

The effect of internal control on the performance of Vietnamese construction enterprises

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ABSTRACT

Vietnamese construction enterprises play an important role in Vietnam's economic development. However, Vietnamese construction enterprises are facing many difficulties in business activities. One of the difficulties is the management of business activities to improve the efficiency of the business. There are many management tools that provide information to managers in order to make decisions in the business operations of the business effectively. One of the important tools for managing business operations in an enterprise is the use of internal controls. Internal control will establish control procedures to provide security for assets and information of the business. The full application of internal control elements in the business will help businesses save costs, increase sales and improve corporate performance. The purpose of this study is to explore the application of internal control elements to improve performance in Vietnamese construction firms. The study used 256 questionnaires sent to managers in construction businesses. After collecting 106 questionnaires, the study used SPSS 20 to process and analyze data. The research results show a positive relationship between elements of internal control and performance. The results of the study show that Vietnamese construction enterprises need to apply aspects of internal control to improve their performance.

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1. Introduction

International economic integration has brought many opportunities, but also challenges for Vietnam's economic development. In the context of international economic integration, Vietnamese enterprises must constantly improve their competitiveness. Internal control is an effective management tool in an enterprise. Internal control plays a very important role in the development of the business. Internal control not only helps reduce business risks but also prevents fraud and encourages business performance. Internal control also ensures compliance with the policies or procedures established by businesses. However, internal control is a new content for Vietnamese businesses both theoretically and practically. In recent years, Vietnamese construction enterprises have made great contributions to the development of Vietnam's economy. Products of the construction industry are single, with great value and are often produced according to orders. Products of the construction industry are usually buildings built in different places, incurring significant costs. Therefore, the management of costs, business efficiency is important for construction businesses. Enterprises have also designed internal controls to ensure safe and effective business operations, avoiding risks in all business processes of construction enterprises. However, at present, internal control in construction enterprises in Vietnam has many issues that need to be completed and is in the process of being built to suit the new model. This paper will explore the application of internal control elements to improve performance in Vietnamese

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construction firms. The paper will use quantitative research to explore the relationship between the elements of internal control and firm performance in Vietnamese construction firms.

2. Literature review

Internal control was born out of the field of accounting and auditing. Internal control was originally understood as a form of accounting control. Internal control involves checking the system performed by external auditors in assurance the reliability of financial statements (Fernald, 1943). The internal control report recognizes the responsibilities of the management for the appropriate internal control structure, and for the reporting of financial matters and its assessment of how effective the internal control is over financial reporting (Coates, 2007). Pfister (2009) focused view of internal control relates only to financial statements, that is concerned with all measures designed to safeguard assets from misappropriation and that accounting records and information systems are reliable. Internal control goes beyond finance and accounting, thus affecting more comprehensive organizational efficiency. (Okafor & Ibadin, 2009; Qianhong, 2011; Sani & Chaharmahalie, 2012) stated that the safeguards are divided into three categories: structural safeguards, staff safeguards, and system safeguards. Although the focused view of internal control emphasizes the technical aspects such as database, record keeping and segregation of duties, it is clear that these aspects of information processing depend greatly on the efforts of staff. Internal control is a management process that involves the active participation of every strata of an organization with a view to achieving operational effectiveness and efficiency, accuracy and dependability of financial reporting, and adherence to relevant statutes and internal policies. The five components of internal control include: the control environment, risk assessment, control activities, information and communication, and monitoring. (COSO, 2013). COSO's definition of internal control has gone beyond the objectives of accounting control, and this reveals three broad objectives that are classified as operational, financial reporting, and compliance (Jokipii, 2010). The first is control environment, which includes the structure, policies and procedure of the organization, control framework, and possible outside influences. The second component is the manual and automated system which are concerned with the ways in which the business information is processed, reported or stored. The third component is the control procedures which entail the information technology, applications, and compensating controls. (Noorvee, 2006). Control objectives for information and related technology is an information technology framework designed to assist organizations in their quest for regulatory compliance, risk management, and effecting an alignment of information technology strategy with organizational objective. Internal control is the policies, methods, practices and organizational structures designed to ensure that enterprises objectives will be achieved and the occurrence of any event (COBIT, 2019). Any undesirable occurrence is prevented or detected and that the occurrence of any undesired events will be prevented or detected and corrected (Bernroider & Ivanoc, 2011; Tuttle & Vandervelde, 2007). Managers can use COBIT to develop clear policy and good practice for control of information technology COBIT can facilitate the administration of internal controls in banks being inevitably connected with the reporting of financial information, the storage, processing and management of financial data and documents (Ridley, G., & Carroll, 2008).

