Identifying factors influencing on the profitability of tourist enterprises: Evidence from Vietnam

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C H R O N I C L E	A B S T R A C T
	The profitability of tourism industry is affected by several factors due to the specificity of tourism business activities such as the season, resources, geographic position, state and local policy, etc. Therefore, determining the groups of factors that affect the profitability and profitability ratios in tourism business activities helps to give synchronous solutions to improve the efficiency of tourism business. This study is based on a survey on the factors affecting the profitability through the questionnaires and interviews of 115 tourist enterprises in BinhDinh, Vietnam. The study conducts Cronbach's Alpha and EFA analysis to determine groups of influencing factors and building regression functions of factors affecting the profitability ratios in tourist enterprises in BinhDinh province, Vietnam. Based on the EFA analysis results, the study has found two main types of factors affecting the profitability of enterprises; namely within and outside the firms. The group of factors within the enterprise includes 3 small groups; namely financial capacity; Enterprise human resources and Enterprise leadership. The external factors include 4 small groups including tourism business market; travel space and support services; political institutions; infrastructure and tourism security. The effects of these factors on financial figures are also represented in regression form.

1. Introduction

This study is an experimental research of analysing the factors influencing on the profitability ratios in tourist enterprises in BinhDinh province, Vietnam. The study recognizes the factors affecting the profitability of tourist enterprises using some regression analysis. The factors are divided into factor groups affecting on the profitability ratios by analysing the interrelation among them. To conduct this study, the authors conducted a sample and surveyed 115 tourist enterprises in BinhDinh, Vietnam. The survey results received 97 valid responses, accounting for 84.34% in total issued questionnaire. Based on the collected questionnaires, we consider the fulfilled, reprehensive and comprehensive aspects of the research sample to ensure that the samples collected from surveying enterprises are reliable enough when they are analysed and verified by based on the following criteria: First, in terms the size of enterprise: the collected samples include the large, medium and small companies. Secondly, in terms of capital ownership: the collected samples contains both the state-owned and private enterprises. Thirdly, in terms of legal responsibility: the collected samples consists of the joint-stock companies and the companies with limited

liabilities. Finally, in terms of business field: the collected samples are associated with firms active in the areas of travelling; food and beverages; hotel industry and entertaining fields.

The primary objective of this study is to show that the peculiar nature of the tourism business has a great influence on the profitability in tourist enterprises. Therefore, the authors conduct surveys to answer the main questions of the survey: What are the factors affecting on the profitability of the tourist enterprises? How does the regression function affect the profitability ratios in tourist enterprises?

2. Literature Review

Referring to factors affecting tourism business, there have been a number of studies which suggest different factors influencing on the performance of tourism including: The seasons in tourism business (Jolliffe & Farnsworth, 2003); The quality of human resources in tourism and hotels sector (Baum et al., 1997); Natural conditions such as climate, weather or geographic area (Martín, 2004); Elements of policy such as macroeconomic policy of the state and micro-policy institutions of each locality (Wang & Ap, 2013); Transportation infrastructure for tourism business (Khadaroo & Seetanah, 2007); Transportation facilities serving destinations (Prideaux, 2000); Convenience of tourism business (Tien et al., 2019); Intangible cultural heritage and local customs (Wanda, George, 2010; Hien, 2014); Local festivals (Jackson, 2008; Hien & Phuong, 2014; Son, 2014); Business environment (Tien, 2012); Financial structure, structure of asset investment and revenue structure (Tien, 2017). The drawback of these studies is to consider and evaluate the factors affecting business activities according to each individual factor while the profitability of tourism business is affected by many factors at the same time. From the overview of the above studies, we have determined that the objective of this study is to examine the effect of different factors on the profitability of tourism business, including elements belong to the enterprises such as financial structure, structure of asset investment, cost structure in revenue, management capacity of leaders, professional qualifications of employees, flexible behaviour of employees in work, foreign language ability, communication of employees, the variety of services products, enterprise location and elements of the external environment such as the available tourism resources, business environment, climate and weather, raw material market, tourism market, additional tourism products, organize travel space, system of zones, destinations and tourist routes, local traditional festivals, political institutions, travel security, local tourism development policy and infrastructure for tourism.

