Extent to which Management Controls Systems are used in the Sri Lankan Manufacturing Sector

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ABSTRACT

Management Control Systems are important mechanisms enabling organization development, learning and innovation, as the primary objective ofManagement Control Systems is to ensure the achievement of organizational goals and objectives. The manufacturing industry in Sri Lanka which is the main contributor to the industry sector of the country has been growing steadily since the reintroduction of open economic policies in 1978. The main objective of this study is to analyse the extent to which management control systems are used in the Sri Lankan manufacturing sector. Review of literature on the subject indicates that the use of MCS in Sri Lankan companies is extremely low and that basic MCS are the main MCS used by these firms in the industry. Data for study was collected from a structured self-administered questionnaire which was forwarded to a sample population of 83 public quoted manufacturing companies operating in Sri Lanka. Of these companies 71responded to the questionnaire. Structured interviews weresubsequently conducted with the Chief Operating Officers of these companies to ensure accurate completion of questionnaire and to authenticate the data provided.Analysis of data reveal that basic, cost and risk MCS are used extensively by public quoted companies operating in the manufacturing sector of the country, whilst the use of revenue MCS is limited. In addition, findings from the study also reveal a positive correlation between MCS and firm size, and MCS and firm financial performance.

Field of research: Management Controls

1.0 INTRODUCTION

The Sri Lankan manufacturing sector which is the principal contributor to the industry sector of the country has grown rapidly since the country's independence in 1948. Prior to 1948 and in the immediate post independent decade the manufacturing sector of the country was primarily focused on the production of agricultural produce for domestic consumption and export. Most of the firms operating in the manufacturing sector during this period were mainly involved in the production and packaging of tea, rubber and coconut for expor
The model employed in the manufacturing of these primary commodities was characterized by limited investments in plants and machinery, limited technological expertise and basic sequential procedures and processes. A drastic reduction in foreign exchange reserves and a shift in the economic policies of the country from a capitalistic economic system to a

socialist approach in 1960 resulted in an exodus of dominant foreign companies from the banking, finance, plantation and other key sectors of the economy.Socialistic economic policies in the 1960s and 1970s witnessed the emergence of large scale public corporations in all sectors of the economy and a decline in private sector contribution to the economy.

The reestablishment of capitalistic economic policies and the liberalization of the Sri Lankan economy in the late 1970s resulted in massive developments in all areas of the economy, including the manufacturing sector. The removal of protectionist policies and the introduction of market oriented policies resulted in a significant growth in private sector investment and participation in the local economy in the late 1970s and throughout the 1980s. Private sector confidence and participation in the local economy during this period was further enhanced through the creation of Free Trade Zones in key regions of the country, and the establishment of the Greater Colombo Economic Commission which facilitated foreign participation in the banking, finance, manufacturing and other key sectors of the economy. A key outcome of these open economic policies was the exponential growth in industry output and capacity utilization. Capacity utilization increased from 63% in the 1970s to 75% during the period 1978 to 1990, whilst manufacturing output increased from 1.7% to 5.6% during this same period. This increase in industry output and capacity utilization resulted in manufacturing sector contribution to GDP of the country increasing from 15% in 1990 to 17.5% in 2010.

Given the significant growth and development of the manufacturing sector since the reintroduction of open economic policies in 1978 it is import to assess thecontribution and influence of Management Control Systems (MCS) to the improvement in efficiency of the manufacturing sector of the country. MCS are vital for the management and control of companies regardless of the size or ownership structure of the company. MCS consists of numerous tools and mechanisms develop to monitor and ensure that a company's performance is inline expectations. Although MCS have historically been described as formal control and feedback systems to monitor and measure organizational performance vis-à-vis expectations and correct deviations in performance, over the recent past, MCS have also been identified as important mechanisms enabling organizational growth, innovation and learning (Bisbe&Otely, 2004). The fundamental reason for MCS importance for organizational growth and success can be attributed to the fact that the key theme of MCSentails ensuring that an organization achieves its stated goals and objectives (Otley, 2003). The main objective in this study is to measure the level of MCS usage in the manufacturing sector of Sri Lanka.

2.0 LITERATURE REVIEW
Management Controls (MCs) are key tool used by management in today's dynamic economic and business environment. MCs consists of various tools and mechanisms which enable the company, specifically the management of the company to assess the extent to which goals and objectives of the company are achieved, identify deviances in performance, implement corrective measure to correct deviances and ensure that the company achieves its stated goals and objectives. In addition, to monitoring, correcting and ensuring performance is as per expectations, MCs also enables firms to utilize resources more efficiently and effectively.

