

# **Capital Budgeting Practices and Firm Performance: A Comparative Study of Australia and Sri Lanka**

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Associate Supervisor: Dr Gavin Hurst)

This thesis is submitted in total fulfilment of the requirements for the degree of Doctor of Philosophy

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## Abstract

This thesis disentangles two elements from the complex interdependent suite of key drivers of firm sophistication in capital-budgeting. Specifically, the relative sophistication of a firm (i.e. its nature) and the development level of the nation in which a firm is embedded (i.e. the nurture experienced by the firm). This research should enhance the development focus and process of nations (e.g., to what degree should national development be about raising the ability of individual firms or will raising national development act *as a rising tide* [that *raises all boats*]). The comparative data used in this study comes from 150 Australian (ASX200-index-listed) firms and 150 Sri Lankan (Colombo-stock-exchange-listed firms). The research questions are answered via a quantitative research design that uses primary and secondary data. The response rate to the questionnaire survey of firms was, 45 and 73 completed questionnaires from, respectively, Australia and Sri Lanka (an effective response rate of, respectively, 31.5 and 48.7 percent). Secondary data for 2003-12 are obtained from the ASX, CSE's and SIRCA databases and are used to calculate *return on assets*, *return on equity*, *Tobin Q*, and *earnings per share* for the sampled firms. It was found that Australian firms tend to rely heavily on sophisticated capital-budgeting practices, but Sri Lankan relatively small firms prefer simple analysis methods and the larger firms tend to be as adept at sophisticated capital budgeting as their Australian counterparts. The choice of whether to use more sophisticated practices or simpler alternatives varies with a firm's attributes as well as the level of economic and financial market development in its environment. Also, Australian firms tend to use capital-budget models with good-to-strong predictive power (except for ROE) and Sri Lankan firms tend to use capital-budget models with fair-to-poor predictive power. Further, the analysis of Australian firms tends to yield stronger and more statistically-significant results, than those generated by Sri Lankan firms.

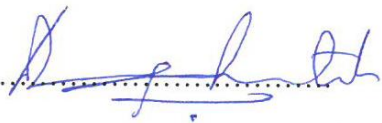
## Statement of Authorship

Except where explicit reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis by which I have qualified for or been awarded another degree or diploma. No other person's work has been relied on or used without due acknowledgement in the main text and references of the thesis.

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Dr Samanthala Hettihewa  
Principal Supervisor

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## **Research Outcomes Produced in Connection with this Thesis**

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- 4) Pratheepkanth, P., Hettihewa, S., and Wright, C. S. (2015). Corporate capital budgeting practices: The Relative Influence of the Nature of the Firm and National-Development Level. *AFAANZ Conference (July 5-7)*. Hotel Grand Chancellor, Hobart, Tasmania: Accounting and Finance Association of Australia and New Zealand .
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# Table of Contents

<b>Abstract</b> .....	<b>ii</b>
<b>Statement of Authorship</b> .....	<b>iii</b>
<b>Acknowledgements</b> .....	<b>iv</b>
<b>Dedication</b> .....	<b>vi</b>
<b>Research Outcomes Produced in Connection with this Thesis</b> .....	<b>vii</b>
<b>Table of Contents</b> .....	<b>ix</b>
<b>List of Figures</b> .....	<b>xiv</b>
<b>List of Tables</b> .....	<b>xv</b>
<b>List of Abbreviations</b> .....	<b>xvii</b>
<b>Chapter One: Introduction</b> .....	<b>1</b>
1.1 Capital Budgeting and Performance .....	1
1.2 Research Background .....	4
1.3 Research Questions .....	6
1.4 Objectives of this Research .....	7
1.5 Motivation for the Research .....	8
1.6 Research Approach and Methods .....	9
1.7 Significance and Contribution of this Thesis .....	10
1.7.1 Academic Contribution .....	10
1.7.2 Practical Contribution .....	11
1.8 Structure of this Thesis .....	12
1.9 Chapter Summary .....	13
<b>Chapter Two: Theoretical Considerations and Literature Review</b> .....	<b>14</b>
2.1 Chapter Introduction .....	14
2.2 Capital Budgeting .....	15
2.2.1 Classification of Investments.....	18
2.2.2 The Importance of Capital Budgeting.....	19
2.3 Theoretical Constructs and Capital Budgeting .....	21
2.3.1 Contingency Theory in the Context of Capital Budgeting .....	21
2.4 Capital Budgeting Process .....	23
2.3.1 Empirical Evidence on Capital Budgeting Processes .....	26

2.4.2	Agency Costs and Asymmetric Information in Capital Budgeting .....	28
2.5	The Application of Capital Budgeting Appraisal Techniques.....	30
2.5.1	Capital Budgeting Techniques.....	30
2.5.2	Empirical Evidence on Capital Budgeting Techniques .....	32
2.5.3	Risk Assessment of Capital Budgeting.....	54
2.6	Proper Use of and Pitfalls in Discounted Cash flow .....	56
2.6.1	Cash Flow Estimation .....	56
2.6.2	Cost of Capital .....	58
2.7	Contingent Variables and Capital Budgeting .....	61
2.8	Capital Budgeting and Firm Performance.....	64
2.9	Conceptual Framework.....	65
2.10	Research Gap and Contribution to the Literature .....	66
2.11	Chapter Summary .....	67
<b>Chapter Three: Economic, Financial Situation and Development of Capital Markets in Australia and Sri Lanka.....</b>		<b>69</b>
3.1	Chapter Introduction.....	69
3.2	Australia at a Glance.....	69
3.2.1	An Overview of Social Environments in Australia .....	72
3.2.2	An Overview of Economic Environments in Australia .....	73
3.2.3	Australian Financial Markets.....	74
3.3	Sri Lanka at a Glance.....	76
3.3.1	An Overview of the Social Environment in Sri Lanka .....	79
3.3.2	An Overview of Economic Environments in Sri Lanka .....	79
3.3.3	Sri Lankan Financial Markets.....	80
3.4	Chapter Summary .....	83
<b>Chapter Four: Research Approach and Methods.....</b>		<b>85</b>
4.1	Chapter Introduction.....	85
4.2	Research Paradigm.....	86
4.2.1	Research Approach.....	89
4.3	Research Methods .....	92
4.3.1	Research Design .....	92
4.3.2	Population Design.....	92

4.3.3	Data Collection .....	93
4.4	Variable Measurement .....	95
4.4.1	Capital Budgeting Practices (CB Practices) .....	95
4.4.2	Firm Performance .....	99
4.5	Hypotheses Development .....	101
4.6	Empirical Analysis .....	102
4.6.1	Descriptive Statistics .....	103
4.6.2	Correlation Coefficient .....	103
4.6.3	Multiple Regression Analysis .....	104
4.6.4	Analysis of Variance (ANOVA) .....	105
4.6.5	Independent Samples t-Test .....	106
4.7	Ethical Considerations .....	106
4.8	Chapter Summary .....	107
<b>Chapter Five:</b>	<b>Analysis and Results .....</b>	<b>108</b>
5.1	Chapter Introduction .....	108
5.2	Questionnaire Survey Results .....	108
5.2.1	Questionnaire Response .....	108
5.2.2	Participants' Attributes .....	109
5.2.3	Firm Attributes .....	113
5.2.4	Corporate Management Attributes .....	115
5.3	Reliability Analysis .....	118
5.4	Descriptive Analysis: Capital Budgeting Practices .....	118
5.4.1	Long-term Strategic Planning .....	118
5.4.2	Search for Investment Opportunities .....	121
5.4.3	Review and Screening .....	124
5.4.4	Capital Budgeting Analysis Methods .....	127
5.4.5	Accept/Reject Decision .....	132
5.4.6	Implementation .....	134
5.4.7	Expenditure Control and Monitoring .....	136
5.4.8	Post-audit .....	138
5.5	Cross-Classification of the Survey Results .....	140
5.5.1	Long-term Strategic Planning .....	140
5.5.2	Search for Investment Opportunities .....	147

5.5.3	Review and Screening .....	154
5.5.4	Accept/Reject Decision .....	161
5.5.5	Capital Budgeting Techniques.....	168
5.5.6	Risk Assessment Techniques .....	174
5.5.7	Cost of Capital .....	179
5.5.8	Techniques Guide to Long-term-Investment Decision.....	184
5.5.9	Implementation .....	188
5.5.10	Expenditure Control and Monitoring .....	195
5.5.11	Post-audit.....	202
5.6	Inferential Analysis.....	209
5.6.1	Independent Samples t-Test.....	209
5.6.2	One – Way Analysis of Variance (ANOVA) .....	212
5.6.3	Correlation Analysis.....	218
5.6.4	Multiple Regression Analysis.....	221
5.7	Chapter Summary .....	224
<b>Chapter Six: Findings and Discussion .....</b>		<b>225</b>
6.1	Chapter Introduction .....	225
6.2	Capital Budgeting Practices in Australia and Sri Lanka.....	226
6.2.1	The H <sub>1</sub> - Hypothesis .....	226
6.2.2	The H <sub>1a</sub> - Sub-Hypothesis .....	227
6.2.3	The H <sub>1b</sub> - Sub-Hypothesis .....	228
6.2.4	The H <sub>1c</sub> - Sub-Hypothesis .....	229
6.2.5	The H <sub>2</sub> - Hypothesis .....	230
6.2.6	The H <sub>2a</sub> - Sub-Hypothesis .....	231
6.2.7	The H <sub>2b</sub> - Sub-Hypothesis .....	232
6.3	Chapter Summary .....	233
<b>Chapter Seven: Conclusions, Implications and Future Research Directions ....</b>		<b>234</b>
7.1	Chapter Introduction .....	234
7.2	Findings related to Research Questions .....	235
7.2.1	Research Question 1 .....	235
7.2.2	Research Question 2 .....	241
7.3	Implications of the Study .....	243
7.4	Contribution of the Study .....	245

7.5	Limitations of the Study .....	247
7.6	Recommendations for Future Research .....	248
7.7	Chapter Summary .....	249
	<b>References .....</b>	<b>250</b>
	<b>Appendices .....</b>	<b>277</b>
	<b>Appendix A: Plain Language Statement.....</b>	<b>277</b>
	<b>Appendix B: A Survey Questionnaire.....</b>	<b>279</b>
	<b>Appendix C: HREC Approval .....</b>	<b>290</b>
	<b>Appendix D: Publication Synopsises .....</b>	<b>291</b>

## **List of Figures**

Figure 2.1- Contingent Variable and Capital Budgeting .....	65
Figure 2.2- Conceptual Framework: Capital Budgeting Practices and Firm Performance .....	66
Figure 4.1- Research Approach .....	89
Figure 4.2- Logic Flows Through and Between Inductive and Deductive Reasoning .....	91
Figure 5.1- Questionnaire Respondent’s Position in their Firm .....	110
Figure 5.2- Gender of the Questionnaire Respondent.....	110
Figure 5.3- Questionnaire Respondent’s Education Background .....	111
Figure 5.4- Questionnaire Respondent’s Age Group.....	112
Figure 5.5- Questionnaire Respondent’s Experience.....	112
Figure 5.6- Industrial Sectors of Responding Firms .....	113
Figure 5.7- Number of Employees in Responding Firms .....	114
Figure 5.8- Share of Income Earned in the Domestic Market – Responding Firms.....	114
Figure 5.9- Ownership of Responding Firms .....	115

