Alinteri J. of Agr. Sci. (2022) 37(1): 01-05
e-ISSN: 2587-2249
info@alinteridergisi.com

http://www.alinteridergisi.com/
DOI:10.47059/alinteri/V37I1/AJAS22001

RESEARCH ARTICLE

Risk Management and Operational Performance of Hospitality Enterprises – A Case Study in the North Central Region of Vietnam

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ARTICLE INFO

Article History:
Received: 14.01.2022
Accepted: 23.02.2022
Available Online: 28.03.2022

Keywords:
Hotel Businesses
Hotel
Hospitality Management
Hotel Manager

ABSTRACT

The goal of creating, forming, and developing businesses in general and hotel businesses in particular has the ultimate goal of profit, high and stable profitability is the goal that any business However, due to the specific business line, in addition to the experience factor of the manager, the size and composition of the board of directors, the brand, the location of the hotel or the satisfaction of the customers. customers and employees... decide the profitability of the hotel business, sustainable factors such as types of risks may be encountered: Risks on hotel development strategy; Brand reputation risk; Financial risks… also have a significant impact. The problem is how to strengthen the risk management that hotel businesses face in business and at the same time increase the profitability of the business.

In practice, there are many methods to measure risk, but one of the most widely accepted methods of predicting risk and bankruptcy today is the US economist's Z-score. Edward I. Altman, New York University faculty member set. In the US, about 95% of bankruptcies are forecast from the Z-score one year before bankruptcy, but this rate drops to just 74% for 2-year forecasts. From the initial Z-index forecast, Professor Edward I. Altman has developed it into Z' and Z" to be applicable to each type and industry of the business. The Z" coefficient is similar to the S&P credit rating.

Please cite this paper as follows:

Hai, T.V., Vien, L.V., & Huong, H.D. (2022). Risk Management and Operational Performance of Hospitality Enterprises – A Case Study in the North Central Region of Vietnam. *Alinteri Journal of Agriculture Sciences, 37*(1): 01-05. doi: 10.47059/alinteri/V37I1/AJAS22001

Introduction

Studying the impact of the Z-score coefficient (component is 5 financial ratios X1; X2; X3; X4; X5) on the profitability of hotel businesses, through the average regression model. Pooled Ordinary Least Square (Pooled OLS). As a result, the Z-score has an impact on the profitability of the hotel business (through the variable ROE/ROA return on equity and return on assets), specifically the independent variable. Establish (X2) capital addition coefficient from profit (Retained profit/Total assets) and independent variable (X5) Financial efficiency (Net revenue/Total assets) has a positive effect on profitability of the hotel business. The implications of governance for hotel businesses can simultaneously improve profitability and increase safety, and reduce risks for hotel businesses through reducing the use of debt capital to finance business. Finance their business capital (increasing equity through retained earnings) and at the same time strengthen management's ability to increase market share, speeding up service delivery of hotels.

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Literature Review

Theoretical Background

To run the operation of an enterprise, every manager must always think and anticipate possible risks in the future of the business, proactively solve problems before they become deadlocked or take measures to promptly adjust inappropriate targets, seize new opportunities that arise for the business. With the operating characteristics of the hotel business, the analysis of business performance through the targets of revenue and profit cannot be separated from the analysis of the costs of the hotel. The cost analysis of the hotel is very important because the costs of the hotel are