Many recent studies focused on the two objectives of reliability of financial reporting and compliance with government regulations (Doyle, Ge, & McVay, 2007b; Lai, Lin, Li, & Hwang, 2011; Masli, Peters, Richardson, & Sanchez, 2010). It is only recently that the efficiency and effectiveness objective of internal control in relation to firm performance is beginning to come under empirical research scrutiny (Jokipii, 2010; Lai et al., 2011; Tang & Xu, 2008). Internal control have a negative impact a firm's performance (Boritz & Lim, 2008; Yazawa, 2010). Doyle et al. (2007a) report that firms disclosing material internal control weaknesses tend to be financially weaker, whereas companies that are weak in internal control tend to affect the quality of profit. Lu et al. (2010) stated that the lack of effective internal control results in a weak financial performance. Economic value added (EVA) was used as the dependent variable (Berete, 2011). Doyle et al. (Doyle et al., 2007b; Tang & Xu, 2008) also confirm that internal control affects the performance of companies in both financial and operational sectors. Muraleetharan (2011) conducted research in Jaffna, examining the relationship between internal control systems and the enterprise's performance. In particular, the factors of internal control are measured by the control environment, risk assessment, control activities and financial efficiency are measured by profits and liquidity. The author used questionnaires, observations and interviews with a sample of 181 people working in companies, using regression testing to measure the influence of internal control on the enterprise's performance. Research results show that internal control has a significant influence on the performance of the company. Njoki (2015) measured the impact of internal control on the financial performance in Nairobi. This study uses secondary data that is the annual report of 35 enterprises during the period from 2013 to 2014. Through multivariate regression analysis, with the dependent variable being return on assets (ROA) and the independent variables are control environment, risk assessment, control activities, communication and monitoring. The results showed that the control environment components, risk assessment, control activities, communication information of the internal control system have a positive impact on the ROA, while monitoring has a negative impact on the ROA. Phung (2016) have shown the degree of influence of each factor under internal control affecting the performance of Vietnam Electricity. In particular, the factor "Roles and powers of the Board of members" plays the most important role, followed by the "Manager is responsible for identifying and analyzing risks" and the factor "Communication of Vietnam Electricity" are factors that tend to affect the performance of Vietnam Electricity. (Anh, 2017) researching internal control in construction enterprises listed on Vietnam's stock market has tested the relationship between the quality of internal control with profitability, the relationship between the size of the control

board, the independence of the control board, the qualifications of the control board with the quality of internal control. The research results indicate the limitations of internal control factors, based on which to implement solutions to complete internal control.

3. Research Methodology

3.1 Research model

The proposed model for measuring the impact of Internal Control on Performance was developed based previous studies about the Internal control, performance and impact of internal control on performance, such as (Anh, 2017; Asiligwa & Rennox, 2017; Muraleetharan, 2011; Njoki, 2015; Phung, 2016). The model of impact of internal control on performance has five elements as follows: control environment, risk assessment, information and communication, control Activities, monitoring.

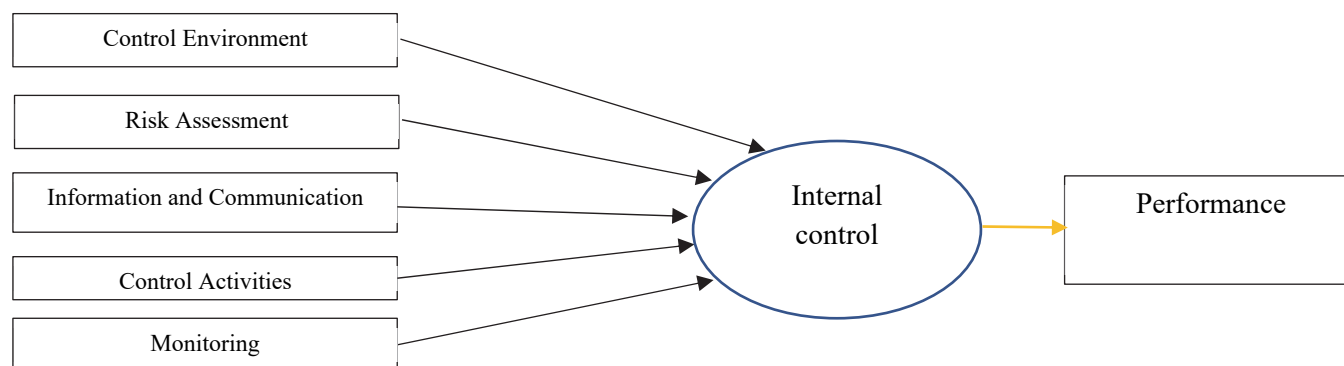


Fig. 1. Impact of Internal Control on Performance

Linear regression model

Researching model as anticipated:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