## **List of Tables**

Table 2.1- Capital Budgeting Appraisal Techniques in Developed Countries .....	44
Table 2.2- Capital Budgeting Appraisal Techniques in Emerging Countries.....	53
Table 3.1- Economic and Social Statistics of Australia (2004-12).....	71
Table 3.2- Economic and Social Statistics of Sri Lanka (2004-12).....	78
Table 4.1 -Participating Firms .....	93
Table 4.2- Weights for Capital Budgeting Activities .....	97
Table 4.3- Dummy Variables Used to Study Firm Attributes. ....	98
Table 4.4- Use of Dummy Variables for Mangers' Attributes. ....	99
Table 5.1- Questionnaire Response .....	109
Table 5.2- Overall Risk Situation .....	115
Table 5.3- Risk Factors .....	117
Table 5.4- Firms' Corporate Objective .....	117
Table 5.5- Importance of Stakeholders .....	117
Table 5.6 - Reliability Statistics .....	118
Table 5.7- Survey Question# B1: Long-term Strategic Planning .....	120
Table 5.8- Survey Question # B2: Search for Investment Opportunities .....	123
Table 5.9-Survey Question # B3: Review and Screening.....	126
Table 5.10- Survey Question # B4-B8: Capital Budgeting Analysis Methods .....	130
Table 5.11- Survey Question # B9: Accept and Reject Decision .....	133
Table 5.12-Survey Question # B10: Implementation .....	135
Table 5.13- Survey Question # B11: Expenditure Control and Monitoring.....	137
Table 5.14-Survey Question # B12: Post-audit .....	139
Table 5.15-Long-term Strategic Planning vs. Firm and Its Respondent's Attributes.....	142
Table 5.16-Search for Investment Opportunities vs. Firm and Its Respondent's Attributes .....	149



Table 5.17- Review and Screening vs. Firm and Its Respondent's Attributes .....	156
Table 5.18-Accept/Reject Decisions vs. Firm and Its Respondent's Attributes.....	163
Table 5.19-Capital Budgeting Techniques vs. Firm and Its Respondent's Attributes.....	170
Table 5.20-Risk Assessment Techniques vs. Firm and Its Respondent's Attributes.....	176
Table 5.21- Cost of Capital vs. Firm and Its Respondent's Attributes .....	181
Table 5.22-Guide Long-term Investment Decision vs. Firm and Its Respondent's Attributes ..	185
Table 5.23-Implementation vs. Firm and Its Respondent's Attributes .....	190
Table 5.24-Expenditure Control and Monitoring vs. Firm and Respondent's Attributes	197
Table 5.25-Post-audit vs. Firm and Its Respondent's Attributes .....	204
Table 5.26- Capital Budgeting Process vs. Country, Gender and Ownership.....	209
Table 5.27- Capital Budgeting Techniques vs. Country, Gender and Ownership.....	210
Table 5.28- Risk Assessment Techniques vs. Country, Gender and Ownership.....	211
Table 5.29- Cost of Capital vs. Country, Gender and Ownership .....	211
Table 5.30- Guide Investment vs. Country, Gender and Ownership.....	212
Table 5.31- Capital Budgeting Processes vs. Firm and Its Respondent's Attributes .....	214
Table 5.32- Capital Budgeting Techniques vs. Firm and Respondent Attributes .....	217
Table 5.33- Risk Assessment Techniques vs. Firm and Respondent Attributes .....	217
Table 5.34- Cost of Capital vs. Firm and Respondent Attributes .....	217
Table 5.35- Investment Guide vs. Firm and Respondent Attributes.....	218
Table 5.36- Correlation Analysis .....	220
Table 5.37- Predictors of ROA, ROE, EPS and TQ – Model summary (Australia) .....	221
Table 5.38- Coefficients for predictors of ROA, ROE, EPS and TQ (Australia).....	222
Table 5.39- Predictors of ROA, ROE, EPS and TQ – Model summary (Sri Lanka) .....	223
Table 5.40 - Coefficients for predictors of ROA, ROE, EPS and TQ (Sri Lanka).....	224
Table 6.1- The CB Processes and Techniques Affected by Respondent and Firm Attributes ...	229

## List of Abbreviations

<b>Abbreviations</b>	<b>Title</b>
ARR	Accounting Rate of Return
ASX	Australian Securities Exchange
ATS	Automated Trading System
CAPM	Capital Asset Pricing Model
CB	Capital Budgeting
CBA	Colombo Brokers Association
CBP	Capital Budgeting Process
CDS	Central Depository System
CEE	Central and Eastern Europe
CFO	Chief Financial Officer
CPI	Corruption Perceptions Index
CSBA	Colombo Share Brokers Association
CSE	Colombo Stock Exchange
CSR	Corporate Social Responsibility
DCF	Discounted Cash Flow
EBIT	Earnings before Interest and Tax
EPS	Earnings per Share
FA	Firms' Attributes
GDP	Gross Domestic Product
GFC	Global Financial Crises
GT	Game Theory
HREC	Human Research Ethics Committee

IRR	Internal Rate of Return
MA	Managers' Attributes
NDCF	Non-Discounted Cash Flow
NPV	Net Present Value
ORR	Operating Rate of Return
PBP	Payback Period
PPE	Property, Plant and Equipment
RO	Real Option
ROA	Return on Assets
ROE	Return on Equity
SAFE	South Asian Federation of Exchanges
SEC	Securities and Exchange Commission of Sri Lanka
TQ	Tobin's Q
UNDP	United Nations development programme
WACC	Weighted Average Cost of Capital
WFE	World Federation of Exchange

# Chapter One: Introduction

## 1.1 Capital Budgeting and Performance

The objective of firm has evolved in response to the corporate social responsibility (CSR) debate, which goes back to 1950s. The traditional theory of the firm over relied on the now disputed goal of maximising shareholder wealth. Hettihewa (2016), in discussing this corporate shift in objectives, noted that the debate over whether firms should focus on producing economic goods and profits or serve an array of broader social goals. Bowen (1953) was part of a vanguard that shifted the *Theory of the Firm* to *shareholder theory* and from there to *stakeholder theory* (Freeman, 1994). The current *Theory of the Firm* posits that firms maximise their value by making decisions to maximise the wealth of their stakeholders<sup>1</sup> (Frino, Hill, & Chen, 2013; Gervais, Heaton, & Odean, 2012; Graham, Harvey, & Puri, 2015; Hamzah & Zulkafli, 2014; Kalyebara & Islam, 2014). Capital budgeting (CB), a key input to achieving that goal, is the rational allocation of limited capital across a plethora of viable prospective investment. In its simplest form financial management is the acquisition and use of cash by firms to purchase real assets to generate cash flows that provide a return to stakeholders. A significant part of the process involves finance managers<sup>2</sup> seeking answers to three critical decisions (Bhat, 2008; Dayananda, Irons, Harrison, Herbohn, & Rowland, 2002; Khan & Jain, 2007; Pindado & Chabela, 2006):

- i. The “Investment Decision” is concerned with the choice of assets selected from a range of possibilities (Petrović, Radović, & Stanković, 2013). To help determine how much to invest and what to invest in, financial managers generally employ

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<sup>1</sup> Stakeholders are groups such as shareholders, employees, customers, suppliers, creditors and others who have a direct economic link to the firm.

<sup>2</sup> A finance manager organises and manages firms’ financial portfolio.

certain investment evaluation tools within the CB process to help make these decisions (Baldenius, 2003; Basu & Drew, 2010; Doumpou & Zopounidis, 2014; Verbeeten, 2006).

- ii. The “Financing Decision” is associated with the flow of funds from capital markets to the corporation and how financial managers make choices between the use of debt and equity in financing investment projects and opportunities. (Agrawal & Mandelker, 1987; Donkor & Duffey, 2013; Elsas, Flannery, & Garfinkel, 2014; Jackson, Keune, & Salzsieder, 2013).
- iii. The “Dividend Decision” is concerned with the disposal of profits. How much of the profits should be returned to owners and what proportion should be retained to enable future growth (Azhagaiah & Sabari, 2008; Franc-Dabrowska, 2009; Gugler, 2003).

In this context, decisions made by financial managers are linked by the cash flow identity (investing decisions—spending money; financing decisions—raising money; and dividend decisions—distributing money) which restricts their degree of freedom in making financial decisions. These decisions are key to the survival of firms, can interact with options, and are greatly influenced by CB; where CB is defined as the practice of analysing investment opportunities in long-term assets which are expected to harvest benefits for more than one year (Archer, Choate, & Racette, 1979; Correia, Mayall, O'Grady, & Pang, 2005; Gitman, Juchau, Flanagan, Pearson, & Clemens, 1998; Hornstein, 2013; Petty et al., 1996; Peterson & Fabozzi, 2002; Scott, Martin, Petty, & Known, 1988; Schlegel, Frank, & Britzelmaier, 2016). Al-Ajmi, Al-Saleh, and Hussain (2011), also, suggest that CB is the process of determining which investments will maximise stakeholders wealth. Traditionally, CB methods have been used to assess and justify advanced manufacturing technology (Ireland, Hoskisson, & Hitt, 2011; Periasamy, 2013; Proctor & Canada, 1992). In this respect, CB is the process of analysing opportunities and deciding whether funds should be contributed to an investment or not (Gurnani, 1984; Hastie, 1998; King, 1975). The fundamental goal of

the firm is considered to be maximisation of value, which is generally accepted as the only rational basis for making CB decisions (Baldeus, Dutta, & Reichelstein, 2007; Hermes, Smid, & Yao, 2007; Mendes-Da-Silva & Saito, 2014; Slagmulde, Bruggemana, & Wassenhaveb, 1995).

CB practices are vital to a firm's success and presents in four distinct manners (Andor, Mohanty, & Toth, 2015; Baker & Powell, 2005; Boudreaux, Rao, & Das, 2014; Dayananda et al., 2002; Duchin & Sosyura, 2013; Idowu, 2011; Wnuk-Pel, 2014). First, capital expenditure typically involves large amount of funds; Second, firms must establish the best way to raise and repay these funds; Third, most CB decisions need a long-term commitment; and Fourth, capital scheduling decisions are critical (Atrill, 2012; Brigham, 1992).

Farragher, Kleiman, and Sathu (1999) assert that the effective allocation of scarce resources is a key part of long-term success. Arnold and Hatzopoulos (2000) suggest that the effective allocation of scarce resources can be best achieved through a CB process. Such a process will increase firm performance in making ethical investment decisions by assisting to confirm that a corporate strategy is followed; that all investment opportunities are considered and that unplanned/unjustified decision making is minimised. Particularly, precise and consistent CB is required by firms if they wish to grow, remain competitive and optimise the worth of the firm (Fatoki, Okubena, & Herbst, 2010).

In practice, finance managers are responsible for increasing firm performance (Daunfeldt & Hartwig, 2014). Finance managers who find applicable and appropriate capital investments and, as a result, minimise the cost of finance and maximise the firm's value, are rewarded. Strategic management and organisational theory tend to emphasise firm performance measurements. Performance measures are generally identified and quantified

by using accounting data or via the use of certain market measures (Anthony & Ramesh, 1992; Ittner, Larcker, & Randall, 2003; Lambert & Larcker, 1987; Mohana, 2011; Whittington, 1971). Accounting measures use financial ratios from financial statements in an attempt to assess how well corporate managers use resources to generate accounting returns (Anderson & Reeb, 2003; Neely, 2002). Market returns, on the other hand, represent key measures of performance as they ascertain fluctuations or volatilities that have occurred throughout the year, particularly whether a stock has improved or fallen in value (Lilienfeld-Toal & Ruenzi, 2014; Louis, 2004). Market returns, also, consider future expectations.

