estimated VAR model coefficient value is 0.762597. This means that assuming all other factors remain constant if hotel marketing performance increased by one unit in the preceding period, it will rise by 0.762597 units in the current period. Conversely, a coefficient value of -0.002690 implies that, under the same conditions, hotel guests in the current period would decrease by 0.002690 units if hotel marketing performance rose by one unit in the preceding period. The variables for total arrivals and tourism expenditure follow a similar pattern. The precise coefficient value of 0.762597 is supported by a small standard deviation of 0.04564, indicating minor deviations. However, the predicted coefficient value of -0.002690 has a larger fluctuation due to its standard deviation of 0.00839.

Table 6. Bayesian VAR Estimates

	Hotel Marketing Performa	Hotel Guest	Total Arrivals	Tourism Expenditure
Hotel Marketing Performa(-1)	0.762597	-0.002690	-0.010772	0.005665
	(0.04564)	(0.00839)	(0.00707)	(0.00738)
	[16.7074]	[-0.32065]	[-1.52326]	[0.76757]
Hotel Guest(-1)	0.309801	0.396567	0.229547	0.278106
	(0.42247)	(0.07871)	(0.06597)	(0.06886)
	[0.73331]	[5.03839]	[3.47976]	[4.03861]
Total Arrivals(-1)	-0.264610	0.205642	0.247384	0.090791
	(0.51029)	(0.09454)	(0.08014)	(0.08310)
	[-0.51855]	[2.17516]	[3.08694]	[1.09261]
Tourism Expenditure(-1)	0.774952	0.275215	0.113924	0.300100
	(0.48859)	(0.09055)	(0.07624)	(0.08006)
	[1.58611]	[3.03932]	[1.49421]	[3.74836]
C	25957.79	4022.550	9621.180	-6.226738
	(10882.0)	(2013.84)	(1699.78)	(1771.66)
	[2.38538]	[1.99746]	[5.66026]	[-0.00351]
R-squared	0.966550	0.727968	0.666290	0.734773
Adj. R-squared	0.962672	0.696428	0.627599	0.704022
Sum sq. resids	1.09E+11	4.62E+09	2.59E+09	3.17E+09
S.E. equation	39748.72	8182.647	6130.569	6776.255
F-statistic	249.2213	23.08087	17.22080	23.89436
Mean dependent	376417.9	17164.73	15302.67	13777.88
S.D. dependent	205732.6	14851.26	10046.05	12455.48

Source: Data processed by the author

We can confidently reject the null hypothesis that the estimated coefficient value is zero, as the t-statistic of 16.7074 demonstrates high statistical significance. Conversely, we cannot rule out the null hypothesis for the coefficient value of -0.002690, as its t-statistic of -0.32065 is not statistically significant.

The estimated VAR model coefficient value for the ‘Hotel Guest’ variable indicates the extent of the independent variable’s effect on the dependent variable. For instance, a coefficient value of 0.309801 implies that assuming all other factors remain constant, hotel marketing performance will increase by 0.309801 units if hotel guests grow by one unit in the preceding period. Similarly, a coefficient value of 0.396567 suggests that hotel guests will rise by 0.396567 units if they increase by one unit in the previous period. The same logic applies to the variables for total arrivals and tourism expenditure.

However, the calculated coefficient value of 0.309801 lacks accuracy, as indicated by the wide variability represented by the standard deviation of 0.42247. On the other hand, the estimated coefficient value of 0.396567 has modest variability, with a standard deviation of 0.07871, indicating higher precision. We cannot reject the null hypothesis that the estimated coefficient value is equal to zero for the 0.309801 coefficient, as the t-statistic of 0.73331 does not show statistical significance. In contrast, we can confidently reject the null hypothesis for the 0.396567 coefficient, as its t-statistic of 5.03839 indicates high statistical significance.

Regarding the ‘Total Arrivals’ variable, an estimated coefficient value of -0.264610 suggests that assuming all other factors remain constant, hotel marketing performance in the current period will decrease by 0.264610 units if total arrivals in the prior period increase by one unit. Conversely, a coefficient value of 0.205642 indicates that hotel guests will grow by 0.205642 units if total arrivals increase by one unit in the preceding month. For the ‘Tourism Expenditure’ variable, the same principles apply. The estimated coefficient value of -0.264610 exhibits significant fluctuations, as evidenced by the standard deviation of 0.51029, indicating lower accuracy. However, the coefficient value of 0.205642 has modest variability, with a standard deviation of 0.09454, suggesting high precision. We cannot reject the null hypothesis for the -0.264610 coefficient, as its t-statistic of -0.51855 lacks statistical significance. Conversely, we can reject the null hypothesis for the 0.205642 coefficient, as its t-statistic of 2.17516 demonstrates statistical significance.

