Factors Affecting Firm Performance: A Case Study of the Construction and Real Estate Sector in Vietnam

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Abstract

The construction and real estate industries contribute significantly to each country's economic development. Strong construction and real estate firms will contribute more to the country's GDP by contributing to the industry's development. The purpose of this study is to examine the factors that influence the performance of the construction and real estate sectors in Vietnam. A survey of 200 construction and real estate firms in different areas was conducted from 2020 until the end of 2021. Following the removal of errors, the author got 196 replies, 6 of which were invalid, leaving 190 votes for quantitative analysis. The research findings show that elements such as (1) senior executives' commitment to the organization, and (2) the ability to use technology have a positive and significant impact on firm performance when using advanced econometric analysis. Furthermore, in the case of Hanoi, Vietnam, business relationships have a positive impact on firm performance. Training and development, as well as the working environment and incentives, have little effect on the profitability of construction and real estate firms. Finally, the research also has some recommendations and limitations for the construction and real estate sector.

1. Introduction

The construction and real estate industries are making many contributions to the economic development of each country. The industry has the ability to create jobs and is the foundation for building infrastructure cities and improving people's quality of life. Contributing to the development of the industry, strong construction, and real estate enterprises will have more contribution to the GDP of the country. In addition, in the globalized economic integration environment, productivity is the decisive factor for the economic development of a country, an industry, and in each enterprise (Steenhuis & de Bruijn, 2006; Dao et al., 2021). Theoretically, previous studies have convincingly demonstrated the influence of managerial factors on enterprise productivity. However, few studies have been found to study the simultaneous effects of management factors on productivity fully and systematically.

Research on factors affecting the business performance of construction and real estate enterprises has been carried out through a number of foreign studies. However, there is currently no research in Vietnam, especially in recent years when Vietnam is considered as a rapidly changing country with modern infrastructure. Based on those research gaps, it becomes urgent to study the factors affecting the business performance of enterprises in the industry. On that basis, this study was conducted to: (i) identify management factors affecting enterprise performance and the relationship between these factors; (ii) Identify the relationship between strategic planning and active engagement. To achieve the above objectives, the author will present the theoretical basis and research model, followed by a description of the research method. A survey with a prepared questionnaire was sent to 200 real estate firms, randomly selected to collect data on their performance measurement system.

Through research, empirical evidence is an important basis to help construction and real estate businesses evaluate

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the important factors for business performance. This study is also an important reference for use in research, teaching, and empirical evidence for a typical developing country in Asia.

In addition to the introduction presented, the study consists of the following sections: part 2 discusses previous studies, part 3 discusses data and research methods. Section 3 presents the results and discusses the results, and finally, the study presents the conclusions and governance implications.

2. Literature Review

2.1. Performance Concept

Business efficiency is reflected in business quality and is an indicator of business performance evaluation. For enterprises in the construction industry, business efficiency is reflected in the output when implemented in construction investment (Gong et al., 2009). This definition outlines two important characteristics: firstly, productivity is closely related to the use of resources (efficiency); Secondly, productivity is closely related to customer satisfaction (efficiency). From an economic perspective, productivity involves creating more value for customers. For many businesses, the economic end and basis of existence is the creation of value. Productivity growth is measured by the concept of added value (Tangen, 2005). From a management perspective, productivity includes both efficiency and effectiveness. That is, to ensure that goods/services are produced at the lowest possible cost and provided to customers on time, at competitive prices with the quality they desire (Khan, 2003). Efficiency means doing things right, while effectiveness means doing the right things at the right time with good quality (Tangen, 2005).

For construction enterprises, the growth of the industry is associated with the profits of enterprises, thereby promoting economic growth. Therefore, this study approaches productivity from a new perspective from a management perspective at the enterprise level. Productivity is about improving efficiency and efficient use of resources, i.e., how to increase the quantity and quality of products and deliver them at the right time to where the customer requires it at the lowest cost. Therefore, productivity measurement is a measure of how well a business meets customer requirements in terms of product quality, product pricing in terms of delivery time, and a measure of a business's financial performance. Productivity is output-oriented, so product creation must be considered in close relation to the needs and expectations of the market. Therefore, productivity and quality are not mutually exclusive, but on the contrary, productivity - quality are closely related and support each other (Khan, 2003).

