

Research Article

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Factors Affecting the Effectiveness of Accounting Information Systems in Public Listed Companies in Sri Lanka

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Abstract

The purpose of this study is to investigate the aforementioned topic of identifying the factors affecting the effectiveness of accounting information systems in public companies listed on the Colombo Stock Exchange in Sri Lanka. A thorough literature review was done in order to identify the variable for the conceptual framework of the study. The sample for the research study was 50 companies listed on the Colombo Stock Exchange in Sri Lanka, selected using random sampling technique. A questionnaire was designed to measure the variables in the conceptual framework and distributed among the selected companies. Research results indicated that there is a high level of use of computerized accounting systems in the Sri Lankan context. Results of hypothesis testing provided evidence of strong positive relationships prevailing between the extents of IT development, top management support and effectiveness of accounting information systems.

Introduction

Ever increasing complexity in business activities, especially in terms of transaction volume and wider scope of business operations appeals for effective accounting information systems. Irrespective of the form of the accounting information system, whether it is computerized or manual, the effectiveness of the system has become more imperative for business organizations as it is the major means of providing information for performance evaluation and decision making by various groups and people as the centralized place where financial data resides.

The wave of corporate scandals in the recent past such as collapse of Enron, Tyco International and Lehman Brothers has awakened the authorities to implement rules and regulations on internal controls over the transaction-based systems of enterprises as it has been recognized that most of those scandals were rooted in the companies' accounting practices. Sarbanes Oxley Act of 2002, which is in force in the United States of America is one of such laws which is in force in the United States of America ruling organizations' internal control structure and outlining the overall effectiveness of these controls. Not only in the global context, myriad of corporate failures can also be provided in the Sri Lankan context such as Golden Key credit card and Pramuka Bank failures.

An organization, with the correct idea as to what is meant by the effectiveness of accounting information systems and factors that affecting the effectiveness can implement an accounting information system that generates information with high quality which will best fit for the information requirements of the users. The purpose of this study is to recognize factors that affect the effectiveness of accounting information systems in the Sri Lankan context. The study examines the barriers and challenges that resist implementing an effective accounting information system with the intention of providing suitable recommendation to develop a sound internal control system.

Problem Statement

What are the factors affecting the effectiveness of accounting information systems in selected listed companies in Sri Lanka the concept of effectiveness of accounting information systems becomes more vital for large public companies whose management is largely independent and separate from the ownership? In such a context, shareholders/owners as fund providers expect the management to act for the best interest of them with the underlying objective of maximizing shareholders wealth.

The aforementioned fact has been largely discussed in the literature of corporate finance that dictates the establishment of a sound internal control and financial reporting system to provide transparent and reliable financial and non-financial information for the stakeholders.

As such, with the increased concern over the concept of corporate finance in the recent past, it has become inevitable for the business organizations, especially the large public companies to implement effective accounting information systems.

Accordingly, identification of factors that affect the effectiveness of accounting information systems and barriers and challengers that resist the implementation of such a system is of much importance.

Objectives of the research

- i. To find out the existing level of usage of computerized accounting information systems in companies listed on the Colombo Stock Exchange (CSE).
- ii. To find out the factors affecting the effectiveness of accounting information systems.

- iii. To find out the barriers and challenges resisting the implementation of effective accounting information system.

Literature review and Hypotheses development

Though there are very few empirical studies directly identifying the relationship between top management commitment and effectiveness of accounting information systems, myriad of studies has been carried out identifying how top management commitment affects the successful implementation of information systems. In an empirical study carried out by Young and Jordan (2008) to provide evidence that top management support is the main critical success factor for project success, top management support was defined as, devoting time to the information systems program in proportion to its cost and potential, reviewing plans, following up on results and facilitating the management problems involved with integrating ICT with the management process of the business. The research findings show common pitfalls made by top management that lead to failure of system implementation such as, lack of CEOs involvement, lack of top managers' interest and top managers being passive.

In a research carried out by Ismail and King (2007) examining the factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing companies, commitment of owners/managers was measured based on one aspect of top management commitment, that is degree of their participation in IT projects. Their participation has been recognized in relation to four major decision areas: information requirements; choice of hardware and software; system implementation and solving problems. Research results of an independent-samples t-test show very little support for the association between AIS alignment and owner/manager participation.

A case study carried out by Lessa and Boudreau (2011) examining the effect of information system intent of managers on information systems implementation, more emphasis has been given on willingness of top management to allocate valuable resources to the implementation and maintenance of the system. They defined leadership commitment as the loyalty or devotion, dedication, assurance, obligation or promise of a leader to effectively and efficiently exercise his duty. Hence, the concept of

leadership is coherently related to the top management commitment where leadership becomes a reality when a manager of a company or division accepts the responsibility for the successful implementation of the business plan.