The estimated coefficient value for the tourism expenditure variable in the VAR model is 0.774952. This means that assuming all other factors remain constant, hotel marketing performance will increase by 0.774952 units if tourism expenditure grows by one unit in the preceding quarter. Similarly, for hotel guests, the coefficient value of 0.275215 indicates that they will grow by 0.275215 units if tourism expenditure increases by one unit in the preceding month. The Total Arrivals variable follows a similar pattern. The estimated coefficient value of 0.774952 exhibits significant variability, as indicated by the standard deviation of 0.48859, suggesting less precision. Conversely, the calculated coefficient value of 0.275215 has modest variances, with a highly accurate estimate indicated by the standard deviation of 0.09055. We can reject the null hypothesis that the estimated coefficient value is zero for both cases: the t-statistic of 1.58611 confirms statistical significance for 0.774952, and the t-statistic of 3.03932 indicates high statistical significance for 0.275215.

Regarding the VAR model's constant values, the average hotel marketing performance is 25957.79 units when all independent variables are zero. Similarly, the average hotel guest count is 4022,550 units under the same conditions. The estimated constant value of 25957.79 exhibits significant fluctuations, with a standard deviation of 10882.0, suggesting some lack of accuracy. In contrast, the estimated constant value of 4022.550 shows minimal fluctuations, with a standard deviation of 2013.84, indicating high accuracy. We can reject the null hypothesis that the constant value is zero for hotel marketing performance (t-statistic of 2.38538), but we cannot rule out the null hypothesis for hotel guests (t-statistic of -0.00351).

The adjusted R-squared value for the Hotel Marketing Performance variable is 0.966550, while the regular R-squared value is 0.962672. These values indicate that the independent variable accounts for 96.6550% of the variance in hotel marketing performance and 96.2672% of the variation after controlling for other variables and observations. The high R-squared suggests that the model for Hotel Marketing Performance is excellent.

The regular R-squared value is 0.696428. This indicates that the independent variable explains 72.7968% of the variance in hotel guest variation and 79.5428% of the variation after controlling for other factors. The high R-squared suggests a well-fitting model for hotel guests.

The Total Arrivals variable has an R-squared value of 0.666290 and an adjusted R-squared value of 0.627599. This means that the independent variable accounts for 66.6290% of the variance in total arrivals and 62.7599% of the variation after considering other variables and observations. The Total Arrivals model is somewhat solid, as indicated by the modest R-squared.

Similarly, the tourism expenditure variable has an R-squared value of 0.734773 and an adjusted R-squared value of 0.704022. This suggests that the independent variable explains 73.4773% of the variance in tourism expenditure and 70.4022% of the variation after accounting for other factors. The tourism expenditure model has a solid fit. Additionally, Figure 1 shows the Endogenous Graph, illustrating data mobility.

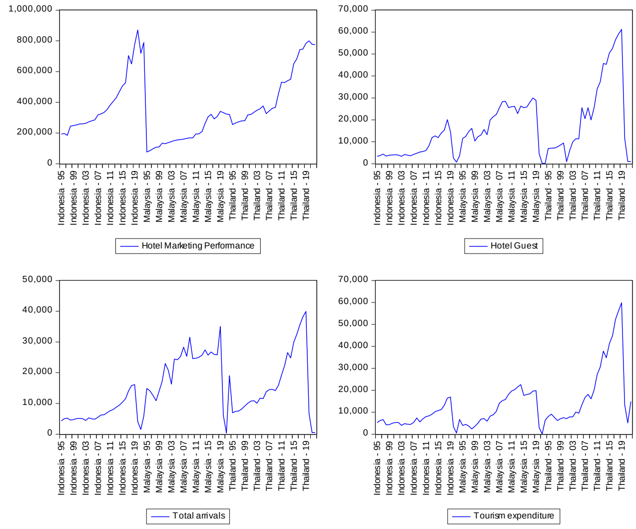

Fig. 1: Endogenous Graph
Source: Data processed by the author

Among the three nations, Indonesia boasts the highest Hotel Marketing Performance score; however, it also experienced a significant decline starting around 2000. The economic crisis that struck Indonesia at the end of 1997 likely contributed to this decline, leading to reduced hotel demand and income. Following the crisis, Indonesia implemented market-appropriate tactics and ideas, ultimately enhancing its marketing performance. Notably, the 1997 economic crisis affected not only Indonesia but also several other Southeast Asian countries, including Malaysia and Thailand.

