# Impact of Misfit between Management Control System and Business Strategy on Performance

### PX

R.M.M Himani Darshika Rajapakshe

Registration No: GS/MSC/MGT/3444/08

Thesis submitted to the University of Sri Jayewardenepura for the award of the Degree of Master of Science in Management MSM 13 - MSc Thesis on 31<sup>§†</sup> October 2013

## **DECLARATION BY THE CANDIDATE**

The work described in this thesis was carried out by me under the supervision of

Dr. A.A.J Fernando and a report on this has not been submitted in whole or in part to any University or any other Institution for another Degree or Diploma.

R.M.M.H.D Rajapakshe

GS/MSC/GMT/3444/08

07/07/2014.

Date

# SUPERVISORS APPROVAL

I certify that the declaration statement made by the candidate is true and that this thesis is suitable for submission to the University for the purpose of evaluation.

Dr. A.A.J. Fernando

University of Sri Jayewardenepura

7/7/2014

Date

# TABLE OF CONTENT

List of tables	vi
List of figures	vii
List of abbreviations	viii
Acknowledgement	X
Abstract	xii
CHAPTER ONE – INTRODUCTION	- 1
1.1 Background to the study	1
1.2 Problem statement	5
1.3 Significance of the study	7
1.4 Scope of the study	10
1.5 Objectives of the Study	11
1.6 Thesis organization	11
CHAPTER TWO- LITERATURE REVIEW	13
2.1 Overview of the telecommunication industry	13
2.1.1 History of the industry	13
2.1.2 Current position of the industry	14
2.1.3 National Telecommunications Policy	16
2.1.4 The Telecommunications Regulatory Commission of Sri Lanka	17
2.1.5 Key regulatory and policy events: 1980-2012	18

	2.1.6 Product Range of the Industry in Sri Lanka	21
	2.1.6.1 Mobile Telephone	21
	2.1.6.2 Fixed wire/wireless Telephone	22
	2.1.6.3 Internet and email (Broadband service)	24
	2.2 Theoretical aspect of Management Control Systems	26
	2.3 Theoretical aspect of Business Strategy	30
	2.4 Theoretical aspect of performance	32
	2.5 Theoretical aspect of contingency theory: Fit and Euclidean	
	distance	34
	2.5.1 Contingency theory	34
	2.5.2 Fit	36
	2.5.3 Euclidean distance	37
	2.5.3.1 Standard Euclidean distance	38
	2.5.3.2 Weighted Euclidean distance	38
	2.6 Empirical studies on contingency theory examines the fit by	
	estimation of Euclidean distance	41
	2.7 Empirical studies on relationship between MCSs and adopted BSs	44
j	CHAPTER THREE - RESEARCH FRAMEWORK	
	3.1 Dependent and independent variables of the study	57
	3.2 Conceptualising of variables	58
	3.2.1 Management Control System	58

	3.2.2 Business Strategy	59
	3.2.3 Performance	61
	3.3 Theoretical Framework	62
	3.4 Conceptual framework	63
	3.5 Econometric models of the study	64
	3.6 List of hypotheses	65
(	CHAPTER FOUR - METHODOLOGY	67
	4.1 Contingency theory and measuring the fit between BS and MCS	67
	4.2 Method of data collection	69
	4.2.1 Primary data collection	69
	4.2.1.1 Questionnaire design	69
	4.2.1.2 Questionnaire survey	69
	4.2.1.3 Population and sample size	70
	4.2.2 Secondary data collection	71
	4.3 Measurement of variable	72
	4.3.1 Business strategy	72
	4.3.2 Management Control System	73
	4.3.3 Financial performance	73
	4.4 Reliability and validity of data	74
	4.5 Data analysis	74
	4.5.1 Inferential analysis	75