many types such as cleaning, laundry, maintenance, food costs, food, drinks, service... Therefore, the management Good management will directly affect the business performance of the hotel. For each hotel, the amount of cost more or less depends on the size (for each service such as bedrooms, meals, and additional services), workload, reasonable labor organization, characteristics of the hotel. Consumption of the target market, perfection in hotel management and thrifty practices (Medlik & Ingram, 2000). Regarding profit analysis, it is necessary to go into depth analysis of the profit of each business, its proportion in the total revenue of each business such as: room, table, kitchen. Until now in the world, there are many studies on the profitability of businesses operating in hotels, most of which point to the view that the role of the hotel manager or the location of the hotel has a strong influence. Profitability (Zaki and Qoura, 2019), the size and composition of the board of directors affect the profitability of the hotel business (Alagathurai. 2013), the brand and the performance of the hotel business can also have a major impact on profitability (Silvaa et al. 2017). Some other studies suggest that employee job satisfaction can also affect profitability (Singh et al., 2017). Thus, so far, there have been very few studies on risk management and profitability in the business activities of hotel businesses. The literature review of some research works related to the research object of the article is as follows: Thomas Ng and partner (2011), using financial ratios in Altman's model (Z Model), using 7 financial ratios including profitability; solvency and cash flow show the fit of model Z for the sample of businesses in the research sample. Altman and partner (2016), Re-examining the performance of the Z-Score model for mainly private firms from Europe (31 countries), and three non-European countries, the results show that Z-Score model fits most countries (about 0.75), accuracy (above 0.90) incorporating additional variables. Pranata and partner (2018), study the effect of Operating Expense Ratio and Atman Z-score on ROA and ROE. The results show that the Z coefficient has no significant effect on (ROA), but has no significant negative effect on (ROE). Khan and partner (2020), studying liquidity and profitability based on Z model, selecting 10 enterprises (research sample in the period from 2006 to 2016) based on market capitalization criteria to perform Experiments show that the effect of profit on the Z coefficient is not significant. Menicucci (2018). To study the factors affecting the profitability of hotel businesses, using a sample of 2,366 hotels in Italy. The study applied profitability criteria including return on equity, return on assets, occupancy rate and gross operating profit per vacant room. The results show that the financial crisis, business model and ownership structure affect the profitability of hotel companies. In particular, the findings show that size, internationalization, location, accommodation are the first activity and chain linkage positively affects profitability. Kamar (2018). Research on liquidity risk on profitability for hotel businesses in the United Kingdom, the results show that profitability and governance index scores as well as macro factors affect profitability company profits. The author argues that businesses should do a good job of managing their shareholders' capital to generate profits by establishing clear information on how and where the company invests shareholders' money and incorporating more for corporate governance factors such as transparency and clarity in information.

On the basis of inheriting research results of scientists around the world, the author deploys an empirical model: Risk and profitability of hotel business.

Research Model

1. *Quantitative research goals*. The author tests the impact of the Z-score coefficient (due to the combined financial ratios) on the profitability (ROA and ROE) of the hotel business in the period 2005-2021, the results serve as the basis for assessment. Accurately assess the impact, helping hotel businesses have solutions to increase operational efficiency and avoid risks.
2. *Research data.* The data used by the PhD student is secondary data, taken from the website (Vietstock.vn), from the annual reports of enterprises and the General Statistics Office (Gso.gov.vn). The dataset includes financial statements of 30 hotel businesses in the North Central region of Vietnam for the period 2005-2021, 240 observations, the research team will exclude new hotel businesses. Establishment or consolidation makes the financial data not comparable and the hotel business does not disclose enough information needed in the research. According to Bollen (1989) when analyzing the model with linear structure, the sample size is calculated according to the formula n=5*2i (i is the observed variable in the model). According to Tabachnick and Fidell (2007) the sample size in multiple linear regression analysis is calculated according to the formula n= 50 + 8q (q is the variable corresponding to financial ratios).
3. *Research method*. The author uses STATA 14 software to test and estimate the least squares regression model (Pooled Ordinary Least Square - Pooled OLS). The model is tested for defects and corrected for the defects in the model

$$Y_{it} = \beta_1 X_{it1} + \beta_2 X_i + ... + \mu_i$$

In which:

$\beta 1$, $\beta 2$… is the regression coefficient, $\beta 1$ is the intercept, μi is the residual

- Select variables ROE (Return on equity) and ROA (Return on total assets) to represent the profitability of the hotel business:

No.	Variable names and symbols	Calculation formula	Sources
The dependent variable is ROE/ROA representing the profitability of the hotel business			
Independent variable			
1	Working Capital Ratio (X1)	(Current Assets – Current Liabilities)/Total Assets	Ng and partner (2011); Altman and partner (2016); Trad and partner (2017); Erfani (2018); Pranata and partner (2018); Dirman (2020); Khan and partner(2020); Menicucci (2018); Kamar (2018)
2	Coefficient of capital addition from profit (X2)	Retained profit/Total assets	
3	Basic rate of return (X3)	Profit before interest and taxes/Total assets	
4	Capital structure coefficient (X4)	Market value of equity/Total debt	
5	Asset utilization efficiency (X5)	Net Revenue/Total Assets	

The author considers 2 models:

ROE = β_1*X1 + β_2*X2 + β_3*X3 + β_4*X4 + β_5*X5 (*)