Malaysia, with the highest Hotel Guest score among the three countries, demonstrates stable fluctuations. Factors such as infrastructural upgrades, government regulations, tourism marketing, and service quality likely contribute to the appeal and comfort of hotel stays in Malaysia. In contrast, Thailand leads in both Total Arrivals and Tourism Expenditure, displaying high variability and an upward trend. Tourist influx to Thailand is influenced by various factors, including seasonality, security, politics, and economic conditions. Generally, as Thailand experiences economic growth and political stability, tourist arrivals increase. The post-2005 rise in Tourism Expenditure can be attributed to increased visitor income, greater spending power, diversified travel options, and elevated standards and costs of travel-related services. To explore the relationships between variables, we present the Impulse Response BVAR in Figure 2.

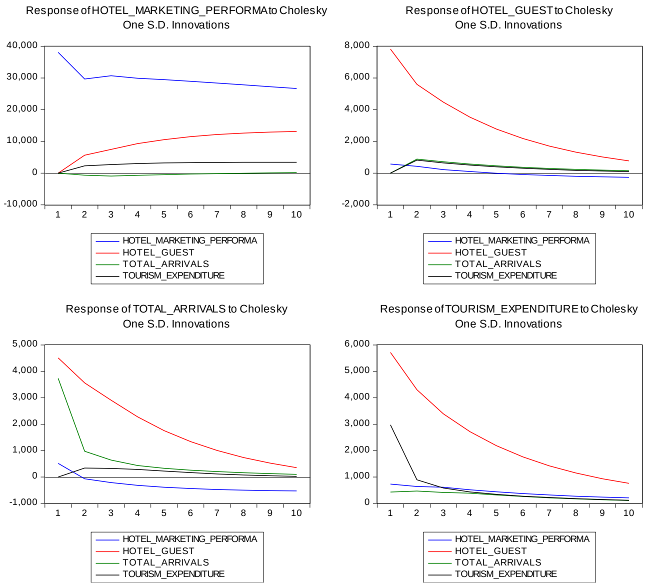

Fig. 2: Impulse Respond BVAR

Source: Data processed by the author

Hotel Marketing Performance increases due to its own positive impulses and is minimally affected by impulses from other variables. Hotel Guest numbers rise with positive impulses in themselves and Tourism Expenditure, showing little sensitivity to other variables. Total Arrivals increase with positive impulses from their own variable and Hotel Guests, while external factors have minimal impact. The results of Variance Decomposition are presented in Figure 3. Hotel Marketing Performance has high variations. Total Tourism Arrivals and Expenditures tend to have less variation, indicating that hotel marketing performance is very dynamic.

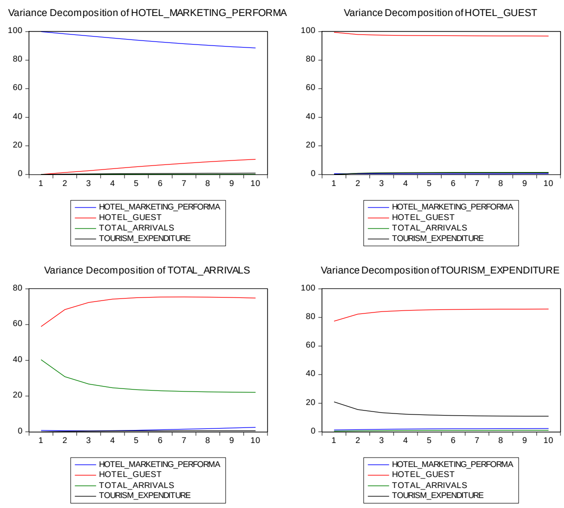

Fig. 3: Variance Decomposition

Source: Data processed by the author

5 Conclusion

Hotel marketing performance in the previous period has an impact on the marketing performance of the hotel itself. This shows that hotel performance is very dynamic and fluctuating. Although travel spending is the variable most influenced by other factors, hotel marketing performance significantly influences the variations and impulsive reactions of other variables. Internal factors have a positive effect on hotel marketing performance, while external factors have a negative effect from the previous quarter. This shows that other factors do not have a significant effect on changes in hotel marketing performance. In addition, the intrinsic value of hotels and tourism expenditure in the previous period has a positive impact on the number of hotel visitors and travel expenditure. In the previous period, the value of internal and hotel guests contributed to an increase in total arrivals, indicating growth in the number of tourists and hotel guests. Travel spending is strongly influenced by its own value and other factors from the previous time period, reflecting increased spending as visitor demand increases. Interestingly, there are variations among the three countries regarding the effectiveness of hotel marketing, number of hotel guests, tourist arrivals, and tourist expenditure. Even though Indonesia has performed well in hotel marketing, it is still experiencing the impact of the economic crisis. Malaysia stands out for its stable performance and highest number of hotel guests. Despite significant fluctuations in visitor arrivals and spending, Thailand leads in certain aspects. Indonesia, Malaysia, and Thailand exhibit distinct patterns in terms of hotel marketing performance, guest numbers, arrivals, and tourist expenditure. Indonesia excels in hotel marketing performance but faces negative economic impacts. Malaysia leads in guest numbers with high stability, while Thailand leads in both tourist arrivals and spending, albeit with greater variability. Hotel marketing performance significantly impacts variance across other variables, while tourist expenditure strongly influences impulse responses.