3. Research Methods

3.1. Research Design

We have selected quantitative research methods through the descriptive statistics; means and analysis of variance (ANOVA) and exploratory factor analysis (EFA). The aim of the descriptive statistics is to summarize the data, to describe the collected samples in numbers or graphs. This helps us have an overall view of the real effects of the factors on profitability. The Cronbach's Alpha and EFA analysis show that the interrelationship between factor groups has a huge impact on the profitability of tourist enterprises (Trong & Ngoc, 2011). Fig. 1 demonstrates the structure of the proposed model of this study.
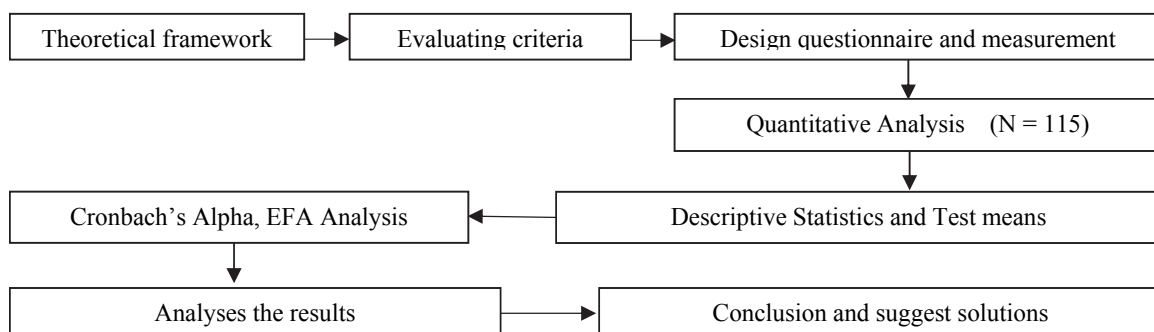

Fig. 1. The structure of the proposed study

3.2. Data collection methods

Data Resource

The Delphi method of interview and taking the experts' advice was used. The authors designed the questionnaire to collect ideas of the top and middle- level managers in the tourist enterprises. The authors also directly interviewed the experts in tourism, such as: state managers; scientists; low-level managers in the tourist companies in Binh Dinh.

Gathering Data Subject

We used method of choosing convenient samples in two main subject groups, including (1) the tourist enterprises in BinhDinh and (2) the experts in tourism like state managers, business managers and scientists.

Gathering Data Mode

Two main modes of gathering data were used for collecting directly and sending the questionnaire to the tourist enterprises by Google Docs. In addition, the authors carried out interviewing the experts, managers and scientists in tourism.

Gathering Data Media

The authors used a pre-designed questionnaire for data collection. The final questionnaire was designed in three stages: Stage 1: Designed a draft; Stage 2: The draft was consulted by the professional experts; Stage 3: Designed the official questionnaire. The survey questionnaire focused on assessing the level of influence of factors affecting the profitability in tourist enterprises. Therefore, the questionnaire had two parts. In this first part we collected general information about enterprises such as business field, operation duration, the number of employees, business scale, legal status, etc. The second part 2 includes the factors affecting on the profitability, including institutions, policies, business environment, infrastructure for tourism, human resource for tourism, geographical conditions, festivals, social security, etc.

To serve the process of questioning and answering questionnaires, we have used the Likert scale (5 choices). The format of five-level Likert scale is: 1= "very low"; 2= "low"; 3 = "medium"; 4 = "high"; 5 = "very high".

3.3. Analysing Data Technique

There were 97 collective and valid responses.

After collecting data, according to the part and the group of these data in the questionnaire, they were changed and encoded into Microsoft Excel. Then, we have used SPSS 22.0 to analyse these data, in details:

Sample Statistics: The purpose was to calculate the percentage of research samples according to the criteria of evaluation, classification, etc.

Descriptive Statistics and Test the average value (mean): Descriptive statistics were used to calculate the average value for factors affecting profitability. Besides, testing the average value (mean) was used to evaluate the influence level of the factors and the means were compared with 3- the total average level.

Cronbach's Alpha analysis: The purpose of Cronbach's Alpha analysis is associated with scale reliability testing and survey data to assess the correlation between observed variables (Influential factors in the survey questionnaire). The aim of this was to look at the observed variables which were closely related to measuring the impact of inspection factors on the profitability ratios of tourist enterprise in the area BinhDinh Province. Most researchers accept Cronbach's Alpha levels of 0.8 or higher; 0.7 to 0.8 is usable and if the concepts in the question are new, the coefficient is just above 0.6. Cronbach's Alpha level greater than or equal to 0.8 means the scale is considered good measurement, the questions are designed strictly, the scales really correlate with each other and achieve high reliability (Trong & Ngoc, 2011).