ROA = β_{01}*X1+ β_{02}*X2 + β_{03}*X3 + β_{04}*X4 + β_{05}*X5 (**)

Hypotheses:

H01: (X1) is positively correlated (ROE/ROA)

H02: (X2) is negatively related to (ROE/ROA)

H03: (X3) is positively related to (ROE/ROA)

H04: (X4) is positively related to (ROE/ROA)

H05: (X5) is positively related to (ROE/ROA)

Description of variables participating in the model (*) và (**)

Table 1. Statistics of variables in the regression model and (**). summarize ROA ROE X1 X2 X3 X4 X5

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	240	.0348036	.0814484	-.3438544	.5126692
ROE	240	.0538408	.1097984	-.4677417	.5206343
X1	240	.6486634	.210339	.1339595	.9943936
X2	240	.0293253	.0782874	-.4458428	.4075368
X3	240	.0480194	.0877968	-.4436966	.4080334
X4	240	3.150.313	935.654	.1781995	1.042.332
X5	240	.1657168	.1013745	.0020477	.5976548

(Source: Author of statistics on STATA 14 software)

Observe the statistical table in (Table 1) a sample of 240 observations, the average value of ROA variables; ROE; X1; X2; X3; X4; X5 has an average value of 0.0348036, respectively; 0.0538408; 0.64886634; 0.0293253; 0.0480194; 3,150,313; 0.1657168. Most variables have the value Std.Dev. higher than average, this is reflected in the strong oscillator pattern. In general, the operating efficiency of hotel businesses is relatively low due to low ROE/ROA (less than 6%).

Correlation coefficient matrix. The author tests the correlation between the variables in the models.

Table 2. Correlation matrix between variables in the regression model (*) and (**)

. pwcorr ROA ROE X1 X2 X3 X4 X5, sig

	ROA	ROE	X1	X2	X3	X4	X5
ROA	10.000						
ROE	0.9391	10.000					
	0.0000						
X1	0.1175	0.0144	10.000				
	0.0692	0.8247					
X2	0.9753	0.9391	0.0970	10.000			
	0.0000	0.0000	0.1338				
X3	0.9534	0.9395	0.0379	0.9789	10.000		
	0.0000	0.0000	0.5595	0.0000			
X4	-0.1224	-0.1591	0.3731	-0.1149	-0.1548	10.000	
	0.0583	0.0136	0.0000	0.0756	0.0164		
X5	0.4952	0.5129	0.1247	0.4674	0.5058	-0.1815	10.000
	0.0000	0.0000	0.0536	0.0000	0.0000	0.0048	

(Source: Author of statistics on STATA 14 software)

Observation (Table 2), the Sig coefficient of the variable (X1) is equal to >5% in both the correlation with (ROE) and (ROA), that is, between the variable (X1) there is no correlation with the operating efficiency. performance of the hotel business, so the author excluded 2 regression models.

Check for multicollinearity. To remove the variable (X3) due to the VIF>10 coefficient and at the same time check the multicollinearity phenomenon, the variables with VIF<10 are used in the model.

Table 3. Multicollinearity check of the model (*) and (**)

. vif

Variable VIF	VIF	1/VIF
X5	1.31	0.765039
X2	1.28	0.780640
X4	1.04	0.965909
Mean VIF	1.21	

(Source: Author of statistics on STATA 14 software)

2.3. Regression Results of Models

Table 4. Regression results of Z-score coefficient (due to financial ratios) impact on profitability of hotel businesses representing the ROE dependent variable

. reg ROE X2 X4 X5

Source	SS	df	MS Number of obs =	240
			F(3, 236) =	639.22
Model	256.557.573	3	.855191911 Prob > F =	0.0000
Residual	.315735668	236	.001337863 R-squared =	0.8904
			Adj R-squared =	0.8890
Total	28.813.114	239	.012055696 Root MSE =	.03658
ROE	Coef.	Std. Err.	T P>t [95% Conf.	Interval]
X2	1.252.782	.034205	36.63 0.000 1.185396	1.320.169
X4	-.0000475	.0000257	-1.85 0.066 -.0000982	3.19e-06
X5	.0953875	.0266831	3.57 0.000 .0428201	.147955
_cons	.0027916	.0048821	0.57 0.568 -.0068265	.0124096

(Source: Author of statistics on STATA 14 software)

Observation (Table 4) gives us Regression results with high relative confidence of 88.90%, variable (X2) has the opposite effect for (ROE) p-value less than 0.05, variable (X5) has positive effect. In the same direction (ROE) with P-value less than 0.05. The remaining variables (X4) have no significant influence on (ROE).