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the author used Chat GPT 4 in order to improve the readability and language. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

References:

[1] Azam, M., and H. Abdullah. "Dynamic links among tourism, energy consumption, and economic growth: Empirical evidences from top tourist destination countries in Asia." *Journal of Public Affairs*, vol. 22, no. 4, 2022, pp. 1-10, https://doi.org/10.1002/pa.2629.

[2] Duric, Z., and J. Potočnik Topler. "The role of performance and environmental sustainability indicators in hotel competitiveness." *Sustainability*, vol. 13, no. 12, 2021, pp. 1-10, https://doi.org/10.3390/su13126574.

[3] Čaušević, A., N. Drešković, R. Mirić, and A. Banda. "The Effect of Tourist Expenses on Travellers' Satisfaction and Loyalty." African *Journal of Hospitality, Tourism and Leisure*, vol. 9, no. 4, 2020, pp. 582-596, https://doi.org/10.46222/ajhtl.19770720-38.

[4] Senbeto, D. L., and A. H. Hon. "The impacts of social and economic crises on tourist behaviour and expenditure: an evolutionary approach." *Current Issues in Tourism*, vol. 23, no. 6, 2020, pp. 740-755, https://doi.org/10.1080/13683500.2018.1546674.

[5] Peristiwo, H. "Indonesian and Malaysian potential for a halal tourism industry." *African Journal of Hospitality, Tourism and Leisure*, vol. 9, no. 1, 2020, pp. 1-16.

[6] Trupp, A., and C. Dolezal. "Tourism and the sustainable development goals in Southeast Asia." *ASEAS-Austrian Journal of South-East Asian Studies*, vol. 13, no. 1, 2020, pp. 1-16, https://doi.org/10.14764/10.ASEAS-0026.

[7] Susanty, A., Puspitasari, N. B., Jati, S., & Selvina, O. (2022). "Impact of internal and external factors on halal logistics implementation." *Journal of Islamic Marketing*, vol. 13, no. 5, 2022, pp. 1143-1170, https://doi.org/10.1108/JIMA-09-2020-0293.

[8] Mohd Ali, A. J., Zahari, M. S. M., Bashir, M. A. R. A., & Hanafiah, M. H. "A cross-country comparison of Malaysia, Thailand and Indonesia golf tourism experience: a perceptual experience of Malaysian golfers." *International Journal of Sports Marketing and Sponsorship*, vol. 25, no. 1, 2024, pp. 125-141, https://doi.org/10.1108/IJSMS-07-2023-0146.

[9] Aujirapongpan, S., and K. Pattanasing. "Integrated Performance Measurement of Local Hotels in the Context of a Global Tourism Destination: A Case Study of Samui Island, Thailand." *Asian Academy of Management Journal*, vol. 25, no. 1, 2020, pp. 1-10, https://doi.org/10.21315/aamj2020.25.1.1.

[10] Lin, V. S., Qin, Y., Li, G., & Jiang, F. "Multiple effects of "distance" on domestic tourism demand: A comparison before and after the emergence of COVID-19." *Annals of Tourism Research*, vol. 95, no. 1, 2022, pp. 1-10, https://doi.org/10.1016/j.annals.2022.103440.

[11] Beh, L. S., and W. L. Lin. "Impact of COVID-19 on ASEAN tourism industry." *Journal of Asian Public Policy*, vol. 15, no. 2, 2022, pp. 300-320, https://doi.org/10.1080/17516234.2020.1871180.

[12] Gössling, S., Scott, D., & Hall, C. M "Pandemics, tourism and global change: a rapid assessment of COVID-19." *Journal of Sustainable Tourism*, vol. 29, no. 1, 2020, pp. 1-20, https://doi.org/10.1080/09669582.2020.1758708.

