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Impact of Internal Control on Financial Performance: Evidence from Sri Lanka

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First, this paper aims to provide empirical evidence of relationship between the internal control and financial performance of the selected manufacturing companies. Second, it seeks to what extent the significance of each internal control component affects to the financial performance. The purpose of this paper is enabling to identify the impact of internal control on financial performance. Data were collected through an online and physical questionnaire and published annual reports of 34 manufacturing companies listed in the Colombo Stock Exchange in 2019 and analyzed using multiple regression analysis. The results indicate that, control environment, risk assessment, control activities, information and communication and monitoring of controls are not highly impacted on financial performance individually. However, internal control system consisting with all these components has a greater impact on financial performance. The research is limited only to the manufacturing sector. Future research is needed to examine the relationship between internal control system and financial performance for other sectors as well. The paper demonstrates the need for managers to be aware of the drivers of the effectiveness of the internal control system and the relationships essential to drive financial performance. While all components of an internal control system are vital, this study shows that a good fit between them can lead to improved financial performance. This is the first empirical study that has used 34 public limited companies in manufacturing sector in Sri Lankan context by employing the COSO (Committee of Sponsoring Organizations of the Treadway Commission) framework.

Keywords: Internal control, Financial performance, Return on Equity (ROE), COSO/Committee of Sponsoring Organizations of the Treadway Commission Framework, Colombo Stock Exchange (CSE)

1. Introduction

In recent years, there has been growing interest in the role internal control elements play in the effectiveness of a company. Internal control is a dynamic integral process that is constantly adapting to the changes facing modern organizations (Muthusi, 2017). In response, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) developed a broad integrated framework of internal control to provide guidelines for creating, adapting and monitoring systems of control. Internal control frameworks are chosen to explain internal control. COSO 2013 framework which is

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latest version of COSO framework assumes the existence and functioning of five components which are control environment, control activities, risk assessment, information and communication and monitoring, that play an important role in achieving the internal control objectives of a firm. The following three internal control objectives can be found in the COSO framework:

(1) effectiveness and efficiency of activities;
(2) reliability of financial information; and
(3) compliance with applicable laws and regulations.

Large number of high-profile cases of fraud have been found in recent years (Domnişoru, Ogarca, & Dragomir, 2017; Minelli, Rebora, & Turri, 2009) and importance of internal controls assessment was increased, and the scope of work performed by internal auditors was grown in the context of globalization of business operations, greater use of information technology, and business complexity (Ljubisavljevic, 2011). Kuznets (1966) described long-term development patterns of countries based on empirical analyses of national accounts and argued that industrialization or increases in the share of manufacturing in GDP is a key feature of modern economic growth. In Sri Lankan public listed companies in manufacturing sector allocated a big space in their annual report for the Audit Committee Report by highlighting importance of internal control. Earlier studies have usually concentrated on particular control elements, such as the control environment (D'Aquila, 1998), risk assessment (Mills, 1997). Further, there was lack of research on internal control components' impact as a whole and separately on financial performance in Sri Lanka. It was motivated to fulfill that gap by providing empirical evidence of impact of internal control on financial performance in this study.

This study is enabled to find that there is a significant positive relationship between overall internal control system and financial performance in order to achieving the first objective of this study and also found that there is no significant relationship between financial performance and internal control components in separately by achieving the second objective of this study. However, previous studies explain that internal control components (information communication, control activities) separately have been significant relationship with financial performance (Thaddeus & Chimezie, 2011; Simons, 1987).

The remainder of the paper is arranged in the following manner. In order to construct study hypotheses, section 2 of the paper explores relevant theoretical and empirical literature. Section 3 explains the sample and data, and the regression model of the study. Section 4 presents the study's empirical findings, and Section 5 concludes the paper.

2. Literature Review

Corporate internal controls are part of governance mechanisms and, whether a company adopts a global internal control framework or develops its own, management should always be guided by the need to safeguard business value (Maseko, 2015).