Earlier research on the association between CB and performance mostly focused on either accounting or market information in measuring firm performance (Farragher, Kleiman, & Sathu, 2001; Haka, 1987; Kim, 1981; Klammer, 1973). Given the strong link between *finance theories* (where CB practices seek to maximise firm performance) and *stakeholder wealth maximisation* (Beranek, 1975; Grinyer, 1986; Hamzah & Zulkafli, 2014; Woods & Randall, 1989), good CB practices play a vital role in enhancing firm performance (Vadeei, Mahmoudi, & Saeid, 2012). Thus, improving/(degrading) firm CB practices can create and perpetuate a virtuous/(vicious) cycle of rising/(falling) firm and national performance.

## **1.2 Research Background**

Prior studies on the practice of CB in many countries have revealed that firms are progressively employing more and more refined CB techniques for making investment decisions (De Andrés, De Fuente, & San Martín, 2015; Farragher et al., 2001; Mooi & Mustapha, 2001; Klammer, 1973; Klammer & Walker, 1984; Rossi, 2015; Ruhan, 1998; Schlegel et al., 2016). In addition research into the relationship between CB and performance has also been frequently conducted in previous years (Farragher et al., 2001;

Haka, Lawrence, & George, 1985; Kim, 1981; Pike, 1984). The studies conducted in this area, have been inconclusive (i.e. mixed results). The mixed outcomes of that research suggest that a significant gap exists in understanding the nature, intensity and direction of the relationship between CB practices and firm performance.

This study focuses on the CB practices in two countries at two different stages of economic development; developed<sup>3</sup> and emerging<sup>4</sup> economies. Although previous research has scrutinised CB practices, this is one of only a few studies using a comparative approach (Andor et al., 2015; Brounen, De Jong, & Koedijk, 2004; Graham & Harvey, 2001; Hermes et al., 2007; Payne, Heath, and Gale, 1999; Peel, 1999) to contrast national development level with CB choices and firm performance.

This study investigates whether CB practices differ significantly between Australia and Sri Lanka in terms of firm performance. Australia is a typical example of a developed economy and albeit in the world arena it is often considered a small open economy, its business practices are well respected. Further reasons for considering Australia included its ability to weather the *Global Financial Crisis* (GFC); its ability to continuously improve its capital markets through regulations, whilst at the same time maintaining high corporate ethical standards.

Although Sri Lanka is an emerging economy it is still considered developing. Since the conclusion of the civil war in 2009, Sri Lanka has witnessed considerable economic progress despite some ongoing political issues. Post war recovery reform of the financial system has been pivotal in accelerating economic growth, with Sri Lanka recently adopting several economic reforms (e.g., infrastructure development, deregulation and fostering

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<sup>3</sup> An effective rate of industrialisation and per capita income is known as developed country.

<sup>4</sup> A slow rate of industrialisation and low per capita income is known as emerging country.



integration into international markets). As a result, long-term investment has increased significantly, as have the range of CB techniques being used by firms.

This study will compare the CB practices of both Australian and Sri Lankan firms in order to provide insights and evidence of the use of differing investment analysis, techniques and tools to help managers determine the most appropriate CB portfolio that will help maximise firm wealth. Particularly, how CB practices impact on firm performance in developed and developing economies. Moreover, this study would hopefully benefit academics, researchers, policy-makers and practitioners of both countries and other similar countries through exploring the impact of CB practices on firm performance, and pursuing strategies to improve the current status of it.

### **1.3 Research Questions**

In addressing the research gap discussed in Chapter 2, this study uses the following research questions to develop insight into the managerial use of various CB practices:

- a. What are the significant differences between Australian and Sri Lankan firms relating to their CB practices?
  - i. What are the CB applications and techniques currently being practiced in Australian and Sri Lankan listed firms?
  - ii. What similarities and differences exist in CB practices across industries?
  - iii. Do the firm and CFO<sup>5</sup> attributes influence the choice of CB practice?
- b. What is the empirical association between CB practices employed and firm performance within Australian and Sri Lankan listed firms?
  - i. What is the impact of CB practices on the performance of these firms?

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<sup>5</sup> As it would have been too restricting to ask for only the CFO or CEO to respond, the respondent is used as a proxy for the CFO/CEO. As noted in Figure 5.1, the majority of respondents are the CFO and in the rest, the vast majority are CEOs, Directors or Senior Executives.

## 1.4 Objectives of this Research

This research seeks to attain the following objectives, to:

- i. Analyse CB practices employed by firms in a comparative sense to see whether CB practices vary significantly between Australian and Sri Lankan firms and whether these variances can be explained by differences attributed to different stages of economic progress.
- ii. Identify the processes and evaluation techniques employed by finance managers in their CB practices and whether these practices incorporate sufficient sophistication capable of sustaining stakeholders' wealth maximisation and delivering a competitive advantage.
- iii. Examine similarities and differences in the CB practices among industries, so as to provide useful insights into CB processes and techniques by comparing industrial sectors in both a developed and an emerging economy.
- iv. Examine the extent to which firm attributes and finance managers' attributes impact on the CB practices employed and also provide insight into corporate and managerial views on capital investment selection practices and issues.
- v. Investigate the relationship between CB practices and firm performance using both accounting and market measures with the aim to shed light on the processes and evaluation techniques employed in CB practices that most influence firm performance and enhance the efficiency of financial management operations.
- vi. Examine the long-term impact of CB practices on firm performance and corporate finance practices and how this differs according to different stages of economic development.

This study seeks to highlight the impact of CB practices on firm performance in two countries at different stages of economic development. Disparities may exist in the level of sophistication of the CB practices applied depending on the level of development. Consequently this study seeks to reveal the level, scope and significance of these disparities and their effect on firm performance. The aim is to provide a useful investigation into the

choice and usage of CB practices and to determine if and how they are applied differently within developed and emerging markets.

## **1.5 Motivation for the Research**

A comparative study of the CB practices employed by both Australian and Sri Lankan firms and its influence on firm performance was chosen for the following reasons:

- i. CB encompasses making investment decisions concerning the financing of capital investments by firms. Making a strong investment decision is vital because resources are scarce and the investment is expected to add to the value of the firm. Also, efficient firms are a cornerstone of an efficient and effective national economy.
- ii. Comparing the CB practises of Sri Lankan firms to those of Australian firms should provide valuable insights into corporate views on CB practices and firm performance given the very different economic environments they inhabit.
- iii. Sri Lanka is an emerging country of 20.5 million people with a rapidly growing economy with ongoing economic reforms aimed at regenerating and re-integrating the economy into international markets which is accompanied by and a mid to high level of corruption (e.g., its Corruption Perceptions index (CPI) is 38/100, where 100 is no corruption; Transparency International, 2014). With the end to the 30 year ethnic conflict in 2009, the country has a significant opportunity to take advantage of its peacetime stability, geography, educated workforce and scenic beauty. The Sri Lankan government has set determined objectives for economic and human development. With a relatively open investment environment and financial system, accompanied by a moderately stable monetary policy and a refining of infrastructure and emerging domestic firms, Sri Lanka has many of the elements to progress economically. However, Sri Lankan firms still face significant challenges in their choice of investment opportunities with many firms making less-than-optimal CB decisions with long-term detrimental consequences.
- iv. Australia is a developed nation of approximately 24 million people boasting a relatively small open economy with institutions capable of weathering crises such

as the GFC and where business practices and regulation are respected (e.g., its CPI is 80/100). Australia has sustained a policy of market openness with full integration of its markets to international competition with the Australian Securities Exchange (ASX) being the largest stock exchange in the Australasian market in terms of market capitalisation. This has delivered significant benefits, particularly its economic integration within rapidly growing Asian markets which sees two-thirds of Australia's trade within the Asia-Pacific region. The Australian financial system consists of a number of intricate networks and institutions that facilitate the flow of funds to and from the various sectors of the domestic and global economy.

- v. There is dearth of literature on the effects of developed and emerging-country economies on CB and its effect on firm performance. In addition, many prior studies concentrated on CB techniques and applications in different countries based on purely descriptive statistics. To the best of the researcher's knowledge, this research is the first attempt to investigate CB practices on firm performance in Australia and Sri Lanka.

## **1.6 Research Approach and Methods**

This study lies within the positivism paradigm and adopts a quantitative approach. As detailed in Chapter 4 (Research Approach and Methods), this study was conducted in two phases. In phase one, there was a structured questionnaire survey to discover the CB practices in the context of Australia and Sri Lanka, as an example of a developed and an emerging market. The findings of this phase provide answers to key research question one, in line with study objectives one to four. The findings of this phase also provide substantial evidence on current CB practices among finance managers in Australia and Sri Lanka.

Phase two of this research empirically examines the impact of CB practices on firm performance and links phase one primary data with secondary data derived from the annual financial reports of selected firms during the period of 2003-12, using the ASX, CSE's and

SIRCA databases. The findings of this phase provide answers to key research question two that match research objectives five and six respectively. The results of this phase bridge the gap in the literature associated with the CB practices and firm performance in a developed and an emerging market context.

The research approach and methods used in this study are focused on discovering and enhancing the understanding of CB practices and firm performance in terms of accounting and market measures in both settings of a developed country like Australia and an emerging country like Sri Lanka.

## **1.7 Significance and Contribution of this Thesis**

This study has theoretical and practical contributions. Specifically, existing literature has addressed the association between CB practices and firm performance (Al Mutairi, Hasan, & Risik, 2011; Farragher et al., 2001; Klammer, 1973; Kim, 1981; Pike, 1984; Tayles, Pike, & Sofian, 2007). However, the comparative CB choices and their effect on firm performance are, for Australian and Sri Lankan firms, little researched. This research will contribute to knowledge by enhancing:

### **1.7.1 Academic Contribution**

- i. Scarce research on CB practices and their effect on firm performance that were carried out in the context of firms operating in emerging and developed economic environments.
- ii. Earlier research on firms in developed environments concentrated on developed countries such as the US, UK, Australia, Germany and Canada. These studies focused mostly on the application and enhancement of CB evaluating techniques. There are only a few studies in Australia focusing on the association between CB practices and firm performance.

- iii. Previous research on emerging markets that was conducted in countries such as Indonesia, Malaysia, India, Singapore and China which are in the higher stratum of economic performance. Sri Lanka is an emerging country in South Asia with strategic geographical and economic significance. Due to the decades of internal political disturbance the economy had not been able to progress to its full potential. As the internal political climate has been favourable for after the conclusion of the war, Sri Lanka is now experiencing a high potential environment for development. Consequently, it is important to understand how CB practices impact on firm performance in such an emerging market.
- iv. This study analyses CB practices and firm performance in a comparative perspective to see whether country differences matter and in doing so will investigate whether CB practices differ significantly between Australian and Sri Lankan firms.
- v. Extant literature reveals that industrial sectors were investigated separately in different countries albeit the failed to investigate the use of different CB practices across industries. This research improves the literature by investigating whether CB practices differ across Australian and Sri Lankan firms, by industry groupings.

### **1.7.2 Practical Contribution**

- i. Australia is a developed country with strong trade and cultural links with the developing and emerging countries of Asia. In contrast, Sri Lanka has recently experienced rapid economic growth after emerging from decades of civil war. Sri Lanka is still an emerging country with gaps in its development and market regulations. Therefore, this study considers the similarities and differences in CB practice in Australian and Sri Lankan firms. The findings provide insights on CB practices that will help finance managers in both country to determine the most appropriate use of investment analysis, techniques and risk models. Particularly, how environmental differences in developed and emerging economies affect CB choices and, as a result, influence firm performance.
- ii. Also, benefits of this research should flow to investors, decision makers and researchers and assist policy makers in their design of best CB practices. Moreover it offers both a useful tool and new platform for future researchers when assessing CB practices and firm performance in developed and emerging countries.