where Y represents Firm Performance, which is dependent variable. In addition, there are five independent variables, namely X_1 , X_2 , X_3 , X_4 , and X_5 which denote Control Environment, Risk Assessment, Information and Communication, Control Activities and Monitoring, respectively. Finally, ε represents Accidental error. Based on items of Internal Control scales of (Anh, 2017; Asiligwa, Mr & G, 2017; Muraleetharan, 2011; Njoki, 2015; Phung, 2016), the study will use a 5 factors of internal control and develop some new observation variables, including 36 Internal Control scales. Control Environment include 10 items. Risk Assessment include include 5 items, control activities include 10 items, Information and Communication include 6 items, Monitoring include 5 items

3.2 Research hypotheses

H₁₁: The higher the level of application of Control Environment, the greater the performance of Vietnamese Construction enterprises.

H₁₂: The higher the level of application of risk assessment, the greater the Performance of Vietnamese Construction enterprises.

H₁₃: The higher the level of application of Information and Communication, the greater the Performance of Vietnamese Construction enterprises.

H₁₄: The higher the level of application of Control Activities, the greater the Performance of Vietnamese Construction enterprises.

H₁₅: The higher the level of the application of Monitoring, the greater the Performance of Vietnamese Construction enterprises.

4. Research Results and Discussion

4.1 Cronbach's Alpha Measure

The study sent 256 questionnaires to managers in Vietnamese construction enterprises. Results collected from the sample, 106 questionnaires will be coded and analyzed by SPSS 20. The testing procedure was performed with 36 observation variables of Internal Control and 03 observation variables of Performance. Testing results by Cronbach's Alpha show that Cronbach's Alpha is bigger than 0.6. Therefore, all observation variables are reliable.

4.2 Factor Analysis

The results of the EFA Factor Analysis of the Internal Control in Vietnamese Construction enterprises are summarized in Table 1 as follows,

Table 1
KMO and Bartlett's Test

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | Bartlett's Test of Sphericity - Approx. Chi-Square | Bartlett's Test of Sphericity - df | Bartlett's Test of Sphericity - Sig. |
|---|--|------------------------------------|--------------------------------------|
| .802 | 7652.126 | 1015 | .000 |

(Source: results of running SPSS 20)

The results of Bartlett's Test, P-value = 0.000 <0.05 and KMO test = 0.802 > 0.5, meaning that the variables are related to each other and are statistically reliability.

Table 2
Total Variance Explained

| Component | 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 | 13.813 | 38.369 | 38.369 | 13.813 | 38.369 | 38.369 | 7.347 | 20.409 | 20.409 |
| 2 | 4.751 | 13.198 | 51.567 | 4.751 | 13.198 | 51.567 | 5.662 | 15.728 | 36.138 |
| 3 | 3.744 | 10.400 | 61.967 | 3.744 | 10.400 | 61.967 | 5.157 | 14.325 | 50.463 |
| 4 | 2.972 | 8.255 | 70.222 | 2.972 | 8.255 | 70.222 | 4.975 | 13.821 | 64.284 |
| 5 | 2.548 | 7.077 | 77.299 | 2.548 | 7.077 | 77.299 | 3.699 | 10.274 | 74.558 |

(Source: results of running SPSS 20)

There were 5 elements collected, described of 74.558% of the data variation. When rotating elements by using Varimax rotation technique, the results obtained 5 factors of the model of Internal Control and named according to the nature of the component variables: Control Environment, risk Assessment, information and communication, control activities, monitoring

Table 3
KMO and Bartlett's Test

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | Bartlett's Test of Sphericity - Approx. Chi-Square | Bartlett's Test of Sphericity - df | Bartlett's Test of Sphericity - Sig. |
|---|--|------------------------------------|--------------------------------------|
| .718 | 702.202 | 15 | .000 |

(Source: results of running SPSS 20)

From the results of Bartlett's Test, P-value = 0.000 <0.05 and KMO test = 0.718 > 0.5, meaning that the variables are related to each other and are statistically reliability.