The type of variables also follows the Cronbach's Alpha coefficient principle. When Cronbach's Alpha ≥ 0.6, the scale is acceptable in terms of reliability.

Exploratory Factor Analysis (EFA): When applying EFA analysis, researchers often pay attention to different criteria: *Firstly*, KMO (Kaiser-Meyer-Olkin) coefficient must be ≥ 0.5, significance level in Bartlett- Test must be at least $\alpha \leq 0.05$. KMO is an indicator to consider the appropriateness of EFA, $0.5 \leq$ KMO ≤ 1, exploratory Factor Analysis is appropriate. Bartlett-Test examine the hypothesis that the correlation coefficient is zero. If this test is statistically significant (Sig. ≤ 0.05), there are some correlation between variables. *Secondly*, the factor loading coefficient (factor loading) > 0.45. If the factor loading of observed variable is less than 0.45, it will be eliminated. *Thirdly*, measurement scale is accepted when sum of extracted variance is above 50% and eigenvalue is greater than 1. Finally, to ensure the discriminating value between factors, the factor loading of an observed variable in factors must be greater than 0.3 (Trong & Ngoc, 2011). According to Ho et al. (2018), the factor loading is used to ensure practical significance of EFA analysis. Factor loading greater than 0.3 is minimum value; factor loading > 0.4 is important and greater than 0.5 represents some practical significance.

4. Research results on factors affecting profitability

The results of the reliability of the scale and data in Cronbach's Alpha test are as follows:

Table 1

The result of Cronbach's Alpha test in analysing influence level of factors to profitability of tourist enterprises in BinhDinh

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
- Financial structure	83.3958	138.915	0.627	0.904
- Structure of asset investment	83.5104	143.874	0.499	0.907
- Cost structure in revenue	83.6667	140.751	0.51	0.907
- Management capacity of leaders	83.2917	144.609	0.431	0.909
- Professional qualifications of employees	83.5625	137.28	0.716	0.902
- Flexible behaviour of employees in work	83.3542	138.926	0.604	0.905
- Foreign language ability, communication of employees	83.1562	145.207	0.482	0.908
- The variety of services products	83.6875	139.27	0.591	0.905
- Enterprise location	83.4896	139.474	0.692	0.903
- Available tourism resources	83.75	137.011	0.641	0.904
- Business environment	83.7917	141.893	0.568	0.906
- Climate and weather	83.4896	142.421	0.582	0.906
- Raw material market	84.2083	135.051	0.667	0.903
- Tourism market	83.9688	136.62	0.678	0.903
- Additional tourism products	83.8021	134.897	0.719	0.902
- Organize travel space	83.1667	147.025	0.439	0.908
- System of zones, destinations and tourist routes	83.2083	145.388	0.479	0.908
- Local traditional festivals	83.3542	147.115	0.318	0.911
- Political institutions	83.7708	151.4	0.104	0.916
- Travel security	83.8854	139.829	0.569	0.906
- Local tourism development policy	83.6875	140.28	0.665	0.904
- Infrastructure for tourism	83.1771	152.421	0.12	0.913

* Item-Total Statistics (Cronbach's Alpha = 0.91 (N=22))   Source: collected from research results

The results show that there are a total of 22 influential factors corresponding to 22 observed variables with the overall Cronbach's Alpha of 0.91. This proves that the survey questionnaire is strictly designed, accurately reflecting the measurement concepts. We have also looked at the Cronbach's Alpha coefficients of the sum and the variables if excluded and the coefficients were approximately equal, and there was not significant difference when the variables were excluded. Therefore, it is not necessary to remove any variable from the survey. The observed variables have maintained a total correlation coefficient of greater than 0.3 and if the question is omitted, the Cronbach's Alpha coefficient is less than 0.91. There are 3 variables greater than 0.91 which are local traditional festivals, institutions - political and infrastructure for tourism. Hence, we can eliminate these factors in new exploratory factor analysis. However,

the difference is negligible, so we can keep these variables in new exploratory factor analysis EFA. Thereby, we can conclude that all the influencing factors analysed in the survey are highly reliable. In order to perform new exploratory factor analysis, the influencing factors must have a relationship with each other. Therefore, the authors carried out correlation test and variance test (See Table 2).