H1: There is a significant relationship between top management commitment and effectiveness of accounting information system.

Information and communication technology (ICT) is more or less an extended synonym for information technology that identifies integration of various communication technologies. A well-developed ICT infrastructure enables data sharing across functions and divisions, which supports cross functional decision making and allows organizations to act more globally.

A study directly focusing on impact of information technology on the effectiveness of accounting information systems has been conducted by Jawabreh et al. (2011). According to them, recognition of the effectiveness of these systems in Aqaba tourist hotels and its relationship with technology would contribute to correction of any defects, if any, especially if caused by lack of access to technology. Empirical domain to the study has been few tourist hotels in Aqaba. IT use and advancement have been basically measured by factors such as availability of advanced computer and software, continuous update and development of software, ability of computers to retrieve information accurately and quickly, flexibility of computers to comply with emergent events and periodical maintenance of computers and peripherals. The results of the study indicate a positive correlation between the effectiveness of AIS and technological advancement.

A research has been conducted by Ismail and King (2007) examining the factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing companies. Among other things, IT sophistication of the companies has been recognized as one of the most influential factors affecting the alignment of accounting information systems.

H2: There is a significant relationship between IT capability of the organization and effectiveness of accounting information system.

Even if perfectly relevant well-organized sound information systems were available, it would not be possible to introduce them immediately due to the fact that systems are managed and used by people who have certain beliefs, attitudes and practices and changing them will take time. This is an indication that the organizational culture has a great impact on the success of any system. Indeje and Zheng (2010) found that organizational culture has a strong influence on financial information systems development and implementation. As such, when implementing an information system, attention must be given to norms, meanings and power in organizations.

In their research study on barriers of implementation of accounting information systems, Salehi and Abdipour (2011) found that organizational culture is one of the barriers of implementing accounting information system, which in turn indicates that there is a meaningful relationship between organizational culture and implementation of accounting information systems.

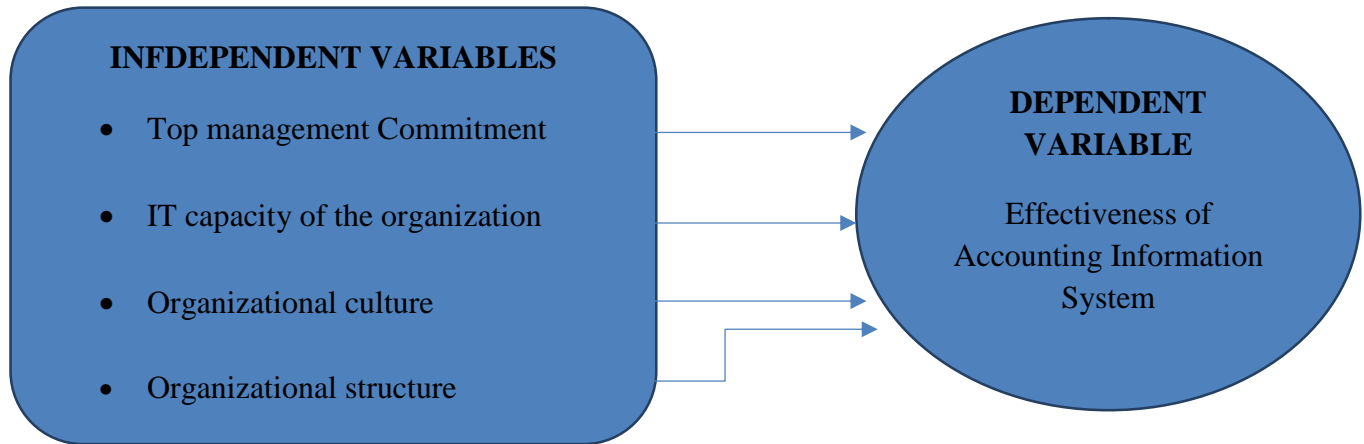
H3: There is a significant relationship between the culture of the organization and effectiveness of accounting information system.

Hao et al. (2012) identified that organizational structure includes the nature of layers of hierarchy, centralization of authority, and horizontal integration. According to them, the structure dictates formalization or flexibility of organizational activities, centralization or decentralization, work specialization and differentiation or departmentalization.

Many of the empirical studies have been conducted to recognize the impact of organizational structure on the success of information systems of organizations. Abdipour (2011) establishes factors that act as barriers for the implementation of an effective accounting information system. For the study, he establishes one hypothesis stating that organizational structure prevents the establishment of AIS. The results indicate that organizational structure is one of the barriers for the establishment of AIS.

H4: There is a significant relationship between the organizational structure and effectiveness of accounting information system.