[13] Zhang, D., Xie, J., & Sikveland, M. "Tourism seasonality and hotel firms' financial performance: Evidence from Norway." *Current Issues in Tourism*, vol. 24, no. 21, 2021, pp. 3021-3039, https://doi.org/10.1080/13683500.2020.1857714.

[14] D'Urso, P., M. Disegna, and R. Massari. "Satisfaction and tourism expenditure behaviour." *Social Indicators Research*, vol. 149, no. 1, 2020, pp. 1081-1106, https://doi.org/10.1007/s11205-020-02272-4.

[15] Davari, D., S. Vayghan, S. Jang, and M. Erdem. "Hotel experiences during the COVID-19 pandemic: high-touch versus high-tech." *International Journal of Contemporary Hospitality Management*, vol. 34, no. 4, 2022, pp. 1312-1330, https://doi.org/10.1108/IJCHM-07-2021-0919.

[16] Höpken, W., Eberle, T., Fuchs, M., & Lexhagen, M. "Improving tourist arrival prediction: a big data and artificial neural network approach." *Journal of Travel Research*, vol. 60, no. 5, 2021, pp. 998-1017, https://doi.org/10.1177/0047287520921244.

[17] Nazari, N., Abd Rahman, A., Ab Aziz, Y. B., & Hashim, H. "The effect of customer satisfaction on the performance of the small an medium-sized hotels." *Tourism and Hospitality Management*, vol. 26, no. 1, 2020,

pp. 69-96, https://doi.org/10.20867/thm.26.1.5.

[18] Gavurova, B., Ivankova, V., Rigelsky, M., & Přívarová, M. "Relations between tourism spending and global competitiveness–an empirical study in developed OECD countries." *Journal of Tourism and Services*, vol. 11, no. 21, 2020, pp. 38-54, https://doi.org/10.29036/jots.v11i21.175.

[19] Gómez-Déniz, E., Pérez-Rodríguez, J. V., & Boza-Chirino, J. "Modelling tourist expenditure at origin and destination." *Tourism Economics*, vol. 26, no. 3, 2020, pp. 437-460, https://doi.org/10.1177/1354816619840845.

[20] Perić, B. Š., Smiljanić, A. R., & Kežić, I. "Role of tourism and hotel accommodation in house prices." *Annals of Tourism Research Empirical Insights*, vol. 3, no. 1, 2022, pp. 1-10, https://doi.org/10.1016/j.annale.2022.100036.

[21] Agustina, I. T., and R. Yosintha. "The impact of covid-19 on hotel industry in Asian Countries." *Jurnal Kepariwisataan Indonesia: Jurnal Penelitian Dan Pengembangan Kepariwisataan Indonesia*, vol. 14, no. 2, 2020, pp. 159-167, https://doi.org/10.47608/jki.v14i22020.159-167.

[22] Esquivias, M. A., Sugiharti, L., Rohmawati, H., & Sethi, N. "Impacts and implications of a pandemic on tourism demand in Indonesia." *Economics & Sociology*, vol. 14, no. 4, 2021, pp. 133-150.

[23] Panno, A. "Performance measurement and management in small companies of the service sector; evidence from a sample of Italian hotels." *Measuring Business Excellence*, vol. 24, no. 2, 2020, pp. 133-160, https://doi.org/10.1108/MBE-01-2018-0004.

[24] Cahyani, N. P. E. Y., I. K. Astawa, and N. N. Triyuni. "Increasing Room Occupancy and Room Revenue through Price Decision Strategy." *International Journal of Glocal Tourism*, vol. 1, no. 1, 2020, pp. 1-12, https://doi.org/10.58982/injogt.v1i1.12.

[25] Redjeki, F., Narimawati, U., & Priadana, S. (2021). "Marketing strategies used by hospitality businesses in times of crisis of the COVID-19 pandemic: Case study." *ENDLESS: International Journal of Future Studies*, vol. 4, no. 1, 2021, pp. 121-131.

[26] Bawono, S., R. Zainuri, and Niken. "Dynamics Of Real Exchange Rate And Three Financial Crisis: Purchasing Power Parity Relative Approach In Indonesia And Thailand." *International Journal of Scientific & Technology Research*, vol. 8, no. 5, 2019, pp. 58-62.

[27] Sasongko, B., Bawono, S., & Prabowo, B. H. "The economic performance of china in trade war: The case study of three global economic crises in 1997–2020." Environmental, Social, and Governance Perspectives on Economic Development in Asia. *Emerald Publishing Limited*, 2021, pp. 1-11, https://doi.org/10.1108/S1571-03862021000029B022.

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Conflict of Interest

The authors have no conflicts of interest to declare.