Recent incidence of corporate failures and accounting frauds are mostly preceded by failure in companies' internal control structures (Njiru & Bunyasi, 2016). Commonly known frameworks which are COSO, CoCo (Confidential Consortium Framework), Basle Framework, the Combined Code and The Turnbull Guidance, include definitions of internal control and present its components (Agbejule & Jokipii, 2009). According to COSO framework (2013), five internal control components which are control environment, risk assessment, information and communication, control activities and monitoring, have been presented (Zhou, Chen, & Cheng, 2016). Agbejule and Jokipii, (2009), Colbert and Alderman (1995), and Mackay and Moeller (2007) studied on different internal control components and internal control effectiveness and it is less clear the link between internal control and financial performance (Zhou, Chen, & Cheng, 2016) as a whole. However, Eniola and Akinselure (2016) has carried out a research about this issue for the manufacturing sector in Nigeria. The professional literature on internal control has made progress toward developing international control frameworks, but so far, the amount of internal control research is limited (Jokipii, 2009). In addition, increasing emphasis on the role played by internal control in business (Maijoor, 2000), and the lack of existing research, creates new research needs and opportunities (Jokipii, 2009). Kiabel (2012) stated that strong internal control systems correlate with improved financial performance. Ejoh and Ejom (2014) found that there is no significant relationship between internal control activities and financial performance of tertiary institutions in Nigeria. Thus, it remains an empirical question whether internal control would help to improve financial performance.

To achieve the effective output from this study, two control variables were used to this study which are firm size and leverage. According to Kijewska (2016), it can be identified total assets of the company is one of the factors that affect to the ROE. Ngari (2017) studied the effect of internal control on financial performance and in that study also has used the firm size as a control variable. According to previous studies, financial leverage affects cost of capital, ultimately influencing firms' profitability (Higgins, 1977; Miller, 1977; Myers, 1984; Sheel, 1994). Titman and Wessels (1988), and Yoon and Jang (2005) investigated that there was a negative relationship between financial leverage and ROE. Due to the financial leverage affect to the ROE, financial leverage also considered as a control variable in this study.

However, the prospect of achievement is determined by limitations inherent in all internal control systems. In this respect, Emasu (2007) and Ibrahim, Diibuzie and Abubakari (2017) explain that internal control systems can only ensure reasonable rather than complete guarantee to the achievement of the organization's objectives which are instituted by an institution's management and board of directors. Further, the respondents were reluctant in giving information fearing that the information sought would be used to intimidate them or print a negative image about them or their enterprises (Muhunyo, 2018).

3. Methodology

3.1 Data Collection and Sample

The study population of this study is all the companies listed in CSE. The CSE had 290 companies representing 20 business sectors as at 30th September 2019. All companies of manufacturing sector which consists of 34 companies were selected as the sample of this study. Performance can be measured by either subjective or objective criteria. subjective measures include difficulties with collecting qualitative performance data from firms and with reliability of such data (Al-dmour, Al-Fawaz, Al-dmour & Allozi, 2017). Therefore, this research involves quantitative methodology and both primary and secondary data have been used for this study. Internal control was measured through a questionnaire survey (Jokipii, 2006) using a five-point Likert scale of 1 to 5, with 1 indicating weak agreement, and 5 indicating strong agreement and accountants and managers related to internal audit and internal controls were selected as the respondents who were responsible for independent evaluations of internal control systems. The assessment was based on the control self-assessment method (Adamec, Rexroad, Leinicke & Ostrosky, 2002) using 42 questions that invited managers to assess how confident they were on internal control components derived from the COSO framework. Financial performance data is obtained from annual financial reports of selected manufacturing companies from CSE website. According to Yoon and Jang (2005), "ROE is a comprehensive indicator of a firm's performance. Based on the literature, ROE is used in this study as the dependent variable to measure the financial performance of manufacturing companies listed in CSE Sri Lanka.

This study has used multiple regression model since this study employed more than one independent variable (Pedhazur, 1982). While previous literature has built model to identify the impact of internal control components separately on financial performance (Ejoh & Ejom, 2014; Thaddeus & Chimezie, 2011), this study has built the model to identify both individual and overall impact of internal control components on financial performance.