Overall the contribution of this research rests on its provision of a comparison between economies of different economic development in terms of CB practice and its update of existing literature in this area.

## **1.8 Structure of this Thesis**

This thesis is presented in seven chapters. The structure and content of each chapter is:

- Chapter 1** Introduces the research topic, motivation and the significance of the thesis. The first chapter also articulates the main research questions and the context of the study. An explanation of the objectives of the study and justification of the study as well as the research approach are also briefly discussed.
- Chapter 2** Summarises the relevant prior research literature on capital investment decisions, incorporating investment selection in terms of both processes and evaluation techniques. It initially provides a general review of corporate financing theories in the context of CB. The chapter then presents views of field studies conducted in CB, followed by published empirical evidence on CB process decisions and practices. The chapter also presents a review of the concept of CB and existing empirical evidence on the impact of CB practices and firm performance.
- Chapter 3** Explains the social, economic environment, financial situation and development of capital markets in Australia and Sri Lanka as well as highlighting the historical development of corporate finance practices in Australia and Sri Lanka.
- Chapter 4** Presents the research design and the methods used for data collection along with the research model applied in this study. The chapter describes the theoretical perspective, methodology and epistemology that underpin the research strategy. Also discussed are the quantitative methods which were used for analysing the data. It also describes and justifies the choice of data collection sources, sample size, research design, and variables-measurement.
- Chapter 5** Discusses the quantitative methods and survey based questionnaire undertaken to explore the CB decisions and practices among executives and senior managers of listed firms in Australia and Sri Lanka. The chapter, also:

presents and discusses the findings of the survey; covers the empirical evidence from this research in terms of the relationship between CB practices and firm performance in Australia and Sri Lanka; and concludes with a discussion of the choice of empirical methods, data collected and variables.

**Chapter 6**

Discusses the results of the statistical analysis of the data. It tests the hypotheses in the study and explains the interaction between the variables. It also presents a discussion of the integrated results of the statistical techniques which were used to explain the hypotheses of the study. This discussion incorporates both the theoretical and empirical evidence extracted from the literature concerning CB practices and firm performance. Concludes the thesis by discussing the implications of the results, the contribution and limitations of the research findings, and indicates what possible future research that could be undertaken to advance the knowledge-base in this area.

**Chapter 7**

## **1.9 Chapter Summary**

This chapter provides a background to this research: CB practices and firm performance. Specifically, it identifies the research objectives and key research questions based on a background discussion. Further, it outlines the significance and primary research approach of this research. The concluding section of this chapter has discussed an outline of the remaining chapters in this thesis. The next chapter reviews the relevant literature on CB practices and the related concerns of CB practices in terms of process and appraisal techniques and firm performance; all relevant literature is reviewed, and a theoretical framework is set out.



# **Chapter Two: Theoretical Considerations and Literature Review**

## **2.1 Chapter Introduction**

Comprehensive financial management and capital investment decision making are critical for the survival and long-term success of firms. The GFC confirmed this truth (Bennouna, Meredith, & Marchant, 2010). The significance of corporate investment decisions lies in their impact on stakeholders' wealth (Beranek, 1975; Bosch-Badia, Montllor-Serrats, & Tarrazon-Rondon, 2014; Cooper & Petry, 1994; Stulz, 1999). In this context, a firm's decision to capitalise new investment should be made according to whether the investment increases the wealth of the firm's stakeholders (Jensen, 2001). In order to fully understand CB practices and firm performance, a review of the relevant literature is necessary.

This chapter outlines the findings of a comprehensive review of related CB practices and firm performance studies. It also considers the main theories and empirical evidence of CB practices that may affect firm performance. Another goal of this chapter is to identify the gaps in the literature regarding an understanding of CB practices in terms of process and evaluation approaches and firm performance and perceptions of capital investment selection practices among finance managers.

This chapter is organised as follows: Section 2.1 presents a general knowledge of the CB; Section 2.2 delineates the theoretical constructs of CB; Section 2.3 reviews the generally accepted and applied CB techniques; Section 2.4 identifies both the proper use of and pitfalls associated with applying discounted cash flow techniques; Section 2.5 outlines the contingent variables associated with CB; Section 2.6 presents a review of the empirical studies that investigate the association between CB practices and firm performance; Section 2.7 addresses the research gap and the contribution of this study to the literature; Section

2.8 presents the conceptual framework of this study; and Section 2.9 gives the chapter summary.

## **2.2 Capital Budgeting**

Firms are continually faced with the issue of deciding whether the current commitment of resources is likely to create optimal expected future benefits, as measured in present value (Bierman & Smidt, 2007). If the benefits are likely to accrue reasonably soon after the expenditure is made, and if both the expenditure and the benefits can be measured in monetary value, the analysis of the problem is simpler than if the expected benefits accrue over many years and there is considerable uncertainty as to the amount of these benefits (Bierman & Smidt, 2007).

The term investment refers to commitments of resources made in the hope of realising future benefits. It is the process of allocating resources for major capital or investment expenditures (Bierman & Smidt, 2007) and is seen as being worthwhile to the extent it creates value for its stakeholders (Aharoni, 1966; Ross, Bianchi, Christensen, Drew, Westerfield, & Jordan, 2014). In this context, firms frequently invest funds in resources with the hope of net economic gains to investors via increased firm value leading to increased share value, or via higher dividend payments, or via a combination thereof. (Atrill, 2012; Götze, Northcott, & Schuster, 2015; Porter, 1992). The invested funds are drawn from the firm's capital (i.e. its total resources or assets). The term capital, also, has come to mean the long-term funds of the firm (Gitman, Juchau, & Flanagan, 2011). When a firm allocates capital to long-term investments, the outlay is made in the expectation of future benefits, in the form of future increased cash inflows and/or reduced cash outflows (Frino et al., 2013). The process of planning and managing a firm's investments and the allocation of capital to such investments is known as CB (Ross et al., 2014). CB is essentially a multi-

year-capital-planning process (Ermasova, 2013) through which a firm decides on the best use of limited assets.

In fact, CB is a many-sided activity that includes searching for new and more profitable investment proposals, e.g. investing in engineering and marketing to predict the consequences of accepting the investment and determine the profit potential of each investment proposal (Bierman, 2010; Boquist, Todd, & Anjan, 1998).

CB has evolved over time and is currently defined as a multipart process involving a number of tasks (Harris & Raviv, 1996; Kahraman, 2008; Mukherjee & Henderson, 1987). In general, the CB process tends to focus on investment decision-making and that focus requires decisions concerning the investment of money and expected benefits that arise from long-term investments.

A capital expenditure occurs when a business spends money either to buy long-term resources or to add to the value of existing long-term resources. Thus, CB is the process of identifying and selecting investment opportunities in long-term assets anticipated to yield benefits for more than one year (Bennouna et al., 2010; Gitman et al., 2011; McConnell & Muscarella, 1985; Verbeeten, 2006; Zeeman & Naumann, 2005).

Capital budgeting has been defined in various ways, by various researchers, at various times—i.e. Mullin (2007) suggests that CB practices tie together decisions about the long-term investment of a firm's capital and its operations; Major (1995) defines it as a situation where firms make current resource expenditure for benefits to be realised in the future; Pandy (1999) calls it a decision to invest a firm's current resources in an effective way in the long term, in the expectation of a predictable flow of future merits over a series of years. In addition, CB is a process planned to achieve the highest profitability and cost effectiveness of firms in the economy (Fatoki et al., 2010). It is a decision to make a cash

outlay in order to derive a benefit in the future through cash inflows (Dayananda et al., 2002). Decisions made on the allocation of resources in firms require a proper process to be followed, which entails an analytical approach aimed at providing relevant information into the decision making process. Accordingly, CB is an important process by which a firm decides on the optimum use of insufficient resources to decide whether a specific investment is acceptable (Frino et al., 2013). Capital budgeting denotes the long-term planning for proposed capital outlays or expenditure for the purpose of maximising return on investments (Kashyap, 2014).

Capital expenditure can be directed at: 1) increasing returns by updating current resources and/or developing new resources; and 2) decreasing the costs to achieve a given output. Capital expenditures are made for a number of reasons with the most notable (per Brigham, 1992; Correia et al., 2005; Mukherjee & Hanif, 2006) being:

- a. *Expansion*: The most common motive for a capital expenditure is to expand the level of operations, usually through acquisition of non-current assets. A growing firm often needs to acquire new non-current assets rapidly such as the purchase of property, plant and equipment (PPE) facilities.
- b. *Replacement*: As a firm's growth slows and it reaches maturity, most capital expenditures will be made to replace or renew obsolete or worn-out assets. Each time a non-current asset requires a major repair, the outlay for the repair should be compared to the outlay to replace the asset and the benefits of replacement.
- c. *Renewal*: Renewal, an alternative replacement, may involve rebuilding, overhauling or retrofitting existing non-current assets.
- d. *Other purposes*: Some capital expenditures do not result in the acquisition or transformation of tangible non-current assets shown on the firm's financial position statement. Instead, they involve a long-term commitment of funds in expansion of a future return.

Investment decisions are connected with the process in which funds are raised in capital markets to produce future net-cash inflows, which contribute to stakeholder returns. The long-term investment decision normally deals with CB practices such as CB appraisal (Wnuk-Pel, 2014). Capital budgeting is the controlling of the making and managing of expenditures on long-term resources (Brigham, 1992).

### **2.2.1 Classification of Investments**

Investments can be sorted into three classifications, based on how they impact capital investment decision practice—i.e. investments that are independent, mutually exclusive, and contingent (Antle, Bogetoft, & Stark, 2007; Arora, 2010; Dayananda et al., 2002; Gitman et al., 2011; Peterson & Fabozzi, 2002).

#### ***2.2.1.1 Independent Investments***

Independent investments refer to independent investments which are accepted or rejected on the basis of some minimum return on the investment. Investments are independent if their cash flows are unrelated (Gitman et al., 2011). When a group of investments under consideration are independent, then accepting one investment does not eliminate the others from consideration (Correia et al., 2005; Pandy, 1999; Parrino et al., 2012).

#### ***2.2.1.2 Mutually Exclusive Investments***

Investments are mutually exclusive if the acceptance of one automatically precludes the acceptance of the other (Dayananda et al., 2002; Antle, Bogetoft, & Stark, 2007; Correia., 2005; Peterson & Fabozzi, 2002). Mutual exclusivity between projects can involve more than one or more resources that must be dedicated to one or the other project; it can also involve incompatible goals, values, and/or outcomes.

### ***2.2.1.3 Contingent Investments***

A contingent investment is an investment that is conditional on the choice of one or more other investments. A contingent investment is one where its acceptance or rejection is dependent on the decision to accept or reject one or more other investments. Contingent investments may be complementary or substitutable (Pandy, 1999; Peterson & Fabozzi, 2002; Whitman & Terry, 2012).

### **2.2.2 The Importance of Capital Budgeting**

Capital budgeting appraisals are an essential part of firm finance management (Bennouna et al., 2010; Hermes et al., 2007; Wnuk-Pel, 2014). The intent of these decisions is to select investments in real assets that will increase the wealth of the firm (Dayananda et al., 2002) by generating values that exceed their costs. Capital investments are substantial as they are usually long term, include significant cash outlays and are not easily reversed. They also define what the firm is all about, the firm's lines of business and its inherent business risk. For better or worse, capital investments produce most of a typical firm's revenues for years to come.