2.2. Previous Studies and Hypotheses

According to Nguyen and Nguyen (2020), companies should use their capital structure and their abilities to make their profitabilities. Research on performance measurement has gone through several phases over the world (Nguyen & Nguyen, 2020; Yapa Abeywardhana, 2016). Most studies confirmed that organizations use management accounting systems, especially budgets, as tools to measure performance. More specifically, previous studies on business performance have been carried out through a number of typical studies in the world, and there are different pieces of evidence (Nguyen & Nguyen, 2020; Yapa Abeywardhana, 2016). Firm performance is an economic category that indicates the ability of firms in using resources to achieve the targets of the firms. Most published studies focus either on new measurements or additional consultation. As suggested in Yapa Abeywardhana (2016), a company needs to maximize the shareholders' wealth to bring all kinds of benefits to shareholders. In addition, Rehman and Rashid (2022) explained that it is only recently in scholarly literature that attempts to provide insight into how organizations manage measures and how do they derive value from the data they collect. The influence of structure and industry characteristics on organizational activities has been addressed in the literature regarding strategic planning. However, very few studies of the effects of performance measurement have been published. Furthermore, Ahmed and Bhuyan (2020) and especially Rehman and Rashid (2022) stated that few studies have been published to examine the relationship between strategy and management control systems. Ahmed and Bhuyan (2020) studied the behavioral factors that were important in addition to the success and use of performance measurement systems and showed that more research is needed 'on other factors, such as working conditions organization. Therefore, this study will empirically examine the impact of performance measurement in strategic planning.

Previous studies also suggested that there are many other factors that have an impact on business performance in enterprises. Research by Gong et al. (2009) shows that senior management's commitment is an indispensable element in corporate performance improvement programs. Further, they are ready to have the necessary support in training human resources, providing adequate resources to facilitate the organization of high-performance production. Some recent studies also show that senior management's commitment to performance and has a direct impact on human resource training and production organization (Chapman & Al-Khawaldeh, 2002). Further, Gong et al. (2009) also indicated that three factors such as working conditions, equipment maintenance, production process control significantly contribute to enterprise productivity.

Previous studies also said that the measurement system is an important factor in the organization to achieve business performance. Businesses often apply modern evaluation systems to improve employee productivity and organizational efficiency, as mentioned in the study by Gong et al. (2009) and Sauian (2002). Indeed, the evaluation system is the basis for businesses to evaluate the performance in each stage of the system and thereby improve the quality of operations. The current authors, on the other hand, have not conducted a study on issues affecting Vietnam's economic situation, which is a developing economy in Southeast Asia. The author of this paper will examine this link in the context of Vietnam, particularly in light of the COVID-19 pandemic and its impact on corporate performance.

Six hypotheses are to be tested in the theoretical model:

H1: There exists a positive relationship between the Commitment of senior leaders in the organization and business performance.

H2: There exists a positive relationship between Working environment and business performance.

H3: There exists a positive relationship between the ability to apply technology and business performance.

H4: There exists a positive relationship between business relationships and business performance.

H5: There exists a positive relationship between incentives and business performance.

H6: There exists a positive relationship between training and fostering and business performance.

3. Data and Methodology

3.1. Data

The survey uses a data source. Between 2020 and 2021, the author conducted a survey of around 200 enterprises in Hanoi. The author created survey questions and an online survey that was paired with an offline survey to perform the survey. The author obtained 196 responses through the survey, 6 of which were invalid; the remaining 190 votes were included in quantitative analysis.

3.2. Methodology

Based on previous studies, in this study, the author carried out research in Vietnam with independent variables including 5 main factors and dependent variables represented by the business performance of enterprises. The independent variables include (1) commitment of senior leaders in the organization, (2) training and fostering, (3) relationships in business, (4) working environment, (5) the ability to apply technology, (6) incentives. The model variables are shown in Figure 1.