3.2 Hypotheses Development

For the purpose of arriving at the research objective, six hypotheses were developed based on the literature. Mackay and Moeller (2007), and Smith (1995) have explored the relationship between good risk management practices and improved financial performance. Thaddeus and Chimezie (2011) have found that adoption and subsequent use of information and communication has positively impacted service quality and financial performance. Simons (1987) has found that control activities had significant effects on company performance. Etengu and Amony (2016) have investigated that the components of internal control system should be enhanced to further improve the financial performance. According to the previous literature, this study also set the hypotheses by considering the control components in COSO framework (Hayes, Dassen, Schilder & Wallage, 2005).

$H1_1$: There is statistically significant relationship between internal control and financial performance of listed manufacturing companies in CSE.

$H2_1$: There is statistically significant relationship between control environment and financial performance of listed manufacturing companies in CSE.

$H3_1$: There is statistically significant relationship between risk assessment and financial performance of listed manufacturing companies in CSE.

$H4_1$: There is statistically significant relationship between information and communication and financial performance of listed manufacturing companies in CSE.

$H5_1$: There is statistically significant relationship between control activities and financial performance of listed manufacturing companies in CSE.

$H6_1$: There is statistically significant relationship between monitoring and financial performance of listed manufacturing companies in CSE.

3.3 Model Specification

The relationship between the financial performance (Y) and the internal control (X) was tested using multiple linear regression model captured below (Pedhazur, 1982; Agbejule & Jokipii, 2009).

Model 1

$$Y = \alpha + \beta 1x1 + \beta 2x2 + \beta 3x3 + \varepsilon$$

Where Y is financial performance (ROE), X1 is internal control, X2 is firm size (natural logarithm of total assets), X3 is leverage (total debt / total assets), ε is the error term and β1, β2 and β3 are the sensitivity of X1, X2, and X3 respectively on Y. Constant term is denoted by α.

Model 2

$$Y= \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6 + \beta 7X7 + \varepsilon$$

Where Y is financial performance (ROE), X1 is control environment, X2 is risk assessment, X3 is information and communication, X4 is control activities, X5 is monitoring, X6 is firm size (natural logarithm of total assets), X7 is leverage (total debt / total assets), ε is the error term and β1, β2, β3, β4, β5, β6 and β7 are the sensitivity of X1, X2, X3, X4, X5, X6 and X7. Constant term is denoted by α.

4. Empirical Findings and Discussion

Statistical evidence was obtained to test the hypotheses of the study by performing the correlation and regression analysis. Initially, multicollinearity was checked by critically observing the correlation matrix. Lower correlations which are below 0.9 ensure the

absence of the multicollinearity issue in the study. Following output tables were generated with the collected data set using SPSS software.

Table 1: Descriptive Statistics

	Minimum Statistic	Maximum Statistic	Mean Statistic
CE	3.73	4.91	4.2364
RA	3.29	4.86	4.0095
IC	3.00	4.57	3.8476
CA	4.00	5.00	4.4238
MO	3.70	4.80	4.2033
FSIZE	19.77	24.84	22.1891
LEV	.02	2.35	.9935
ROE	-.0780	.1684	.05411

Control environment, risk assessment, information and communication, control activities and monitoring have been taken 4.23, 4.00, 3.84, 4.42 and 4.20 mean values, respectively. All components of internal control were positioned around the mean value of 4 with small standard deviation which are near to zero by confirming the equal importance of all components of internal control. Mean value of all internal control components is in between 3-5 by confirming a high level of agreement in terms of effectiveness of internal control. Control environment has been taken 4.9 of maximum value while information communication has been taken 3.00 of minimum value by confirming again strong internal control system of the sample companies.

The study assesses reliability by using Cronbach's alpha (α) and all coefficients are above 0.7 by showing high reliability. Shapiro-Wilk P value is 0.660 which is greater than 0.05 and it indicates that the data are normally distributed (Shapiro & Wilk, 1965).