Table 2
The result of correlation between influence factors test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.806
Bartlett's Test of Sphericity	Approx. Chi-Square	1099.981
	Df	231
	Sig.	.000

Source: collected from research results

From the result, with KMO = 0.806 (>0.5), we reject the hypothesis that correlation matrix is homogeneous matrix. It means that the variables are inter-correlated and satisfy the condition in EFA analysis. Table 3 presents the results of the extracted variance analysis.

Table 3
The result of extracted variance analysis of influencing factors group

Com.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.082	36.734	36.734	8.082	36.734	36.734	4.024	18.290	18.290
2	1.745	7.933	44.667	1.745	7.933	44.667	2.577	11.716	30.005
3	1.532	6.963	51.631	1.532	6.963	51.631	2.472	11.237	41.242
4	1.305	5.932	57.563	1.305	5.932	57.563	2.372	10.783	52.026
5	1.234	5.610	63.173	1.234	5.610	63.173	1.559	7.086	59.111
6	1.076	4.891	68.064	1.076	4.891	68.064	1.528	6.944	66.055
7	1.046	4.753	72.816	1.046	4.753	72.816	1.488	6.761	72.816

Source: collected from research results

The results in the extracted variance analysis table shows that with Eigenvalue > 1, there are only 7 factors extracted. With fluctuating value is 72.816, it means that 72.816 the fluctuation of figures is explained by 7 new factors with eigenvalue >1. Table 4 presents the exploratory factor group analysis.

Table 4
Impact of the exploratory factor group on the profitability of the tourist enterprise in BinhDinh

	Component						
	1	2	3	4	5	6	7
- Tourism market	0.841						
- Raw material market	0.817						
- Available tourism resources	0.728						
- Local tourism development policy	0.69						
- Business environment	0.567						
- Climate, weather	0.508						
- Cost structure in revenue		0.834					
- Structure of asset investment		0.764					
- Financial structure		0.679					
- System of zones, destinations and tourist routes			0.861				
- Organize travel space			0.819				
- Local traditional festivals			0.547				
- Additional tourism products			0.546				
- Foreign language ability, communication of employees				0.819			
- Professional qualifications of employees				0.568			
- Flexible behaviour of employees in work				0.521			
- Management capacity of leaders					0.805		
- The variety of services products					0.533		
- Political institutions						0.83	
- Enterprise location						0.546	
- Infrastructure for tourism							0.748
- Travel security							0.519

Source: collected from research results

EFA analysis results show that factors affecting the profitability analysis of tourist enterprises in Binh Dinh province are divided into 7 groups:

Group 1 (NT1): (1) Tourism market, (2) Raw material market, (3) Available tourism resources, (4) Local tourism development policy, (5) Business environment and (6) Climate, weather.

Group 2 (NT2): (1) Cost structure in revenue, (2) Structure of asset investment and (3) Financial structure.

Group 3 (NT3): (1) System of zones, destinations and tourist routes, (2) Organize travel space, (3) Local traditional festivals and (4) Additional tourism products.

Group 4 (NT4): (1) Foreign language ability, communication of employees, (2) Professional qualifications of employees and (3) Flexible behaviour of employees in work.

*Group 5 (NT5): (*1) Management capacity of leaders and (2) The variety of services products.

Group 6 (NT6): (1) Political institutions, (2) Enterprise location

Group 7 (NT7): (1) Infrastructure for tourism and (2) Travel security

5. Regression of the determinants of the profitability ratios

The purpose of regression analysis is to understand the impact of seven new exploratory factors (found in EFA) on profitability ratios such as return on assets (ROA), return on sales (ROS) and return on equity (ROE). In regression analysis, the value of p-value and coefficient will determine the factors influencing on the profitability ratios whereas the value of coefficient shows that which factor has the strongest and weakest effect on profitability. We have identified 7 groups of factors affecting profitability. Since each factor group has many influential variables, in order to analyse the impact of each group, we compute the average of small variables in each group and named 1, 2, 3, 4, 5, 6 and 7, respectively.