4. Results and Discussion

4.1. Descriptive Statistics

The data set is collected from 190 construction firms in Hanoi, Vietnam, with the characteristics presented in Table 1.
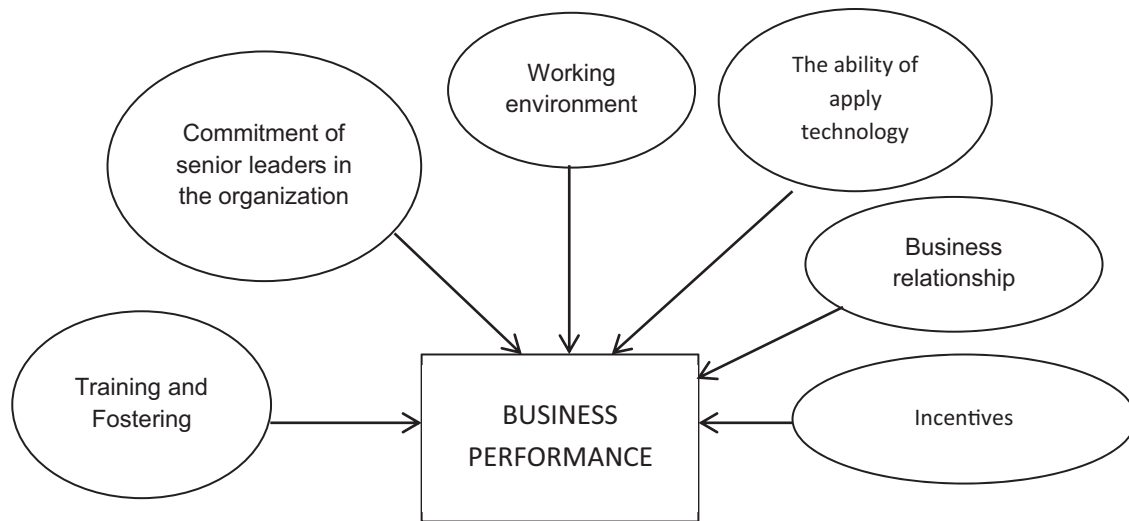

Figure 1: Theoretical Model

Table 1: Characteristics of the Survey Sample of Construction

Own	Quantity	Ratio%
Stock firms	45	23.68%
Private enterprise	120	63.15%
100% foreign capital	25	13.16%
Total	**190**	**100.00%**
Size		
Under 50 employees	80	42.10%
50–100 employees	44	23.16%
100–200 employees	33	17.36%
Over 200 employees	33	17.36%
Total	**190**	**100.00%**
Location		
Cau Giay	45	23.68%
Dong Da	36	18.94%
Ha Dong	35	18.42%
Nam Tu Liem	34	17.89%
Others	20	10.52%
Total	**190**	**100.00%**
Areas		
Construction	60	31.57%
Real estate	56	29.47%
Consultancy	44	23.16%
Others	10	5.26%
Total	**190**	**100.00%**

In the research sample, the author collects enterprises mainly in 4 districts in Hanoi, including Dong Da, Cau Giay, Ha Dong, and Nam Tu Liem with the proportion of survey votes being 23.68%, respectively 18.94%, 18.42%, and 17.89%. The surveyed enterprises came from: 31.57% construction enterprises, 29.47% real estate enterprises, 23.16% consulting enterprises. In addition, in the survey, there are 63.15% private enterprises; the rests are foreign-invested enterprises and joint-stock enterprises. In terms of size, most of the enterprises in the survey sample are small and medium enterprises.

4.2. Analysis of EFA

The results of exploratory factor analysis (EFA) show that 32 observed variables in 6 components of the enterprise performance scale also keep all factors with 35 observed variables.

Table 2 indicates the EFA results, with KMO coefficient = 0.834, so EFA is consistent with the data and Chi-2 statistic of Bartlett test reached the value of 4.967E3 with a significance level of 0.000. Accordingly, the observed variables are correlated with each other on the overall scale. The extracted variance is 86%, which shows that all factors drawn are explained from the 86% variation of the data, and the scales are acceptable.

4.3. Preliminary Assessment of the Scale with EFA

Theoretically, the scales of the research concepts were evaluated by the exploratory factor analysis method EFA and the Cronbach Alpha coefficient for each component. The selection criteria are that the variables must have an item-total correlation > 0.30, and Cronbach's alpha coefficient > 0.60 as well as factor loading > 0.40. In fact, the scale meets the requirements when the total variance extracted is $\geq 50\%$ (Hair et al., 1998). The Cronbach coefficients of the scales in the study are all greater than 0.8 (Table 3).