Table 2: Analysis of Correlations

Correlation	Coefficient
CE and ROE	.649**
RA and ROE	.718**
ICS and ROE	.604**
CA and ROE	.653**
MO and ROE	.728**
FSIZE and ROE	-.102
LEV and ROE	-.463*

Notes: Number of observations is 30 *p<0.05; **p<0.01;

According to the Table 2, correlation of CE, ICS and CA are .649, .604 and .653 respectively with ROE and all these correlations are in between 0.3 – 0.69 by showing moderate correlation with ROE (Hair, Black, Babin and Anderson, 2010). CE, ICS and CA have a positive moderate correlation with ROE at a 95% confidence level. Correlation of RA and MO are .718 and .728 respectively by showing strong positive correlation with ROE at 95% confidence level.

Analysis of Regression Results

Model 1

$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon$

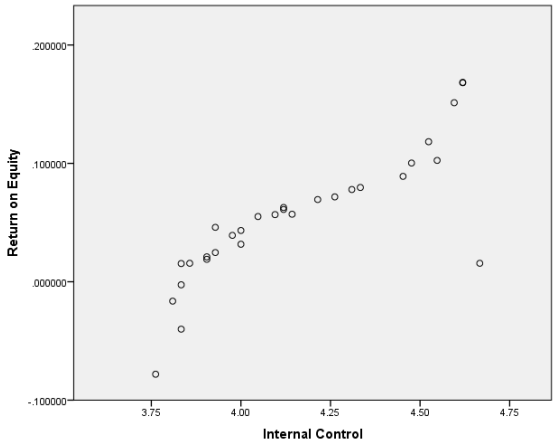
Table 3: Regression Estimates - Model 1

Variable	Coefficient	*t*-Statistic	*p*-Value
Constant	-	-4.432	.000
X	.759	7.479	.000
FSIZE	.019	.183	.856
LEV	-.268	-2.474	.020
Adjusted R2 = .723; F-statistic = 26.275 (0.000)			

Table 3 reports estimates of multiple regression analysis based on random effects model. F-statistic of 26.275 with a P-value of 0.000 indicates the collective significance of all explanatory variables in determining dependent variable. As per Table 3, it shows that model is more appropriate as regression model which is significant at 95% confidence level. Adjusted R squared value is shown as 72.3% by explaining that all explanatory variables in the model jointly explain to the extent of 72.3% statistical variance of the ROE.

Internal control has a statistically positive coefficient which is 0.759 with ROE at a 95% confidence level which is in line with the results of Etengu and Amony (2016). As a result of that $H1_0$ of this study can be rejected and $H1_1$ can be accepted. Figure 1 graphically illustrates the relationship between internal control and ROE and it clearly shows there is a positive relationship between internal control and financial performance.

Figure 1: Linear relationship between internal control and financial performance



Model 2

$Y = \alpha + \beta 1x1 + \beta 2x2 + \beta 3x3 + \beta 4x4 + \beta 5x5 + \beta 6x6 + \beta 7x7 + \varepsilon$

Table 4: Regression Estimates - Model 2

Variable	Coefficient	*t*-Statistic	*p*-Value
Constant	-	-4.055	.001
CE	.301	1.881	.073
RA	.272	1.184	.249
IC	.003	.012	.990
CA	.062	.316	.755
MO	.277	1.397	.176
FSIZE	.019	.160	.874
LEV	-.278	-2.321	.030

Adjusted R2 = .686; F-statistic = 10.050 (0.000), Standard Error of the Estimate value = 0.03

CE has a statistically positive coefficient which is .301 with ROE but it is insignificant. As a result of that $H2_1$ of this study has been rejected and $H2_0$ has been accepted. RA also has positive coefficient which is 0.272 and it is also insignificant. Therefore, $H3_1$ has been rejected and $H3_0$ has been accepted. Moreover, IC, CA and MO also have positive coefficients which are .003, .062, .277 respectively with ROE. These all three variables are insignificant and as a result, $H4_1$, $H5_1$, $H6_1$ have been rejected and $H4_0$, $H5_0$ and $H6_0$ can be accepted. Mackay and Moeller (2007), Thaddeus and Chimezie (2011) and Simons (1987) found that there is a positive significant relationship of risk assessment, information and communication, control activities with ROE. In Sri Lankan context it was insignificant since Sri Lankan companies are focusing on overall internal control systems instead of components of the internal controls separately. Accordingly, when considering these five COSO elements individually, there is no significant relationship with ROE.