ROE = 1.252.782*X2 + 0.0953875*X5 (1)

Table 5. Regression results of Z-score coefficient (due to financial ratios) impact on profitability of hotel businesses representing the dependent variable ROA

. reg ROA X2 X4 X5

Source	SS	df	MS Number of obs =	240
			F(3, 236) =	1601.21
Model	151.124.264	3	.503747546 Prob > F =	0.0000
Residual	.074246759	236	.000314605 R-squared =	0.9532
			Adj R-squared =	0.9526
Total	15.854.894	239	.006633847 Root MSE =	.01774
ROA	Coef.	Std. Err.	t P>t [95% Conf.	Interval]
X2	.9899816	.0165869	59.68 0.000 .9573042	1.022.659
X4	-3.49e-06	.0000125	-0.28 0.780 -.0000281	.0000211
X5	.039982	.0129394	3.09 0.002 .0144906	.0654734
_cons	-.0007436	.0023675	-0.31 0.754 .0054076	.0039205

(Source: Author of statistics on STATA 14 software)

Observation (Table 5) gives us Regression results, variable (X2) and variable (X5) have the same direction to (ROA) with P-value less than 0.05. The other variable (X4) has no effect on (ROA) because the P-value is greater than 0.05

ROA = 0.9899816*X2+ 0.39982*X5 (2)

To compare models, execute the command. esttab ROA ROE, r2 star (* 0.1 ** 0.05 *** 0.01) brackets nogap compress, result:

Table 6. Summary table of Z-score coefficient affecting profitability of hotel businesses

	(1)	(2)
	ROA	ROE
X2	0.990***	1.253***
	[59.68]	[36.63]
X4	-0.00000349	-0.0000475*
	[-0.28]	[-1.85]
X5	0.0400***	0.0954***
	[3.09]	[3.57]
_cons	-0.000744	0.00279
	[-0.31]	[0.57]
N	240	240
R-sq	0.953	0.890
t statistics in brackets		
* p<0.1, ** p<0.05, *** p<0.01		

- The impact of factors on the performance of hotel businesses (models 1 and 2).

Retained profit coefficient (X2) and Asset utilization efficiency (X5) have a positive influence on the profitability of the hotel business. That is, (X2) and (X5) increase, the profitability increases respectively, this is consistent with the study of Ng et al (2011); Trad et al (2017); Pranata et al (2018); Dirman (2020). The fact that hotel businesses have a low coefficient (X2) means that their business operations are at a loss, and at the same time reflects a high level of financial leverage. The low ratio of hotel businesses shows that the business is currently using debt to finance its business capital needs rather than using retained earnings, a part of equity. In contrast, hotel businesses with high coefficients (X2) reflect profitable businesses with low debt and low risk.

On the other hand, the coefficient (X5) reflects the management ability of the hotel business in the competitive environment and the efficiency of using assets of the business. Enterprises having difficulty in increasing market share means reducing the coefficient (X5), and enterprises with high (X5) mean high profitability because they hold the majority of market share. Asset performance considers how efficiently all the assets of a hotel business are managed. In general, the higher this coefficient, the lower the investment to generate sales and thus the greater the profit for the business. If asset utilization is relatively low compared to industry levels or below the firm's previous level, it means that the business has invested too much in assets or is selling and delivering services quickly of the business is too slow.

Implications of Solution Management to Improve Profitability for Hotel Businesses in Relation to Risk Management

The research results show that the goal of hotel businesses in balancing increasing profitability with the goal of ensuring safety, minimizing risks, hotel businesses implement the following measures: the following law:

Firstly, increasing equity capital and reducing debt capital is a measure to increase (X2), some measures such as increasing undivided profit (which is a part of profit after tax deducted by enterprises, contributing to equity increase); issue shares or participate in mergers and acquisitions to increase equity.

Second, Improve the management ability of the hotel business through the goal of increasing market share, speeding up the speed and quality of service provision of the hotel business, and adjusting the business strategy accordingly can change customer segments, adjust prices and diversify products and services...) this means an increase in capital efficiency (X5).

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