2.1 DEFINITION OF MANAGEMENT CONTROL SYSTEMS
MCSs are the process and procedures employed by management to ensure resources are acquired and made use of efficiently and effectively in the attainmentof a firm's stated goals and objectives (Anthony, 1965). Similarly Simon (1995) defines MCSs as formal information based processes and procedures that management utilize to evaluate and change patterns in organizational performance. This definition of MCS as information based processes and procedures to monitor and correct performance is also echoed by Merchant and Otley

(2007) who state thethe primary objective of MCSs is to produce data that can be utilized by firms for planning, evaluation and decision making. MCS according to Chow, Shields and Wu (1990) are procedures and processes which enable firms to motivate employee to make informed decisions and establish best practices which are in the interest of the firm.

2.2 IMPORTANCE OF MANAGEMENT CONTROL SYSTEMS
MCSs are import management tools which facilitates organizational learning and innovation (Bisbe and Otely, 2004; Chenhall and Langfield, 2003). The basic foundation of MCSs necessitates assisting an organization achieve its stated goals and objectives (Otley, 2003). MCSs can therefore be identifiedas a management activity which connects operational control and strategic planning (Otley, Broadbent and Berry, 1995). Given the high probability of organizations facing complex business challenges in today's dynamic business environment on account of rapid developments in technology, intense global rivalry, rapid diffusion of information, etc., (Drucker, 1997), the ability of management to anticipate and respond to challenges and opportunities influenced by developmentsin the macro environment is crucial for organizational survival and success (Abernethy and Brownell, 1999). Management accounting systems and data generated from these systems play a key role in management decision making, which in turn is vital for the development of comparative advantages within the organization (Chenhall and Langfield-Smith, 1998). In addition to enabling companies to develop comparative advantages, MCSs by assessing organization performance and rectifying deviances in performance have become a keydrivers in organizational transformation.

MCSs are not employed to their maximum potential in Sri Lanka (Abesinghe, 2009; Fonseka, Manawaduge and Senaratne, (2005). MCSs are only rituals in Sri Lankan public companies, as in most cases political interest supplants all other interests including financial interest of these companies (Abeysinge, 2009). In most instances, MCSs are primarily employed by public quoted companies in Sri Lanka for control, planning and internal control purposes (Fonseka et al (2005)). Common MCs employed in quoted companies include cash flow planning, ratio analysis, budgetary control, internal audits, capital budgeting techniques, performance evaluation. As perEkanayake (2004) MCs are vital for organizations as employeemotivation to perform optimally fluctuates, compelling MCSs to align organizational objectives with the objectives of the employee.

2.3 USE OF MANAGEMENT CONTROLS IN SRI LANKAN COMPANIES
Research pertaining to MCS in Sri Lankan companies is extremely limited. Of the two notable studies on the subject, Samudrage (2007) in her research analyzed the correlation between strategy and management control systems in Sri Lankan companies, whilst Wickremasinghe (2003) in his research measured the state of MCS in Sri Lankan companies post-independence.The scope and depth of both of these studies however is limited. The former is based on one pubic quoted company in the country, whilst the latter is based on the analysis of two companies i.e. a privatized textile mill and semi-private telecommunication company.

3.0 IMPORTANCE OF THE STUDY
There is a dearth of research on the use of MCS in manufacturing companies in Sri Lanka. Also as described previously, the depth and scope of existing research on the subject is extremely limited andunderscores the need for comprehensive research pertaining to use of MCS in Sri Lankan manufacturing companies. This study will address this gap in research on the extent to which MCS are used in Sri Lankan manufacturing companies. In addition, companies operating in the manufacturing sector of the country will be able to use the findings from this study to modify existing MCSs and introduce new MCSs which in turn should have a positive impact on the performance of these companies and their ability to achieve their goals and objectives.

4.0STATEMENT OF THE PROBLEM

MCSs have evolved from basic control and feedback systems to important processes, procedures and tools supporting organizational development, innovation and learning. Although academics have long been aware of the positive relationship between MCS and organizational growth and success, the implementation of MCS within organizations is extremely low. In addition, findings from literature suggests that MCS used in organizations are mainly traditional MCS mechanisms such as budgetary controls, internal audits and performance evaluation. Limited research on MCS in Sri Lankan companies suggests that this is also the case in the Sri Lankan context with traditional MCS mechanisms being the dominant MCS used by a majority of organizations in the country (Fonseka et al., 2005). Given the importance of MCS for organizational success the problem statement can be presented as "**To what extent are MCS used by manufacturing companies in Sri Lanka?**"

5. OBJECTIVES OF THE STUDY

The main objectives of this study are to measure the extent to which MCSsare used by companies in the Sri Lankan manufacturing sector and to assess the impact of MCS on the financial performance of these companies.