Mackay and Moeller (2007) found that there is a positive significant relationship between risk assessment and ROE. In Sri Lankan context it was insignificant since Sri Lankan companies are focusing on overall internal control systems instead of components of the internal controls separately.

R squared value of this regression is 76.2%. Since this study is used multiple regression model, adjusted R squared has been used and it is showing 68.6% explanation of ROE by independent variable value. Further, in this model Standard Error of the Estimate value is 0.03 which is closer to the zero and it explains accuracy of the model and its variables.

The results of this study are concurrent with Etengu and Amony (2016), which investigate that the components of internal control system should be enhanced to further improve the financial performance. However, only three COSO elements which are control environment, control activities and monitoring were studied in that study whereas all five COSO elements were studied in this study. Similar results have also been found by Tseng (2007), and he found that the financial performance of business entities that have robust internal control systems is better than the performance of those entities that have weak systems. The result of this study is in line with Tseng (2007) because, the manufacturing companies with strong internal control system show high financial performance (ROE) in this study. In addition, Kiabel (2012) also stated that

strong internal control systems correlate with improved financial performance. Stringer and Carey (2002) have examined all five components and found each of this component is an integral part of an internal control system. This study results are concurrent with that study by showing although the each of component has no significant relationship with ROE individually, internal control system consisted with all the five components has a significant impact on financial performance.

Moreover, based on the selected control variables in the study, there is a significant negative relationship with the leverage and ROE whereas firm size has an insignificant positive correlation with ROE. Accordingly, result of this study is in line with Yoon and Jang (2005) which investigated that there was a negative relationship between financial leverage and ROE and therefore, the results of this study are concurrent with the literature.

5. Conclusion

Conclusion derived from this study is that overall internal control systems positively affected the financial performance of companies in the Sri Lankan manufacturing industry by achieving objective one. Also, the study concludes that control environment, risk assessment, control activities, information and communication and monitoring of controls are not individually impact on financial performance significantly. Finally, it can be concluded that all these internal control components should be included in the internal control system to reach high financial performance. This study implicate that companies should highly consider about robustness of internal control system to achieve higher financial performance.

There are certain limitations identified in this study. Firstly, the sample only covers 2018/19 financial year data only from listed manufacturing companies in Sri Lanka and it is suggested that further research be carried out to examine the effect of internal control systems on financial performance not only for manufacturing industry but also for all the sectors and for several financial years after 2018/19. Second limitation of this study relates to that taking the responses for questionnaires. Although researcher intend to get the responses for the questionnaire by visiting the companies, researcher could be able to get two physical responses and other responses had to get from web-based questionnaire due to COVID-19 pandemic. Therefore, future researchers can get the responses from physically meeting the respondents which is able to get some knowledge about the internal controls within organizations beyond the structured questionnaire.

The key findings highlight the need for Sri Lankan companies to establish an effective internal control system to ensure higher financial performance and long-term sustainability. Also, results provide some practical guidance for organizations in designing their internal control systems. When establishing internal control systems, companies should highly consider about robustness of internal control system to achieve higher financial performance.

This study also has important implications for management practices. It shows the need for managers to be aware of the drivers of the effectiveness of the internal control system and the relationships essential to drive effectiveness, especially when operating in manufacturing sector. Although the COSO framework provides guidelines on the components of internal control systems, it does not provide information on the balance of use between the components of the internal control system while the findings show that all the components have positive relationship with financial performance individually although there is insignificant impact and all components of an internal control system are vital. Therefore, this study shows that a fit among them can lead to improved effectiveness and financial performance. Also, this study contributes to knowledge by extending the existing literature on the impact of internal control on financial performance of manufacturing sector.

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