Capital budgeting practices support management systematically and analyse potential investment opportunities in order to decide which are worth undertaking (Stulz, 1999). An optimal investment decision optimises the present value of stakeholders' wealth by using CB procedures (Patterson, 1989; Weston & Copeland, 1992).

In investment analysis, CB is about management's search for the best capital investments, i.e. those that add the greatest value to the firm. Over the long term, the most successful firms are those whose management consistently search for and find capital investment

opportunities that increase firm value. Such decisions often attract managers' time and interest for the reasons below (Anderson & Sollenberger, 1992):

- a. *Long-term commitments made.* Capital decisions often lock the firm into the assets acquired for many years. Also, the future is always uncertain. So, the farther into the future a commitment extends, the greater the uncertainty.
- b. *Key areas of the firm involved.* Many investments affect vital areas of the firm. New products, new production technology, research investments and computer systems are all examples of critical investments made to move the firm ahead competitively or to remove past limits on the firm.
- c. *Sources of future earnings identified.* These investments, made now, represent the basis for future sales and therefore profits. Investing carefully and with foresight is the key to the firm's future financial performance.
- d. *Difficult management problems confronted.* Many capital investments are one of a kind and involve new technology, untested processes or activities that managers do not perform regularly. Construction, engineering and financial investment management may not be managements' strengths. Therefore, frequent delays, cost overruns and other difficulties often appear.
- e. *Scarce capital resources allocated.* In most firms, there are always more potential investments than capital resources. Thus, some rationing process must be applied.
- f. *All these issues cause capital investment decisions to get management's attention.* Poor decisions can waste investment resources, lead to a loss of opportunities and impact on firm profits for many years. Excellent analysis and decisions solve problems and give the firm capacity, technology, administrative efficiency and the financing to be a successful competitor.

## **2.3 Theoretical Constructs and Capital Budgeting**

### **2.3.1 Contingency Theory in the Context of Capital Budgeting**

Several authors align contingency theory in the setting and design of the CB process: Chen (1995), Chen (2008), Grinyer, Al-Bazzaz, and Yasai-Ardekani (1986), Pike (1986). Contingency theory suggests that for a firm to be effective there must be a strong *fit* between its structure and context. Consequently, resource-distribution efficiency is not individually achieved via only adopting sophisticated, theoretical best-investment techniques and procedures, but also entails the *fit* between the corporate context and the design and operation of the CB system (Pike, 1984).

Contingency theory focuses on three features of the corporate side which are expected to be connected with the design and process of a firm's CB. The first feature is a firm's attributes. There are many firm characteristics which may have an effect on CB practices (Chen, 1995; Daunfeldt & Hartwig, 2014; Hakim & Shimko, 1995; Schall, Gary, & William, 1978; Waterhouse & Tiessen, 1978)—i.e. firm size is one glimpse of these differences. Decentralisation (the degree to which decision making authority is diffused) and more managerially oriented control and monitoring approaches involving a higher degree of standardisation are attributes of large firms (Baule, 2014; Carleton, Kendall, & Tandon, 1974). On the other hand, small firms tend to implement interpersonal naive control systems, albeit certain firms could be decentralised in some decision areas and centralised in other decision areas (Laux, 2011)—i.e. personnel decisions may be decentralised while scarce resource allocations may be highly centralised (Haka, 1987). A further example may occur where either over sophistication or low effectiveness arise when a highly developed CB system is too strictly administered. Limited flexibility may produce a constraint on ideas, entrepreneurial flair and risk taking and may also have demotivating effects on managers (Pike, 1984). Prior empirical studies also reveal that a firm's CB



practices depend on its size (Block, 2005; De Andrés et al., 2015; Schall & Sundem, 1980; Schall et al., 1978) and industry (Block, 2005; Schall et al., 1978).

A second feature is uncertainty. The more variable and unpredictable the view of operations is, the less suitable are highly administrative, automatic CB structures (Chen, 1995; Ho & Pike, 1998; Schall & Sundem, 1980). Pike (1986) noted that firms working in highly-uncertain settings are advantaged by using sophisticated CB methods, particularly when it comes to appraising risk and when the external environmental situation plays a crucial role in a firm's strategy concerning its CB procedures (Verbeeten, 2006). Albeit Haka et al. (1985) have expressed an opposite opinion and suggested that firms operating in more consistent and constant environments are advantaged by using sophisticated CB practices.

The third feature considered is the behavioural attributes of management which include the management style and the degree of expertise applied (Pike, 1986). Tayles et al. (2007) suggest that administratively oriented CB control strategies are expected to be consistent with a systematic style of management, a high degree of expertise and a history of undistinguished investment outcomes. Also pertinent was the extent to which a firm's financial position impacted on the design and effort put into CB (Gervais, 2009). These issues aside, the literature mostly identifies two key CB approaches:

- The *process approach* which takes a wider perspective and attempts to explain how firms make investment decisions in practice; how investment opportunities are identified, developed, justified and finally approved (Batra & Verma, 2014; Hall, 2000; Harris & Raviv, 1996; Mukherjee & Henderson, 1987; Pirttila & Sandstrom, 1995; Soltani, Nayebzadeh, & Moeinaddin, 2014); and
- The *evaluation approach*, which denotes traditional theory, presents procedures for how firms should treat investment decisions and focuses more on the financial appraisal and selection of proposed investments in long-term resources (Arnold & Hatzopoulos, 2000; Bennouna et al., 2010; Wnuk-Pel, 2014).

## 2.4 Capital Budgeting Process

The CB process is a significant factor concerning the quality of investment decisions and their implementation (Farragher et al., 2001; Kashyap, 2014); particularly to the extent that the process determines which investment projects result in the maximisation of shareholder wealth (Andor et al., 2015; Atrill, 2012; Gitman et al., 2011; Zeeman & Naumann, 2005). Similarly, the process of CB governs the way in which managers (at different stages) produce and share information about suggested investments and how decisions are delegated (to whom and under what constraints) (Harris & Raviv, 1996).

Capital budgeting is the process of planning and managing a firm's investment in non-current assets (Ross et al., 2014). It is the process of evaluating and selecting long-term investments consistent with the firm's goal. Ross, Westerfield, and Jordan (2009) noted that CB is a long-term investment appraisal and is used to describe the process of creating and controlling expenditures on continued assets. Also the investment decision normally relates with CB methods as an investment appraisal tool. Particularly, one significant advanced order competency of a firm is to develop and deploy CB processes (Maritan, 2001).

In his 1970 research, Bower sought to establish descriptive approaches to the CB process (based on an examination of actual capital investments, normally in huge multidivisional firms). Bower's study serves as a base for many later studies and its key findings are considered as seminal to studies of the capital investment process. Bower (1970) differentiates between the business planning process and the investment process. The business planning process in a firm is a constant process by which a firm searches and examines its resources and environment to choose opportunities defined in terms of markets to be served and products to serve them. On the other hand, the investment process deals

with how a firm makes separate decisions to invest resources in order to reach considered corporate objectives. These two processes are expected to be serious, since they deliver a framework and direction within which other standard activities of the firm take place (Bower & Gilbert, 2005).

Bower considers that the CB process entails the three different processes of:

- **Definition** is a process by which the simple economic and technical features of suggested capital investments are determined; It is commonly introduced by a facility oriented manager in response to an inconsistency created by information from general management, marketing, accounting, research and development; It helps make an investment more developed via the use of studies and task forces;
- **Impetus** is the force that moves an investment toward capital funding which Bower (1986) suggests is the willingness of an executive or a senior manager to make a commitment; and
- **Context** is a set of firm forces that affect the processes of definition and impetus and incorporates background structural and situational aspects where situational aspects refer to features of a historical and personal nature which due to their individuality cannot be generalised. Context aspects can be better delineated through the features of corporate structure: *formal firm, structure of control and information* used to measure performance of the firm and the systems used to measure and reward performance of managers. Structural aspects are, for example, the formal firm and the system of information and control used to measure both firms and management performance (Bower, 1986).

All three investment processes (definition, impetus and context) can be further differentiated by distinguishing between three stages, which are hierarchically related to each other. Furthermore, the *process approach* to CB takes a larger context and tries to explain how firms treat investment decisions in practice; i.e. how investments are approved (see Farragher et al, 2001; Guerrero-Baena, Gómez-Limón, and Cardozo,

2013; Han, 1986; Harris & Raviv, 1996; Mukherjee & Henderson, 1987; Maccarrone, 1996; Kim, 1981; Lam, Wang, and Lam, 2008).

According to Mukherjee and Henderson (1987), CB can be observed as a process that requires many tasks to be achieved at different phases. Dayananda et al. (2002) identified these separate stages to include strategic planning, identification of investment opportunities, preliminary screening of investments, financial appraisal, qualitative evaluation, the accept/reject decision, implementation and monitoring and post implementation audit. As noted previously, it is a multi-faceted and loopy process with several sequential stages (Batra & Verma, 2014, pp. 340-341) which can be identified as:

- a. ***“Strategic planning”*** an organisation’s process of defining its strategy/direction and making decisions on allocating its resources to pursue this strategy.
- b. ***“Identification of investment opportunities”*** which ideally arise from processes that encourage investment suggestions from within the firm (e.g., employees) and/or from outside the firm (e.g., consultants).
- c. ***“Preliminary screening of identified projects”*** to avoid wasting resources (e.g., time, money, and effort) by ensuring a fast cull of unsound and marginal proposals from the identified investment opportunities.
- d. ***“Financial appraisal of screened projects”*** via a detailed analysis of marketing, technical, financial, economic and ecological aspects of the proposed investment projects (via cash flow forecasting techniques, project evaluation or CB, risk analysis and/or mathematical programming).
- e. ***“Consideration of qualitative factors in project evaluation”*** including factors like societal impact on employment, environmental impact, safety issues, political attitude towards the project, labour management relationships and legal issues.
- f. ***“Final acceptance/rejection decision of investments”*** is done based on all of the collected information (e.g., the financial appraisal, qualitative results, and data) and tempered by the managers’ judgement.
- g. ***“Project implementation”*** involving setting-up manufacturing facilities, project and engineering designs, negotiations and contracting, construction and training, and plant commissioning.
- h. ***“Post implementation audit”*** that yields feedback for future project appraisal and/or strategy formulation.

### **2.3.1 Empirical Evidence on Capital Budgeting Processes**

Mintzberg, Raisinghini, and Theoret (1976) and Pinches (1982) emphasise a four-stage model of CB which consists of identification, development, selection and control.

Northcott (1995) notes that the identification phase provided the recognition of an opportunity for investment and that the generation of the investment project is a significant phase in the process. The identified investments have to be subjected to a preliminary screening practice by management to separate unreliable investments. If an investment moves beyond the analysis phase, a judgement is then made to accept or reject the investment. Once the investment has passed through the acceptance phase it should then be implemented by management. Post-implementation audits provide useful feedback for investment-appraisal analysis.

Some CB studies, (Farragher et al., 2001; Han, 1986; Kim, 1981; Lam et al., 2008) specifically focus on the CB process from different perspectives. Kim (1981) tested the empirical relationship between CB practices and earnings performance of US firms and identified several stages within the CB process. These being the: preparation of a long-term capital budget; systematic search for alternatives; existence of screening; project evaluation; management-science techniques; risk analysis; fulltime staff; expenditure control; and a post-implementation audit. The study incorporated the above stages when measuring the CB system. By utilising regression analysis, the study found a significant positive association between CB practices and performance. Consequently, CB practices were used to make investment decisions aimed at increasing earnings performance. Furthermore, Kim found that firms with more sophisticated CB systems tended to have higher levels of operating profit than firms with less sophisticated techniques.