6. RESEARCH METHODOLOGY

6.1 POPULATION SAMPLE

The research population for this study consist of 83public quoted companies operating in Sri Lanka's manufacturing sector. The composition of the population is detailed in Table 1. Based on the results of the pilot study, 71 companies or 85.5% of the populationwere included in the sample population of the study.

Table 1: Public Quoted Companies Operating in Sri Lanka'sManufacturing Sector

Industry	No. of companies
Manufacturing	39
Beverage, food and tobacco	21
Chemicals and pharmaceuticals	12
Footwear and textile	07
Construction and engineering	04
Total	83

6.2DATA COLLECTION METHODS

Data for this study has been collected through both primary and secondary data collection instruments. Unit of analysis for this study is at company level.Primary data for the study were collected from Chief Operating Officers of the selected companies.

Primary data has been obtained using both interviews and questionnaires. A questionnaire was developed and forwarded to the Chief Operating Officers of the selected companies. The questionnaires were framed in a manner that facilitated the collection of data pertaining to MCS used in the selected companies, thestated financial goals and objectives of thesecompanies and the extent to which the stated financial objectives have being achieved.

The MCSs for primary data collection were identified by referring to recently published textbooks on MCs. In addition, one open ended question was used to identify MCSs used by the companies, which were not in the list of MCS provided to them in the questionnaire. Information collected from the questionnaires was authenticated via interviews with the respondents.

Secondary data was collected through the Central Bank of Sri Lanka and the annual reports of the companies studied. The information collected through secondary sources was used to analyse the performance of individual companies and the manufacturing sector as a whole. In addition, company reports were used to measure the extent to which the financial goals and objectives of the company have been achieved.

6.3 Operationalization
To categorize the companies based on value of assets three constructs are used in the questionnaire i.e. companies with value of assets less than LKR4 million, value of assets between LKR4 million and LKR20 million, and value of assets exceeding LKR20 million. In deciding the value of assets, the respondents were requested to exclude the value of land and buildings as the value of assets can arbitrarily be increased or decreased through the value of these assets owing to varying land prices in different parts of the country which makes comparisons difficult. In the categorization of companies based on the number of employees, five constructs have been used in the questionnaire i.e. companies with less than 50 employees, companies with 50 to 100 employees, companies with 100 to 150 employees, companies with 150 to 200 employees, and companies with more than 200 employees. To categorize the companies based on the organization strategy/orientation, three constructs have been used i.e. companies with strategies focused on achievement of superior profits through low cost, creation of unique products to market at premium prices, sale of products with unique features.

Management controls included in the questionnaire relating to stock (accounting controls) consists of sequentially numbering of orders, authorization and approval of transactions, periodical checks on all the entries to invoices, and spot count on all inventories. The management control questioned relating to separation of duties include clearly defined limits of authorization; standardization of rules, policies, and procedures; supervision and monitor of subordinates; and ensured safe custody of assets with physical controls. Management controls relating to budgeting that were included in the questionnaire consists of controls relating to the development of draft budget proposals, inclusion of précised dates on control reports, containment of reasonable and accurate cost estimates, and conducting of performance evaluations based on budgeted results.

Management controls relating to auditing included in the questionnaire consists of recalculation and reconciliation of accounting records; conduct of internal audit checks on financial reports and information; conducting of fraud investigation; conducting of unplanned audit projects; and identification of process inefficiencies. The use of management controls such as Net Present Value, Pay-back period, Accounting Rate of Return, Internal Rate of Return, Discounted pay-back period were included in the questionnaire as management controls relating to assessment of capital projects. Management controls pertaining to performance measurement included in the questionnaire are the achievement of budgeted targets, evaluation of performances using measures of output, and the use of performance information to improve budgetary decisions.

6.4 DATA ANALYSIS
Descriptive analysis has been carried out to analyse the extent to which MCS are used by manufacturing companies in Sri Lanka. In order to present summaries of data, case summaries and descriptive analysis have been used. Analysis of mean, range, standard deviation and the variance in data were carried out to identify how clustered or dispersed the

variables are and to understand how well the questions were framed for tapping the concept questioned in the survey instrument.