4.4. Correlation and Regression Analysis

When conducting a linear regression analysis, Trong and Ngoc (2008) recommend that you evaluate the linear correlations between all variables, which means that you should think about the relationship between each independent variable and the dependent variable, as well as between each variable. Variables are unrelated to one another. The model has no multicollinearity, as seen in Table 4.

Tables 5 and 6 indicate that the statistic $F = 28.545$ and the Sig value is 0.000, indicating that it is safe to reject the null hypothesis H0. Rejecting H0 means that the combination of the existing variables in the model can statistically explain the change in enterprise performance.

Table 7 shows that all factors of COM, WOR, BUS, have a positive impact on firm performance at the Sig significance level in the range of 0.000–0.100, which is less than 0.10. The remaining factors of TRA (Sig = 0.354) and WOR (Sig = 0.236), INCE (Sig = 0.564), whose Sig. is larger than 0.05, so there is no statistical significance. Table 7 also shows that the tolerance of the variables (acceptance) is quite high as well as and the VIF coefficient of all factors is less than 3, once again confirming that there is no multicollinearity between the independent variables in the model.

4.5. Discussion

Conducting advanced econometric analysis to investigate the factors affecting firm performance in the case of

Table 2: Matrix Rotation Results in EFA Analysis

	Factor					
	1	**2**	**3**	**4**	**5**	**6**
Employees are trained continuously every year	0.887					
Employees have the opportunity to be trained	0.865					
Through the training process, staff capacity is likely to improve	0.854					
Through the process of working at the unit, each employee is self-aware of training and retraining	0.823					
Provide feedback to employees about training	0.778					
Leaders commit to stick		0.834				
Leaders intend to stay with the organization for a long time		0.832				
Organizational development is associated with leadership engagement		0.812				
Recognition of leaders' contributions		0.798				
Friendly working environment			0.822			
Comfortable and pleasant working environment			0.811			
The company creates a shared working environment			0.802			
Working environment with opportunities for advancement			0.798			
The working environment creates opportunities for advancement and continuous improvement			0.786			
Companies capable of applying technology				0.812		
The company has the ability to apply technology in management activities				0.801		
The company applies technology to improve productivity				0.789		
The company adopts technology continuously and innovates				0.778		
The company applies advanced technology				0.767		
The company applies the advanced technology with optimal production activities				0.760		
Relationships at work are bound together in the organization					0.798	
The work in the organization is synchronized					0.786	
Jobs in the organization are connected and shared					0.775	
There is sharing in work in departments					0.772	
The functional units have the most systematic relationship in the common goal					0.762	
A working relationship is maintained and improved continuously					0.723	
Clear incentive mechanism						0.782
The incentive mechanism is clear and easy to implement						0.752
Employees are encouraged timely						0.736
Employees are recognized with well-deserved rewards						0.698
Inter-departmental communication is encouraged						0.678
Encourage fun, friendly care, help each other in the work department						0.655
Eigenvalue	4.03	3.87	2.43	2.13	2.01	1.89
Extracted Variance (%)	19.66	37.54	45.67	56.87	65.21	72.11
Cronbach's Alpha	0.91	0.87	0.86	0.78	0.82	0.86

Table 3: Summary Table of Scale Test Results

Ingredient	Reliability Alpha	Variance Extract (%)	Evaluate
Training and Fostering (TRA)	0.91	86%	Accepted
The commitment of senior leaders in the organization (COM)	0.87		
Working environment (WOR)	0.86		
The ability to apply technology (ABI)	0.78		
Business relationship (BUS)	0.82		
Incentives (INC)	0.86		
Business Performance (PER)	0.88	85%	

Table 4: Correlation Coefficients Between Components

Factor	Pearson Correlation	TRA	COM	WOR	ABI	BUS	INC	PER
Training and Fostering (TRA)	Pearson Corr.	1.00						
The commitment of senior leaders in the organization (COM)	Pearson Corr.	0.15	1.00					
Working environment (WOR)	Pearson Corr.	0.26	0.32	1.00				
The ability to apply technology (ABI)	Pearson Corr.	0.25	0.56	0.11	1.00			
Business relationship (BUS)	Pearson Corr.	0.54	0.39	0.12	0.55	1.00		
Incentives (INC)	Pearson Corr.	0.44	0.65	0.32	0.13	0.45	1.00	
Business Performance (PER)	Pearson Corr.	0.67	0.71	0.14	0.56	0.34	0.23	1.00

Table 5: Analysis of Variance Results

PARADIGM	Sum of Squared Deviations	Average Deviation	*F*	Sig.
Regression	34.543	5.453	28.545	0.000
Surplus	15.354	0.162		
Total	49.897			

[a]Independent variables: (Constant); [b]Dependent variable: Firm performance.