Regression functions of factors affecting ROA

Table 5
Regression analysis of factors affecting ROA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.057	0.588		5.198	0
	NT1	-0.045	0.13	-0.048	-0.351	0.726
	NT2	0.194	0.108	0.214	1.807	0.074
	NT3	0.275	0.133	0.254	2.076	0.041
	NT4	-0.575	0.128	-0.612	-4.496	0
	NT5	0.011	0.102	0.012	0.105	0.916
	NT6	-0.008	0.072	-0.011	-0.113	0.91
	NT7	0.24	0.118	0.22	2.031	0.045

Source: collected from research results

The regression results show that Sig values of factor groups 3, 4 and 7 is less than 0.05 (5% significance level), this means that these groups of factors affect ROA while other groups of factors have had no effect or negligible effect. To consider which group is the most influential, we look at the Standardized Coefficients column. The standardized beta value has the highest absolute value and it affects ROA the most. The standardized beta coefficient eliminates the unit of measurement and it is used to assess the level of influence and is calculated by the following formula:

$$beta_{chuanhoa} = beta . \frac{S_{NT}}{S_{ROA}}$$

where: Beta is a regression coefficient (Unstandardized Coefficients column)
$\qquad$ S_{NT} is the standard deviation of factors
$\qquad$ S_{ROA} is the standard deviation of ROA

Therefore, the effect of factors on ROA is ranked from high to low as 4, 3, 7, 2, 1, 5, 6. Thereby, we determine regression function factors affecting ROA as follows,

$ROA = 3,057 - 0,045 \times NT1 + 0,194 \times NT2 + 0,275 \times NT3 - 0,575 \times NT4 + 0,011 \times NT5 - 0,008 \times NT6 + 0,24 \times NT7$

Regression functions of factors affecting ROS

Table 6
Regression analysis of factors affecting ROS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.578	0.986		0.587	0.559
	NT1	0.421	0.217	0.267	1.938	0.056
	NT2	0.362	0.18	0.24	2.011	0.047
	NT3	0.299	0.222	0.165	1.345	0.182
	NT4	-0.567	0.214	-0.363	-2.645	0.01
	NT5	-0.297	0.171	-0.201	-1.74	0.085
	NT6	0.032	0.12	0.026	0.27	0.788
	NT7	0.368	0.198	0.203	1.855	0.067

Source: collected from research results

The regression results indicate that Sig values of factor groups 2 and 4 are less than 0.05 (5% significance level), which means that these groups of factors affect ROS whereas other groups are influential but not significant. Besides, according to the result of the Standardized Coefficients column, the effect of factors on ROS is ranked from high to low as from group 4, 1, 7, 2, 5, 3 to 6. Thereby, we determine regression function factors affecting ROS:

$ROS = 0,578 + 0,421 \times NT1 + 0,362 \times NT2 + 0,299 \times NT3 - 0,576 \times NT4 - 0,297 \times NT5 + 0,032 \times NT6 + 0,368 \times NT7$

Regression functions of factors affecting ROE:

Table 7
Regression analysis of factors affecting ROE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.342	0.592		5.65	0
	NT1	0.174	0.13	0.197	1.333	0.186
	NT2	0.11	0.108	0.129	1.013	0.314
	NT3	-0.162	0.133	-0.16	-	0.228
	NT4	0.175	0.129	0.2	1.364	0.176
	NT5	-0.171	0.103	-0.206	-1.67	0.098
	NT6	0.028	0.072	0.04	0.392	0.696
	NT7	-0.101	0.119	-0.099	-	0.399

Source: collected from research results

The regression results show that Sig value of factor groups is greater than 0.05, this means that these groups of factors have no effect or negligible effect. Hence, we cannot build a regression function that analyses factors affecting ROE. Therefore, we only built a regression function to analyse the factors affecting ROA and ROS for tourist enterprise in Binh Dinh:

$ROA = 3,057 - 0,045 \times NT1 + 0,194 \times NT2 + 0,275 \times NT3 - 0,575 \times NT4 + 0,011 \times NT5 - 0,008 \times NT6 + 0,24 \times NT7$
$ROS = 0,578 + 0,421 \times NT1 + 0,362 \times NT2 + 0,299 \times NT3 - 0,576 \times NT4 - 0,297 \times NT5 + 0,032 \times NT6 + 0,368 \times NT7$

6. Conclusion

This study has analysed the factors influencing on the profitability of tourist enterprises in province of BinhDinh, Vietnam. The factors were divided into factor groups affecting on the profitability ratios by analysing the interrelation among them. Based on the EFA analysis, the study has found two main types of factors affecting the profitability of enterprises; namely within and outside the firms. The group of factors within the enterprise have included 3 small groups; namely financial capacity; enterprise human resources and enterprise leadership. The external factors include 4 small groups including tourism business market; travel space and support services; political institutions group; infrastructure and tourism security. The effects of these factors on financial figures were also represented in regression form.

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