8. RESULTS AND DISCUSSION

Result of the descriptive analysis for degree of use of management controls identified are outlined in table 2. As shown in this table, the mean values for all the identified management controls are above 3.4, whereas the maximum and minimum possible values are 4.0 and 1.0, respectively. These mean values are close to 4.0 indicating a very high degree of practice of the identified management controls. This statistic also indicate that management controls relating to stock (accounting controls), separation of duties control, budgeting, auditing, assessment of capital projects, and performance measurement are the MCS most commonly used by companies operating in Sri Lankan manufacturing sector.

Table 2: MCS Degree of use in Sri Lankan Manufacturing Companies

MCS Type	N	Mean	Std. Deviation
Stock (accounting controls)	71	3.6021	.41956
Separation of duties	71	3.4507	.40448
Budgeting	71	3.4789	.49776
Auditing	71	3.5211	.40494
Assessment of capital projects	71	3.3577	.45722
Performance Management	71	3.2873	.42726
Valid N (list wise)	71		

Source: Survey Data

9. FINDINGS

Findings from the data analysis reveal that all companies use budgeting, inventory management and other forms of basic MCS.In addition, 75% of the sample companies implement some type of cost MCS, 68% of the companies implement some form of risk MCS, whilst only 5.6% of the companies use revenue MCS. Findings also indicate that firm size has a significant correlation with the type and number of MCS used. Large firms with more than 500 employees were found to use a number of MCS ranging from basic MCS to risk and cost MCS, whilst smaller companies with less than 100 employees used mainly basic MCS. In terms of MCSs influence on organizational performance, finding reveal a strong positive correlation between MCS and financial performance. The financial performance of organizations with tight MCSs being far superior to that of firms with limited MCSs.

10. RECOMMENDATIONS/SUGGESTIONS

MCSs have a positive influence on the financial performance of companies operating in the Sri Lankan manufacturing sector. Given this positive correlation between MCS and organization performance, manufacturing companies in the country should focus on introducing additional MCSs, particularly Cost and Risk MCSs in order to improve financial performance and achieve the stated goals and objectives.

11. CONCLUSIONS

The main objective in this study was to analyse the degree of usage of MCS in Sri Lankan manufacturing companies. Sample population of the study consisted of 71 companies

operating in the manufacturing sector of the country. The primary data collection instruments in the study were questionnaires and interviews. Questionnaires were initially used to obtain data relating to MCS used by the selected companies, their financial goals and objectives, and the extent to which these financial goals and objectives have been achieved. Interviews were then conducted with the Chief Operating Officers of these companies to authenticate the information provided in the questionnaires. Data obtained from the questionnaires and interviews have been analysed using various financial ratios as well as applied statistical tools. Findings from the data analysis reveal that basic MCS along with Cost and Risks MCS are used extensively by firms operating in the Sri Lankan manufacturing sector, whilst the usage of revenue MCS are limited. In addition, findings also reveal a positive correlation between MCS usage and firm size, and MCS usage and firm financial performance.The findings of this study are in line with the research conducted by Ho, Huang, & Wu (2011) and Bloom et al (2011) which reported a positive correlation between MCS and organizational performance and contradict the research of Jankaka (2007) which foundthat MCSs have little influence on organizational performance.

12. LIMITATIONS OF THE STUDY
Given that the primary function of business organization is to operate profitably and achieve its financial goals and objectives, this study limits its focus to financial MCS used by public quoted companies operating in Sri Lanka's manufacturing sector. Also whilst the study attempted to take into consideration the entire population of 83 public quoted manufacturing companies operating in the country, reluctance and of some companies to take part in this study and provide the required informationlimited the ability of the study to arrive at accurate conclusion for the sector as a whole. In addition, given the fact that this study only focuses on the public quoted manufacturing companies in the country, further research needs to be carried out on state owned enterprises, private manufacturing firms and other manufacturing companies in order to develop a comprehensive picture on the use of MCS in the manufacturing sector of the country.

13. SCOPE FOR FURTHER RESEARCH
This study focuseson the extent to which MCS are used by public quoted companies operating in the Sri Lankan manufacturing sector. In order to develop a comprehensive picture on the extent to which MCS are employed in the country's manufacturing sector further research needs to be conducted on the extent to which MCS are used by stated owned enterprises, private companies and other entities operating in the Sri Lankan manufacturing sector. In addition, there is scope for research on the influence and contribution of MCS to the overall success of the manufacturing sector in the country, the contribution of MCS to planned change in these organizations, and the impact of MCS on employee motivation and performance. Thesestudies will enable the development of a comprehensive understanding on the use and influence of MCS in the manufacturing sector of the country, will enable manufacturing firms to achieve their financial goals and objectives through the implementation of effective MCS and will facilitate growth and development across the entire sector.

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