Table 6: A Full Multivariable Regression Model

PARADIGM	*R*	*R*-Square	*R*-Square Adjustment	Estimated Error	Durbin-Watson
1	0.788	0.675	0.655	0.4335	1.988

[a]Independent variables: (Constant); [b]Dependent variable: Firm performance.

Hanoi, Vietnam. The results of this research can be explained by the following discussions:

- The results confirm a positive relationship between the commitment of senior management and firm performance. This can be explained that leadership commitment in the organization is consistent with the higher achievements of leaders in the organization, showing that the organization is capable of achieving more effective results. This result is in agreement

Table 7: Linear Regression Results

Factor	Unnormalized coefficients		Normalization coefficient	*t*	Sig.	Collinear Statistics	
	Beta	S.E	Beta			Tolerance	VIF
(Constant)	0.45	0.23		2.34	0.02		
Training and Fostering (TRA)	0.063	0.071	0.067	0.911	0.354	0.58	1.75
Commitment of senior leaders in the organization (COM)	0.172	0.054	0.182	2.771	0.006	0.70	1.41
Working environment (WOR)	0.192	0.065	0.223	0.871	0.236	0.50	2.00
The ability of apply technology (ABI)	0.298	0.172	0.323	3.897	0.000	0.51	1.98
Business relationship (BUS)	0.145	0.064	0.187	2.140	0.036	0.55	1.92
Incentives (INC)	0.065	0.056	0.087	0.057	0.564	0.56	1.91

with most of the previous studies. However, a stronger organization often has an advantage in manufacturing products with a higher competitive advan-tage and creates a higher advantage in the international market. In the context of Vietnam, construction enterprises are still young and small in scale. Business activities are often volatile and human resources are also less committed to sticking in the organization.

- The results show a positive impact of the ability to apply technology on business performance. This result is similar to most previous studies and explains that enterprises have the ability to apply technology capable of increasing labor productivity and increasing business efficiency. On the contrary, enterprises are not able to apply science and technology in production, production costs are high, and productivity is lower. That affirms that technology application is an important factor in promoting efficiency in enterprises. Especially, the construction industry has a large investment cost; if the enterprise is able to apply science and technology, the enterprise will be able to recover capital quickly and with higher efficiency.

- Research results also confirm the positive relation-ship between business relationship and business perfor-mance ($\beta = 0.187$, $t = 2.140$, $p = 0.036$ which is less than 0.05). This can be explained by the better the business relationship, the more efficient the business is. Specifically, a business has a business relationship with partners and suppliers; the business has the ability to be proactive in business and become more efficient. For construction enterprises with large investment costs, enterprises have good business relationships with partners that can help them save production costs and improve profits. make the business more efficient.

5. Recommendations and Limitations

Through this study, the research has some recommen-dations as follows:

First, leaders need to continue to improve their level of commitment in the organization; commitments are an important factor in driving the business to become more effective. In a volatile business environment, the construction industry, in general, has a large level of personnel turnover, which requires businesses to have appropriate policies to maintain leadership's commitment to the organization and create trust. for the growth of the organization.

Second, enterprises continue to apply science and technology in production and business. To apply advanced science and technology, enterprises need to invest in modern machinery and equipment and perfect a modern management system. At the same time, businesses need to develop appropriate policies to take advantage of all advantages of science and technology in the context that the 4.0 technology revolution is happening daily and changing rapidly. Third, enterprises continue to expand business relationships with partners, customers, and suppliers. To implement the above policy, enterprises need to build a wide network of partners to take advantage of each party and thereby improve business efficiency.

Due to the limited research framework in terms of time and resources, the above research cannot cover all enterprises in the construction and real estate industry in general. Therefore, the author also wishes to expand the scope of research and evaluate the impact of other factors on the performance of enterprises in the Vietnamese construction and real estate industry in future studies.

(i) Further study by different industry groups;
(ii) Some control variables such as size, the form of business ownership, and level of labor intensity

should be considered to find out the difference (if any) in the degree of influence of management factors. to business performance.

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