Han (1986) showed that discounted-cash-flow capital-investment techniques are significantly positively connected to a firm's annual expenditure. The study covered 70 listed firms drawn from the Kuala Lumpur Stock Exchange (KLSE) in 1979. Findings revealed that a number of firms also used multiple approach methods when appraising huge capital expenditures. Long-term planning and post-audits for capital investments were also employed by listed firms in Malaysia.

Hall (2000) endorsed a four-stage model of CB including: project definition and cash flow estimation; financial analysis and project selection; project implementation; and project review. Hall (2000) found that the most important, difficult, and risky stage in the CB process was *project definition and cash flow estimation*.

Lam et al. (2008) in appraising the strategic asset allocation practices used by firms in the construction industry of Hong Kong (HK), studied the capital expenditure planning, monitoring, and control techniques used by construction industries and found that most firms selected the rate of return as their most frequently used capital planning technique.

Farragher et al. (2001) examined the impact of sophisticated CB practices on corporate performance in the US and found a positive relationship between CB and firm performance. In considering the degree of CB sophistication, they incorporated nine procedural activities such as strategic analysis, specified investment goals, search for investments, forecasting cost, risk analysis, evaluation of returns, decision making, and implications and post-audit for measuring CB practices. CB processes should include significant efforts to optimise agency/asymmetric-information costs as part of the goal of maximising firm (Jensen & Meckling, 1976; Jung, Kim, & Stulz, 1996).

#### **2.4.2 Agency Costs and Asymmetric Information in Capital Budgeting**

Agency costs, asymmetric information, risk access, and stakeholder wealth maximisation play critical roles in CB practices (Beranek, 1975; Bernardo, Cai, & Luo, 2004; Fama, 1977; Froot, 2007; Gordon & Smith, 1992; Marino & Matsusaka, 2005). Agency costs define the relationship between stakeholders and their firm's management. Agency cost exists when managers put their interest ahead of the interests of the owners of the firm (Peirson, Brown, Easton, Howard, & Pinder, 2011; Shan & Xu, 2012). Agency costs arise whenever one party (called the agent) has discretionary power to make decisions that affect the wealth of another (called the principal) (Arnold & De Lange, 2004; Geis, 2007; Makris, 2009) and rests in the flow of asymmetrical information that favours the agent over the principal (Anwar, Tieu, Gibson, Win, & Berryman, 2014; Geis, 2007; Kalay, 2014). In this respect the rational utility maximisation by management may not be consistent with stakeholders' wealth maximisation (Godfrey, 2005; Harrison, Bosse, & Phillips, 2010).

In most medium-to-large firms, managerial functions are largely done by professional managers and, accordingly, managerial compensation arrangements should consider and implement processes to align manager goals and firm goals. In such cases, stakeholders should monitor management for compliance with these compensation contracts. However, optimal monitoring expenditures will still leave some residual agency costs, as it will be infinitely costly to eliminate all agency costs (Fama, 1980; Pejovich, 1995).

The principal-agent problem occurs in many areas of operation in a firm because modern firms are seen as a nexus of relationships (i.e. numerous formal and informal contracts) between many stakeholders—e.g., shareholders, bank, management, employees, suppliers, and customers (Aggarwal & Chandra, 1990). Studies, looking at transaction cost theories of the firm have focused on the relative efficiency of numerous forms of decentralised organisational structures as to their business effectiveness and their ability to reduce

*residual agency costs* (Grant, 1996). Firms experience *residual agency costs* due to deviations in principal and agent interests despite the use of monitoring and bonding (i.e. there is a trade-off because the elimination of all residual agency costs would require an infinitely large amount of monitoring costs).

In their Agency theory research, Fama and Jensen (1985) show that a firm's organisational form influences its capital investment decisions. Also, CB procedures should include the cost of collecting and processing the information needed to make CB decisions (Easterbrook, 1984; Harris & Raviv, 1996; Kaplan, 1984; Shin & Kim, 2002). The CB process governs the way in which management at various levels produce and share information about proposed investments and determines which decisions are delegated, to whom and under what constraints (Harris & Raviv, 1996). Antle and Eppen (1985) suggest that some forms of organisation better enable managers to appropriate excess or residual corporate slack and, as a result, they are also more likely to encourage implicit contracts and investment having a higher value (Shleifer & Vishny, 1989).

Generally, principals providing funds for investment must rely on agents to winnow the potential investments and provide information on the expected risk:returns of a limited selection of investments. As a result, the quality of capital allocation depends on how effective the decision process is in eliminating agency problems due to information asymmetry (Marino & Matsusaka, 2005). While uncontrolled information asymmetry and agency costs reduce the efficiency of the CB process in a firm, these imperfections also reduce what principals are willing to pay to agents. As a result, agents (managers) and principals (investors) have an interest in their firm having cost-effective CB-appraisal techniques.



## **2.5 The Application of Capital Budgeting Appraisal Techniques**

### **2.5.1 Capital Budgeting Techniques**

The selection of appropriate CB techniques, as part of making capital investment decisions, is an essential managerial activity (Roubi, Barth, & Faseruk, 2011; Wnuk-Pel, 2014). Capital investment decisions are connected with the method in which funds are raised within markets to produce future cash flows and provide a return to stakeholders. Investment decisions should rely on CB appraisal techniques to evaluate and sort the quality of investment opportunities (Adler, 2006; Tappura, Sievanen, Heikkila, Jussila, & Nenonen, 2014).

Measuring the extent to which firms employ selected CB techniques has been the general theme of several studies over the past decades. Most of these studies have concentrated on a narrowly defined set of CB techniques and have generally entailed an examination of the appraisal tools in use (Bennouna et al., 2010; Graham & Harvey, 2001; Maroyi & van der Poll, 2012; Truong, Partington, & Peat, 2008). These techniques can be classified into two classes: those that take into account the time value of money and those that do not. In the time value of money techniques, past and future cash flows are discounted, typically to a present value. Practically, there are two techniques aligned with the use of discounted cash flow (DCF); net present value (NPV) and the internal rate of return (IRR) (Andor et al., 2015; Mcdaniel, McCarty, & Jessell, 1988; Tappura et al., 2014).

- The NPV of an investment is equal to the difference between the present value of its net cash flow and its initial cash outlay, assuming a cash outlay at the beginning of the investments' life and a series of net cash flows in the following periods (Peirson et al., 2011). In NPV analysis, all net cash inflows and outflows are discounted to a given year (typically, year zero; at the initial investment) identifying/estimating all cash flows and their timing and then choosing and using an appropriate discount rate

to bring the values of the cash flows to a common present value. However, defining an appropriate discount rate is never straightforward as there are a plethora of choices (e.g., average cost of capital; marginal cost of capital; investment risk; or an agreed-on rate).

- The IRR gives the discount rate such that the NPV of an investment is equal to zero and the investment with the highest IRR is the most profitable. The IRR technique assumption that all cash flows can be reinvested at the IRR is often not possible. Also, multiple net cash outflows over the project life leads to multiple solutions with no means to identify one right solution. These serious IRR issues encourage the use of NPV as the preferred CB technique (Frino et al., 2013; Tappura et al., 2014).

There are two commonly used techniques that do not take into account the time value of money and are aptly described as non-discounted cash flow techniques:

- Payback period (PBP) is the time for the initial cash outlay on an investment to be recovered from the project's net cash flows. It is calculated by summing the net cash flows from an investment in successive years until the total is equal to the initial cash outlay (Atrill, 2012; Daunfeldt & Hartwig, 2014; Ross et al., 2014). Because PBP is the time required to recoup the initial investment, it is often favoured as a simple but good measure of project risk and/or it is used to supplement a discounted cash flow method. As a result, PBP is perhaps the most frequently used CB technique and (if the payback time is short) the results are reasonably accurate.
- Accounting rate of return (ARR) is the earnings from an investment, usually after deducting depreciation and income tax, expressed as a percent of the investment outlay (Peirson et al., 2011). There are several ways to calculate the ARR, including on a yearly basis or as a total value (Tappura et al., 2014).

Theoretical developments in finance have suggested that DCF have serious limitations in appraising investments when information concerning future investment decisions is not available (Brennan & Suhwartz, 1988; Dixit & Pindyck, 1994; Trigeorgis, 1993). The application of real options (RO) and game theory (GT) principles can provide analytical

methods to evaluate such investments and assist with the overall investment and operating strategy (Smit & Ankum, 1993). The origins of RO are in corporate finance literature and it frames investments in terms similar to financial options (Miller & Waller, 2003). Option value may stem from the option to postpone, grow or develop, to stage or sequence, to switch inputs or outputs, or to abandon a project. In recent years there has been considerable interest in the RO approach as most capital investments have options that have value (Ross et al., 2009). Moreover, conventional DCF analysis should be enhanced to the extent that RO techniques improve NPV analysis (Amram & Howe, 2002) even though NPV is often considered without RO considerations (Phelan, 1997). A review of prior finance literature reveals that only a relatively small number of firms employ RO (Block, 1997; Brounen et al., 2004; Graham & Harvey, 2001; Ryan & Ryan, 2002; Sandahal & Sjogren, 2003).

### **2.5.2 Empirical Evidence on Capital Budgeting Techniques**

Capital budgeting practices are defined as the methods and techniques used to evaluate and select an investment (Eljelly & Abuidris, 2001; Pradeep & Lemay, 2009). Capital budgeting practices assist CFOs to choose an investment based on relative risk and return. Literature has generally distinguished among sophisticated and simple CB practices (Bennouna et al., 2010; Haka et al., 1985; Haka, 1987; Ho & Pike, 1991). Simple CB practices (PBP or ARR) generally do not use cash flows, do not consider the time value of money, and do not incorporate risk in a systematic manner. Sophisticated CB practices (IRR, or NPV) tend to consider cash flows, risk, and the time value of money.

CB-technique focused studies have a long tradition in finance literature. Several articles have dealt with capital appraisal techniques around the world. Most of these studies have focused on developed countries such as the United States (Graham & Harvey, 2001; Shao & Alan, 1996), Canada (Baker, Dutta, & Saadi, 2011; Bennouna et al., 2010; Jog &

Srivastava, 1995), the United Kingdom (Arnold & Hatzopoulos, 2000; Alkaraan & Northcott, 2006), and Australia (Freeman & Hobbes, 1991; Truong et al., 2008).

### *2.5.2.1 The US Experience*

Capital budgeting practices in the US have been comprehensively surveyed concerning their firms' investment appraisal. These include studies reported by Block (2005), Bierman and Smidt (2007), Chen (1995), Fremgen (1973), Gittman and Forrester (1977), Graham and Harvey (2001), Hendricks (1983), Klammer (1973), Klammer and Walker (1984), Mao (1970), Payne et al. (1999), Pitty, David, and Bird (1975), Ryan and Ryan (2002), Schall et al. (1978), Shao and Alan (1996) and Trahan and Gittman (1995). These studies suggest that NPV and IRR (DCF techniques) are the dominant methods of evaluating and ranking proposed capital investments in the USA.

Chen (1995) examining the use of CB evaluation techniques across three different types of investment (expansion of existing products, expansion into new products, and equipment replacement) found that DCF methods are used more extensively than NDCF methods to analyse all three types of investments. The study also found that DCF methods are relied on more heavily in expansion investments than equipment replacement and that non-financial considerations play a significant role in CB, especially in decisions related to new products.