	4.5.1.1 Categorization of companies under BS	75
	4.5.1.2 Identification of fitness between strategy and MCS	75
	4.5.1.3 Identification of critical and non-critical MCS variables under each	
	strategy	75
	4.5.1.4 Calculation of Euclidean distance for misfit	76
	4.6 Testing of hypotheses	76
CHAPTER FIVE - RESULTS AND DISCUSSION		77
	5.1 Profile of the selected companies	77
	5.1.1 Dialog Axiata PLC	77
	5.1.2 Mobitel	80
	5.1.3 Etisalat	82
	5.1.4 Hutch	83
	5.1.5 Airtel Lanka	84
	5.1.6 Sri Lanka Telecom	85
	5.1.7 Lankabell	87
	5.2 Response rate of telecommunication companies in Sri Lanka	88
	5.3 Reliability of collected data	90
	5.4 Inferential analysis	91
	5.4.1 Linearity, Normality and Multicolinearity	91
	5.5 Categorization of companies based on the strategy	94

	5.6 The relationship between company performance and applied		
	business strategy	96	
	5.7 Overall fitness of BS and MCS	98	
	5.8 Identification of critical and non-critical MCS variables under		
	each strategy	99	
	5.9 Calculation of Euclidean distance for misfit	101	
	5.10 Testing of hypotheses	106	
	5.11 Limitations found in the study	108	
	5.12 Future research	109	
CHAPTER SIX - CONCLUSION AND RECOMMENDATIONS		110	
REFERENCES		113	
APPENDICES		121	
	1. Design of literature studies	121	
	2.MCS and BS mechanisms/definitions used by scholars	126	
	3. Research questionnaire	133	
	4. Inferential analysis	138	
	4.1 Inter-item construct reliability of data collected in the study	138	
	4.2 Militicolinearity	139	
	4.3 Correlation between MCS and BS	141	
	4.4 Correlation coefficient for adapted strategy and MCSs	142	
	4.5 OLS regression on performance vs MCS variables	147	
	4.6 Testing of Hypotheses	147	

# LIST OF TABLES

Table :2.1	Regulatory and policy events of TRCSL 1980 - 2012	18
Table :2.2	Statistical overview of the telecommunication sector as at end	
	of December 2012	26
Table: 4.1	Population and sample size applied in the questionnaire survey	70
Table :5.1	Response rate of telecommunication companies in Sri Lanka	89
Table :5.2	Inter-item construct reliability of data collected in the study	90
Table:5.3	The skewness and kurtosis statistics for the all variables in the	
	questionnaire	93
Table:5.4	Identification of significance of BS types on company	
	performances	95
Table :5.5	Performance and co-relation between BS and MCS	97
Table: 5.6	Correlation coefficients for the adopted BS	98
Table :5.7	Business Strategy versus Management Control Systems	99
Table :5.8	Categorization of MCS variables as critical and non-critical	
	under each BS	101
Table :5.9	OLS regression on Performance vs MCS variables	102
Table :5.10	Calculated Euclidean distance for misfit for critical and non	103
	critical variables	
Table :5.11	Results of ANOVA regression done for testing hypotheses	106

# LIST OF FIGURES

Figure: 2.1	Comparison of mobile penetration	15
Figure: 2.2	Mobile subscriber growths 1992-2012, Sri Lanka in	
	comparison	22
Figure: 2.3	Fixed telephone subscriber growths 1990-2012, Sri Lanka in	
	comparison	23
Figure: 2.4	Internet and email subscribers growth 1996-2012, Sri Lanka	
	in comparison	25
Figure: 2.5	Squared distance between two vectors x and y	39
Figure: 2.6	Distance to a three-dimensional point	41
Figure: 3.1	Conceptual framework	63
Figure: 5.1	Linearity relationship between financial performance and	
	five MCS variables	91
Figure: 5.2	Linearity relationship between financial performance and BS	92
Figure: 5.3	Correlation between BS and MCS	97
Figure: 5.4a	Euclidean distance for misfit of critical variables	104
Figure: 5.4b	Euclidean distance for misfit of non-critical variables	104
Figure: 5.4c	Overall Euclidean distance for misfit of variables	105