Conceptual framework



Sample and Data collection

Population of the study includes companies listed on the main board in the Colombo Stock Exchange. There were 289 such companies listed during the period of this study. Among them, 50 companies were randomly selected as the sample for the study.

The prime mode of data gathering for the study is a survey, which was conducted with the aid of a structured research instrument; questionnaire. The questionnaire was designed to cover all variable of the conceptual framework: top management commitment;

IT capability of the organization; organizational culture; organizational structure and effectiveness of accounting information systems.

Correlation Analysis

Correlation describes the robust point of relationship among two variables. In this research the correlation co-efficient examination is used to discover the connection between independent and dependent variables.

Table 4.1 – Correlation analysis

| | Structure | Culture | Management commitment | Useful of IT | AIS |
|-----------------------|-----------|---------|-----------------------|--------------|-----|
| Structure | 1 | | | | |
| Pearson Correlation | | | | | |
| Sig. (2-tailed) | | | | | |
| N | 300 | | | | |
| Culture | .693** | 1 | | | |
| Pearson Correlation | | | | | |
| Sig. (2-tailed) | .000 | | | | |
| N | 300 | 300 | | | |
| Management commitment | .729** | .947** | 1 | | |
| Pearson Correlation | | | | | |
| Sig. (2-tailed) | .000 | .000 | | | |
| N | 300 | 300 | 300 | | |
| Usefulness of IT | .970** | .727** | .767** | 1 | |
| Pearson Correlation | | | | | |
| Sig. (2-tailed) | .000 | .000 | .000 | | |
| N | 300 | 300 | 300 | 50 | |
| AIS | .429** | .432** | .428** | .330** | 1 |
| Pearson Correlation | | | | | |
| Sig. (2-tailed) | .000 | .000 | .000 | .000 | |
| N | 300 | 300 | 300 | 300 | 300 |

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

The above Table 4.1 indicates the relationship between all independent variables and AIS of listed companies in term of correlation coefficient. Organizational structure, Organizational culture, Top management Commitment and IT capacity of the organization are significantly positively correlated with Effectiveness of Accounting Information System (AIS) of selected companies.

Regression Analysis

Analysis of regression is carried out to check the impact among the variables. The following Relationships are formulated

Table 4.2 - Regression Analysis-

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 2.129 | .152 | | 13.968 | .000 |
| structure | 1.290 | .122 | 1.950 | 10.577 | .000 |
| culture | .101 | .064 | .220 | 1.587 | .114 |
| Top management commitment | .165 | .085 | .288 | 1.936 | .054 |
| IT | 1.089 | .110 | 1.942 | 9.870 | .000 |

| Model | | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .643 ^a | .413 | .405 | .255964 |

Regression results reveal that the influence of top management commitment on effectiveness of accounting information system was positive and significant at 5% level. Therefore, Hypothesis H1 accepted. Furthermore, the effect of IT capability of the organization on AIS recorded positive and significant results. This result was reliable with the findings of *Jawabreh et al. (2011)*. Therefore, Hypothesis H2 accepted. Also, the impact of organizational culture on AIS was positive though insignificant. This outcome is reliable with the conclusions of *Indeje and Zheng (2010)* Therefore; Hypothesis H3 rejected. According to the Table 4.2, Organizational structure has significantly positively impact on AIS. The results are consistent with *Abdipour (2011)*, and he argued that, organizational structure has a strong influence on accounting information systems. Therefore, Hypothesis H4 accepted.

Conclusion


In this research study, an empirical survey was carried out to examine the existing level of computerized accounting information system use in companies listed on the Colombo Stock Exchange in Sri Lanka. The

study also examined the factors affecting the effectiveness of accounting systems in those companies. Factors could be primarily categorized as those representing organizational characteristics and top management commitment towards information systems. Results of regression analysis on hypotheses testing confirmed that IT capability of the organization is the most influential factor on the effectiveness of accounting systems. Among 50 of the companies, 30 companies used fully computerized accounting information systems providing evidence that the level of use of information technology for the accounting function is at a higher level in Sri Lankan companies. High usage level of computerized accounting systems became further evident from the fact that in almost all the organizations, every employee had been provided with his/her own computer in order to carry out accounting functions. The most powerful contributory IT factor to enhance the system effectiveness was the availability of adequate computers for the smooth functioning of accounting. Further, descriptive profile for IT capability proves that there is greater extent of using advanced communication techniques such as intranet and extranet, which would have been a contributory factor to enhance the timeliness of information generated by accounting systems.

Results of hypotheses testing also prove top management commitment plays a key role in enhancing the effectiveness of AIS. Senior personnel in many of the organizations had positive personal belief on the importance of having effective accounting information systems. Another crucial finding of the study is the importance of creating an ethical culture within the organization to improve the quality of information produced by the accounting system, which in turn will enhance the system effectiveness.

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