Trahan and Gitman (1995) note that (based on a 1992 survey of 58 of the Fortune 500 large firms and 26 of the Forbes 200 best small firms) most firms use DCF methods as their primary appraisal tool. Large firms are more likely than small firms to use DCF methods. While PBP, NPV and IRR methods were used by the selected firms, IRR was more often used by large Fortune 500 firms and NPV was more often used by smaller 200 firm respondents. Moreover, capital rationing is a commonly applied technique and often used

by responding firms. Possibly the general of understanding and use of the CB methods listed, many respondents are interested in learning more about the modified internal rate of return, profitability index and capital rationing.

Shao and Alan (1996) provided a complete analysis of the CB procedures used by manufacturing firms in the US during the first quarter of 1992. The study found that manufacturing firms preferred to use multi-capital investment selection techniques (NPV, ARR, IRR, and profitability index (PI) for the firm's capital expenditure selection and that the IRR was the preferred ranking technique.

Chadwell-Hatfield, Goitein, Horvath, and Webster (1996) examined the significance of PBP, IRR and NPV CB methods for the performance and value measures of firms. Their study revealed that firms appraising all investments have higher share prices on average and that, in contrast to the theory of finance, the NPV method was not maximising the value of the firm. The study results also suggest that it is unwise to rely on any single CB method but instead to apply all of them or as many of them possible for an investment appraisal.

Graham and Harvey (2001) investigated the theory and practice of corporate finance in the US. They interviewed 392 CFOs about capital structure, cost of capital and CB and found the NPV and IRR to be the most popular evaluation techniques in these firms. The results also revealed a significant difference between small and large firms concerning the selection of capital investment procedures. Present value techniques were increasingly accepted methods used by large firms to evaluate CB whereas small firms used less sophisticated techniques.

A survey by Ryan and Ryan (2002) conducted on the CB practices employed by the Fortune 1000 in the US found these firms consistently applied the NPV method followed by the

IRR method with both used at almost the same frequency. Surprisingly, the PBP was used by only 53 percent of the firms in the survey.

Block (2005) focused exclusively on RO analysis and CB in investigating the same cohort and found that 14 percent of the firms used RO in their CB process. The study found that industry classification has a significant relationship to the use of RO but does not have a significant relationship to the techniques used. The results indicated several reasons for not using RO; are a lack of top management support given that discounted cash flow is already a proven method; RO require too much sophistication and encourages excessive risk taking.

On the basis of recent studies in the US, CFOs are not always in agreement as to the best choice of theoretical method. Klammer (1973) found that whereas only 19 percent of a sample of large industrial firms used DCF techniques to evaluate proposed capital investments in 1959, this increased to 38 percent in 1964 and 57 percent in 1970. Hendricks (1983) reported that the percentage increased to 76 percent by 1981. Bierman and Smidt (1993) reported that 99 percent of the respondents in their 1992 survey of the 100 largest Fortune 500 firms used IRR or NPV as either the primary or secondary evaluation measure. Graham and Harvey (2001) noted that approximately 75 percent of respondents selected NPV and IRR as their most frequently used CB techniques; and also that small firms employed the PBP almost as frequently as other DCF techniques. Block (2005) noted that 14 percent of the firms used RO in their CB practices.

### ***2.5.2.2 The UK and Western European Experience***

During the past few decades many studies of UK CB practices have been undertaken (Arnold & Hatzopoulos, 2000; Alkaraan & Northcott, 2006; Beattie, Goodacre, & Thomson, 2006; Drury & Tayles, 1996; Pike, 1988; Pike, 1996; Sangster, 1993; Wilkes, Samuels, & Greenfield, 1996). These studies have concentrated mainly on the usage of CB appraisal techniques.

The trend towards greater sophistication in capital investment selection methods and control process in the UK has been documented by Pike (1988). Based on a sample of 100 large UK firms, the study investigated the CB practices employed between 1975-86. The study revealed that DCF methods have greatly increased in usage from 58 percent to 84 percent. Moreover 63 percent of firms practiced three or more appraisal techniques compared with 36 percent in 1981. While eight percent use a NDCF method, 79 percent used a combination of simple (PBP or ARR) and sophisticated methods.

Sangster (1993) examined capital investment appraisal techniques employed by the largest firms on Jordan's Scotland's top 500 firms. The study found that the most popular method is PBP with 78 percent usage among the selected firms. It is used by 34 percent more firms than the IRR, which was the second most popular method. However, PBP used only seven percent more firms than DCF techniques in general (NPV or IRR or Both). The author also found that smaller British firms do not employ sophisticated CB techniques to the same extent as larger British firms.

Ballantine, Galliers, and Stray (1995) discussed the use and importance of financial appraisal techniques in the IS/IT investment decisions in UK. The study found that 72 percent of firms used cost benefit analysis (CBA) to appraise their most recent investments and the next most popular techniques are PBP and ARR at, respectively, 60 and 43 percent.

Only a small percent of selected firms use NPV and IRR to appraise IS/IT investments (24 and 25 percent, respectively).

Pike (1996) undertook a longitudinal survey on CB practices in the UK. The results indicated that 94 percent of UK firms employed the payback method, and 81 and 74 percent of firms employed the IRR and NPV methods, respectively. Only 50 percent of the firms in the UK made use of the accounting rate of return (ARR) method for their CB appraisal.

Drury and Tayles (1996) investigated UK CB practices with results indicating that 63 percent of the selected firms regularly use the IRR; 50 percent use NPV and 30 percent adopted the PBP method. The survey also indicated that NDCF methods continue to be used by both smaller and larger firms. Also, the study suggests that theoretically sound capital budgeting techniques are more likely to be used by larger firms than by smaller firms.

Wilkes et al. (1996) investigated investment decision making with special reference to 500 of the largest manufacturing firms in UK from 1989-94. The study found that 60 percent of firms used three or four methods with the most popular three method combination being PBP, yield and NPV. Notably no one used the ARR alone, only one firm in each case used IRR or NPV. The study also noted that the PBP is constantly used but there was little change between 1989 and 1994. Almost 90 percent of firms included the PBP, although it was not necessarily the most frequently used method.

Arnold and Hatzopoulos (2000), while investigating the gaps in CB theories and practices in the UK, used a multi-choice questionnaire to review the CB attributes of 300 firms. Most large firms were using either NPV or IRR techniques while the majority of other firms used other methods for evaluating CB decisions. More than 90 percent of firms used the NPV when making long-term decisions.



Alkaraan and Northcott (2006) conducted a survey on strategic capital investment decision making with a special emphasis on assessing the importance of the role of analysis tools. The study covered 83 large British manufacturing firms representing eight sectors during 2002-03 and adopted a mixed-method research approach. The study highlighted that a significant number of firms used DCF, the frequent concurrent use of several other methods, and that the PBP was used as a prime tool.

Trends in the UK over the past four decades are quiet revealing. Pike's (1988) study noted that the use of DCF methods had increased from 58 percent in 1975 to 84 percent in 1986 with the IRR being used by 42 percent of the firms compared with 23 percent for the NPV method. The PBP was the most widely used technique and adopted by 92 percent of the respondents including 47 percent who stated that they always used this method. Further studies in the 1990s noted the continued use by UK firms of DCF techniques with Wilkes et al. (1996) suggesting by 1994 the use of such techniques had risen to around 85 percent (much more than what was found in most eralier studies). These results indicate that the theory-practice gap is narrowing. Whereas DCF was used by only 58 percent of large firms in 1975 most large firms are now using either IRR or NPV with over 90 percent of small and medium firms also using these methods. Furthermore, one third of large firms in 1975 used one technique, with approximately one third using two techniques and the remaining one third using three or more techniques. Recent studies show 67 percent of firms now use three or more techniques for their appraisal (Alkaraan & Northcott, 2006). The general picture in the UK is that the PBP method is still an important method while DCF methods seem to have also increased in importance.

Brounen et al. (2004) studied the theory and practice of corporate finance in Europe. The study responses consisted of questionnaire survey data of 68 firms in the UK, 52 firms in

the Netherlands, 132 firms in Germany and 61 French firms from 2002-03. The study revealed that the PBP was the most frequently used CB technique in European firms. In the UK, Netherlands, Germany and France, respectively, 69, 64, 50, and 51 percent of CFOs used PBP as their preferred analysis tool. They also found in Europe that PBP criterion was immediately followed by the NPV and IRR methods. In the UK, Netherlands, Germany and France, respectively, 53, 56, 42, and 44 percent of all CFOs used the IRR method while, respectively, 47, 70, 48, and 35 percent of all CFOs in these countries relied on the NPV method.

### ***2.5.2.3 The Canadian Experience***

Several studies have dealt with CB practices of firms in Canada over the past several decades. These include studies reported by Baker et al. (2011), Bennouna et al. (2010) and Jog and Srivastava (1995)

Jog and Srivastava (1995) examined CB practices in Canada by the use of a questionnaire. Their sample consisted of 133 large foreign and private owned firms. The study indicated that the CB process included investment evaluation, cash flow estimation and cost of capital estimation. The results indicated that the DCF method was the principal method for evaluating investments albeit most of the firms utilised multiple techniques when making decisions.

Bennouna et al. (2010), also, tested CB practices by surveying the CFOs of the 500 firms listed in the Financial Post. The study found that the NPV and IRR were more frequently used than NDCF techniques with the IRR used as the prime model in their capital investment selection. While NDCFs were still employed, their use had declined.

Baker et al. (2011) examined RO practices using a sample drawn from a survey of 847 Canadian firms listed on the Toronto Stock Exchange (TSX) in 2006. They employed a structured questionnaire to test firm attributes, RO merits, demerits and types of RO used by the selected firms. The results revealed that only 17 percent of the responding firms practiced RO for their CB decisions. The three peak types of RO used by these firms in their CB practices were growth, right to defer and flexibility RO. Further results indicated that Canadian firms less often made RO valuations in their calculations usually because of a lack of expertise and knowledge in the area.

DCF has become the main appraisal techniques in Canada (Bennouna et al., 2010; Jog & Srivastava, 1995). In particular the use of DCF appears to have increased from a low of around 35 percent in the early 1960s to approximately 90 percent or more in the early 1990s. NPV is now widely utilised among Canadian firms but a sizeable percentage still use IRR as their primary model in capital decision making. The theory-practice gap remains a regular theme in the CB Canada based literature, in particular with regard to NPV. Compared to previous Canadian studies, there has been a narrowing of the theory-practice gap. While the 2011 survey shows 17 percent of responding firms used RO for their CB decisions (Baker et al., 2011), the majority of Canadian firms use risk analysis tools with the main ones being sensitivity analysis, scenario analysis and risk-adjusted discount rates. Compared to previous research, recent studies show a substantial increase in sensitivity analysis and use of risk-adjusted discount rates.

#### ***2.5.2.4 The Australian Experience***

A number of studies into the CB practices of Australian firms have been conducted, including Anderson (1982), Freeman and Hobbes (1991), Kalyebara (1998), Lilleyman (1984), McMahon (1981) and Truong et al. (2008). These studies cover a range of issues (e.g., which CB techniques are used, how firms rank the significance of these techniques, and how discount rates are determined).

McMahon (1981) reviewed the 200 leading firms (in terms of market capitalisation) listed on the Sydney stock exchange and 20 large private firms. The study found that there was no significant change in the use of PBP and ARR during the 1970s compared to the results of earlier surveys. Albeit, this study suggests that there has been an increase in the use of DCF techniques. The study also investigated the extent to which Australian firms used formal methods of risk analysis in capital investment decision making. Seventy four percent of the firms indicated use of DCF techniques and 53 percent used formal risk analysis techniques such as sensitivity analysis, simulation and measured expected variation in return.