### LIST OF ABBREVIATIONS

MCS Management Control Systems

BS Business Strategy

GDP Gross Domestic Product

CBSL Central Bank of Sri Lanka

YoY Year on Year

ICT Information & Communication Technology

ED Euclidian Distance

TRCSL Telecommunication and Regulatory Commission of Sri

Lanka

ITU International Telecommunication Union

LTE Long Term Evolution

SLT Sri Lanka Telecom

GOSL Government of Sri Lanka

WTO World Trade Organization

CSE Colombo Stock Exchange

EGO External Gateway Operator

GSM Global System for Mobile Communications

ADSL Asymmetric Digital Subscriber Line

3G Third Generation

4G Fourth Generation

WiMax World Interoperability for Microwave Access

HSPA High Speed Packet Access

SBUs Strategic Business Units

AIS Accounting Information System

PIMS Profit Impact of Marketing Strategy

PMC Performance Management and Control

CDMA Code Division Multiple Access

UNCTAD United Nations Conference on Trade and Development

GPRS General Packet Radio Service

IP Internet Protocol

NGN Next Generation Networks

IPTV Internet Protocol Television

IDD International Direct Dialling

SME Small and Medium Enterprises

FLAG Fire Loop Around the Globe

ROI Return on Investment

CROA Cash Return on Assets

MACS Management Accounting and Control System

BOI Board of Investment

OLS Ordinary Least Square

H<sub>1</sub> Alternative hypothesis

H<sub>0</sub> Null hypothesis

### ACKNOWLEDGEMENT

I express my deep sense of gratitude to my supervisor Dr. Anil Fernando, Department of Accounting, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura for his invaluable guidance throughout the period of this study. He has been hearing my views on the subject with patience and always extended such valuable advice as could be helpful to me in this research work. It was indeed a pleasure to work under a leaned supervisor.

I am grateful to Dr. P.D Nimal, former Coordinator, M.Sc. (Management) Degree program, of the University of Sri Jayewardenepura and present Coordinator Dr. P.J. Kumarasinghe for the guidance and support which immensely enabled me to complete the research. I am also thankful to Prof. K.D Gunewardena, Senior Lecturer, Department of Accounting, Faculty of Management Studies and Commerce, of the University of Sri Jayewardenepura for encouraging me and publishing a book on Quantitative Research Methodology which helped me to in the process of writing the thesis.

I am grateful to Dr. R.M.Wasantha Rathnayake, Dean, Faculty of Management Studies, Sabaragamuwa University of Sri Lanka for his guidance to sharpen my knowledge and skills regarding statistical tests during data analysis.

I would like to offer my sincere thanks to Prof. A.F.P De Zoysa, Dean, Faculty of Language and Humanities in the GIMS Campus, for editing English of my study.

I am indebted to the respondents of this study, the senior and the middle level managers of Sri Lanka Telecom, Dialog Axiata PLC, Mobitel (Pvt) Ltd, Etisalat, Airtel Sri Lanka,

Hutchision Telecommunication and Lanka Bell who spared their valuable time and provided all the necessary information required for this research work. Without their help, the work could not have been accomplished on scheduled time.

I have profound sense of gratitude for my parents and my family members for their corporation and encouragement.

Moreover, i have a deep sense of appreciation towards all those who supported me during the course of this research work.

# Impact of Misfit between Management-Control-System and Business-Strategy on Performance

### **ABSTRACT**

In Sri Lanka the telecommunication industry is a fast growing sector and at the moment there are seven telecommunication companies operating on the island. performance styles are not same, and it is believed that the Management Control Systems (MCSs) and Business Strategies (BSs) adopted by them mainly affect their performance as companies. In this context, the purpose of this study is to identify how compatibility between MCS and BS affects company performances in the telecommunication industry in Sri Lanka. In order to collect data for this study, sixtytwo middle-level managers in the telecommunication industry were interviewed. Further, this study draws on Miles and Snow's strategy typology and five MCS variables (performance evaluation, communication, product and market policy, commitment and compensation) and investigates how a misfit of those two independent variables impact on financial performance. Under a multi-item scale approach several ordinary-least-square regressions were done to classify the firms as defender, prospector, analyser and reactor. A system approach was adopted to measure the misfit using weighted Euclidian distance from the ideal configurations along the five MCS variables. It is statistically proven that the misfit between MCS variables and BSs has a significant negative implication about a company's performance. Moreover, it is discovered that the correlation between misfit and financial performance for critical control variables is significantly more negative than the correlation between misfit and financial performance for the non-critical variables for all types of strategies. Further, it is found that some companies have to rethink about their MCSs in order to perform well in Sri Lanka.