Table 4
Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3.998 | 80.292 | 80.292 | 3.998 | 80.292 | 80.292 |
| 2 | .080 | 1.466 | 98.456 | | | |
| 3 | .038 | .768 | 100.000 | | | |

(Source: results of running SPSS 20)

From results of factor analysis, one factor has been named as performance, which explained 80.292% of the data variation.

4.3 Regression model analysis

In order to analyze the impact of the model of Internal Control on Performance in Vietnamese construction enterprises, the study will use the Multiple Linear Regression model for analysis data. The results of data analysis are as follows:

Table 5
Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .750 ^a | .798 | .756 | .74223 | 1.902 |

(Source: results of running SPSS 20)

$R^2 = 0.798 > 0.7$, meaning that 79.8% of the operational differences observed was explained by change of variables in the model and linear regression models were constructed in accordance with the data set up to 79.8%. Durbin-Watson value = 1.902, that meant no autocorrelation superlative chain.

Table 6
ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1 | Regression | 70.843 | 5 | 14.169 | 25.718 | .000 ^b |
| | Residual | 55.091 | 100 | .551 | | |
| | Total | 125.934 | 105 | | | |

(Source: results of running SPSS 20)

The analytical results show that the model built with statistical meaning by testing $F = 25.718$, $P\text{-value} = 0.000 < 0.05$, reject the null hypothesis $H_0: \beta_j = 0$.

Table 7
Coefficients^a

| Model | B | Std. Error | Standardized Coefficients Beta | T | Sig. | Tolerance | VIF |
|-------|------------|------------|--------------------------------|------|-------|-----------|------|
| 1 | (Constant) | .012 | .337 | | .034 | .973 | |
| | X1 | .248 | .079 | .236 | 3.140 | .002 | .776 |
| | X2 | .211 | .066 | .232 | 3.202 | .002 | .836 |
| | X3 | .221 | .066 | .249 | 3.347 | .001 | .791 |
| | X4 | .212 | .068 | .239 | 3.273 | .001 | .823 |
| | X5 | .184 | .075 | .181 | 2.439 | .016 | .792 |

(Source: results of running SPSS 20)

Some researchers (Hair Jr, L.Tatham, & C.Black, 1998; Thọ, 2012; Trọng & Ngọc, 2008) have stated that $VIF > 10$ will occur multicollinearity. The independent variables in the model are $VIF < 10$. This means that the model does not occur multicollinearity. The model coefficients β_j are p-value is < 0.05 , which means that disprove the hypothesis $H_0: \beta_j = 0$. Thus, the regression model would be:

$$Y = 0.012 + 0.248X_1 + 0.211X_2 + 0.221X_3 + 0.212X_4 + 0.184X_5$$

The research results show that, the aspects of Internal Control are affected with the performance in Vietnamese Construction enterprises, which means that the higher the level of application of Internal Control is, the greater the Performance in Vietnamese Construction enterprises is. The research results show that all 5 elements of Internal Control have positive effects on performance. This means that the higher the level of application of Control Environment is, the greater the Performance in Vietnamese Construction enterprises is, the higher the level of application of risk assessment is, the greater the Performance in Vietnamese Construction enterprises is, the higher the level of application of Information and Communication is, the greater the Performance in Vietnamese Construction enterprises is, the higher the level of application of Control Activities is, the greater the Performance in Vietnamese Construction enterprises is, the higher the level of application of Monitoring is, the greater the Performance in Vietnamese Construction enterprises is.

5. Conclusion

The research results have shown that the more fully Vietnamese Construction enterprises apply the elements of the internal control, the greater the performance is. Therefore, Vietnamese enterprises should fully and extensively apply aspects of the model of Internal Control, including: Control Environment, risk Assessment, information and communication, control activities, monitoring. Vietnamese construction enterprises need to strengthen the establishment of monitoring policies to control the performance of their subordinates or representatives. The company needs to develop a reasonable human resource management policy, salary regime and incentives to ensure competitiveness with other competitors. Business managers need to clearly assign authority and responsibilities to each department in order to help them achieve better work efficiency. The Board of Directors must develop a periodic control plan, supervise the key stages in production and business to detect risks in the process of production and business. Businesses need to plan to upgrade information systems to ensure information in increasing quantities and quality to meet the information needs of managers. The establishment and implementation of control activities will help managers minimize risks in the process of managing business activities. Therefore, Vietnamese construction enterprises should improve their control operations to achieve their goals.

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