Lilleyman (1984) sampled 371 firms selected from three different sources, including 250 public firms randomly selected from industrial, oil and mining listed firms, 60 private firms from Australian businesses and 61 state firms. The study found that aside from extensive support for the more sophisticated DCF techniques, the PBP technique was used by more respondents than any other method. However, the usage ratio of DCF (i.e. either the IRR or NPV) methods was high with respondents regarding these techniques as being the most significant when evaluating capital investments.

Freeman and Hobbes (1991) published the results of a survey of CB practices utilising the top 150 firms on the IBIS top 1000 corporate database, which included listed and unlisted

firms as well as firms ranked from 351 to 500 on that list. The researchers compared the results to prior surveys and concluded that there had been a significant growth in the use of the NPV and IRR methods. There was a decline in the use of the PBP and ARR. However, they found that these simpler methods were used more often for smaller capital expenditure decisions.

Truong et al. (2008) investigated the cost of capital estimation and CB practice by surveying 353 listed Australian firms with results indicating that the majority adopted DCF for their capital investment selection. RO reports were also undertaken in some long-term cases with amendments for inflation made to discounting rates to enhance the appraisal of capital investments.

Comparing the results of studies by Lilleyman (1984) and McMahon (1981) and their study outcomes, Freeman and Hobbes (1991) found an increase in the use of DCF techniques from 52 percent of respondents in 1979 to 75 percent in 1989. Kalyebara (1998) also found that 75 percent of respondents to a 1996 survey used NPV followed by IRR and PBP. While the study found that the use of DCF techniques dominated, the PBP was still employed in investment appraisals. A majority of extant studies specify that firms use more than one technique. More recently, Truong et al. (2008) found that 94 percent of CFOs used NPV, followed by PBP and IRR. They also noted that RO analysis has gained more relevance in CB in Australia albeit was not yet part of the main stream.

### ***2.5.2.5 The New Zealand, Japan and Poland Experience***

There is survey evidence regarding CB practices in other developed nations including New Zealand: Patterson (1989), Japan: Shinoda (2010) and Poland: Wnuk-Pel (2014).

In investigating firms listed on the New Zealand stock exchange, Patterson (1989) found that NDCF techniques (e.g., PBP and ARR) are more regularly used than DCF techniques (e.g., NPV and IRR). However, at least one DCF technique was used at different times by 75 percent of the New Zealand firms. The ARR was used as a main technique by 53 percent of the sample firms. Less than one third of respondents specified their firms used IRR as the primary method.

Shinoda (2010) analysed the CB practices used by Tokyo stock exchange listed firms in Japan from October 2008 to January 2009. The study employed a questionnaire to test the CB practices in the selected firms and found that 31 percent of firms frequently used NPV. Japanese firms remained heavily dependent on PBP method with 50 percent of firms employing PBP and RO reports were used in some long-term decisions.

Wnuk-Pel (2014) analysed the CB practices used by non-manufacturing firms in Poland and found that 81 percent applied a recognised CB appraisal technique. Sixty one percent of the firms applied the more sophisticated DCF methods when analysing their investments. Moreover, consistent with financial theory, approximately 58 percent of the firms regularly employed the NPV and IRR methods.

These studies indicate that, while DCF techniques have become the dominant method for evaluating capital investments, NDCF techniques also continue to be used, albeit their use as a prime appraisal measures has declined. Table 2.1 summarises the major findings on CB appraisal techniques in developed countries.

**Table 2.1- Capital Budgeting Appraisal Techniques in Developed Countries\***

Author	Year published	Country	Most favoured	DCF (%)		NDCF (%)	
				IRR	NPV	PBP	ARR
Freeman & Hobbes	1991	Australia	NPV	72.00	75.00	44.00	33.00
Kester, Chang, Echanis, Haikal, Mansor, Skully, Tsui, & Wang	1999	Australia	NPV/IRR	96.00	96.00	93.00	73.00
Truong, Partington, & Peat	2008	Australia	NPV	81.00	94.00	90.00	57.00
Jog & Srivastawa	1995	Canada	IRR	62.00	41.00	53.70	14.90
Bennouna, Meredith, & Marchant	2010	Canada	NPV	87.70	94.20		
Baker, Dutta, & Saadi	2011	Canada	NPV	68.40	74.60	67.20	39.70
Liljebloom & Vaihekoski	2004	Finland	IRR/PBP	22.90	18.80	22.90	6.30
Brounen, De Jong, & Koedijk	2004	France	PBP	44.07	35.09	50.88	16.07
Brounen, De Jong, & Koedijk	2004	Germany	PBP	42.15	47.58	50.00	32.17
Hanaeda & Serita	2014	Japan	PBP	26.51	23.35	56.02	43.87
Shinoda	2010	Japan	IRR	75.61	74.93	56.74	20.29
Brounen, De Jong, & Koedijk	2004	Netherland	NPV	56.00	70.00	64.71	25.00
Hermes, Smid, & Yao	2007	Netherland	NPV	74.00	89.00	84.00	2.00
Wnuk-Pel	2014	Poland	IRR	58.00	57.00	34.00	15.00
De Andrés, De Fuente, & San Martín	2015	Spain	IRR	74.10	71.10	39.30	
Holmen & Pramborg	2009	Sweden	PBP	34.00	49.00	57.00	38.00
Sandahal & Sjögren	2003	Sweden	PBP	22.70	52.30	78.10	21.10
Daunfeldt & Hartwig	2014	Sweden	NPV	30.05	61.14	54.40	23.83
Brounen, De Jong, & Koedijk	2004	UK	PBP	53.13	46.97	69.23	38.10
Drury & Tayles	1996	UK	PBP	57.00	43.00	63.00	41.00
Pike	1996	UK	PBP	81.00	74.00	94.00	50.00
Pike	1986	UK	PBP	75.00	68.00	92.00	56.00
Ballantine, Galliers, & Stray	1995	UK	PBP	7.00	3.00	16.00	11.00
Block	2005	UK	PBP	39.00	38.00	76.00	28.00
Arnold & Hatzopoulos	2000	UK	IRR	68.00	62.00	46.00	41.00
Alkaraan & Northcott	2006	UK	NPV	89.00	99.00	96.00	60.00
Wilkes, Samuels, & Greenfield	1996	UK	PBP	80.00	65.00	89.00	43.00
Sangster	1993	Scotland	PBP	58.00	48.00	78.00	31.00
Block	1997	US	PBP	16.40	11.20	42.70	22.40
Graham & Harvey	2001	US	IRR	75.61	74.93	56.74	20.29
Ryan & Ryan	2002	US	NPV	76.70	85.10	52.60	14.70
Chen	2008	US	NPV/IRR				
Trahan & Gitman	1995	US	NPV	79.80	81.00	66.70	59.50
Burns & Walker	1997	US	IRR	84.00	73.00	73.00	21.00
Hassan, Shao, & Shao	1997	US	IRR	39.60	15.35	26.23	15.35

\*Note: Percent of using discounted and non-discounted techniques among the developed countries including Australia, Canada, US, UK, Netherland, Germany, France, Sweden, Singapore, Japan, Finland and Poland.

### ***2.5.2.6 The Emerging/Developing Country Experience***

There are only a limited number of studies emphasising CB evaluation techniques in emerging countries. Chan, Kamal, and William (2004); Farah, Mansor, and George (2008); Kester and Chong (1998) placed emphasis on Malaysia, Indonesia, China, and Singapore; African economies were examined by Coltman (1995); Hassan, Hosny, and Vasilya (2011); Maroyi and van der Poll (2012); Pradeep and Lemay (2009); Kantudu, (2007) while India was examined by Manoj (2002); Satish, Sanjeev, and Roopali (2009); Singh, Jain, and Yadav (2012).

Kester and Chong (1998) examined CB practices used by firms in Singapore. Their study surveyed 211 listed firms drawn from the Singapore Stock Exchange (SSX) in 1996 and sought details on CB, discount rates, risk analysis, cost of equity capital and capital rationing practices. The study found the PBP and IRR where equally the most important techniques for evaluating investments while two selected firms adopted economic value added as their assessing method.

Chan et al. (2004) analysed the CB practices used by listed firms in China during the period 2000-01. The questionnaire concerned issues around the CB process, risk and uncertainty, capital rationing, and capital assessing techniques. Their findings suggest a very large number of firms use NDCF techniques (e.g., while 89 percent of firms use NPV as their primary analysis method, 83 percent of firms use PBP as their second evaluating technique).

Farah et al. (2008) investigated the CB practices of listed firms on the Jakarta Stock Exchange (JSX) in Indonesia (2000-01). The questionnaire concerned issues around capital investment, project risk, discount rates and the assessment of the cost of equity capital. The study found that Indonesian firms employed DCF techniques to evaluate their capital investment decisions. They also reported that the financial controller's education and the



age of listing played a significant role in determining CB techniques but that the type of ownership, firm size, industry and financial risk appeared to be unrelated as to whether or not DCF techniques were used.

Limited studies on the perception of CFOs in emerging, particularly the South-eastern Asia, countries were found. These studies reporting on the results of a survey of firms in Singapore, China and Indonesia, found that DCF and NDCF are the most frequently used methods. In Malaysia, Han (1986) found the PBP to be the most frequently used evaluation technique. Wong, Farragher and Leung (1987) surveyed a large sample of firms in Malaysia, Hong Kong and Singapore and found significant use of the PBP in Malaysia. In Hong Kong, they found the PBP and ARR to be equally popular. Though, recent studies established that firms in South-Eastern Asia employ NDCF techniques and DCF techniques equally to their long-term decisions.

CB practices studies on African firms indicate a shift in the appraisal techniques employed by firms. Falusi (1983) chose 60 manufacturing firms (45 of which are listed on the Nigerian Stock Exchange) to determine the extent to which firms in Nigerian use DCF techniques. The study found that 89 percent of listed firms made use of the NPV method while the PBP method was used by the remaining listed firms as well as non-listed firms.

In South Africa, Coltman (1995) found that the most popular method used was PBP, with 92 percent of respondents using this method. The IRR was used by 78 percent of firms; 65 percent used the NPV method; 46 percent used the ARR method with eight percent using other methods to assess capital investments. The increasing use of NPV and IRR is in line with financial theory, as the NPV and IRR methods take the time value of money into account and are based on cash flows.

Kantudu (2007) tested the capital investment appraisal practices in Nigeria. The sample consisted of 200 management and finance staff from 100 quoted firms. The study found that most firms employed NDCF techniques in evaluating capital expenditure and that the PBP was the preferred method for ranking. Twenty five and 20 percent of respondents used return on capital employed and ARR respectively in assessing their investments. The study also noted that the CB techniques employed rely on simplicity, understandability, and effectiveness.

Pradeep and Lemay (2009) examined CB techniques using a sample drawn from South Africa. The study consisted of survey data of 600 managers from Western Cape Province and found that the PBP was the preferred approach in CB decisions although firms still relied on other DCF techniques. The NPV was seen to be more popular than the IRR. Simpler CB techniques were more popular amongst medium sized firms while larger firms utilised the NPV in their decisions.

Maroyi and van der Poll (2012) investigated CB techniques with special reference to listed mining firms on the Johannesburg Securities Exchange (JSE) in South Africa. The survey consisted of 20 firms out of the 25 listed on the JSE. The study found that mining firms preferred naive techniques for evaluating capital plans such as the PBP and the ARR and that these firms undertook little risk analysis in their long-term capital investment decisions. The survey also revealed that while South African mining firms made use of some DCF CB methods there was an unwillingness to use modern methods such as RO.

The results for African firms are consistent with the increasing use of DCF in capital investment selection. Previous studies on CB practices undertaken in South Africa (e.g., Andrews & Butler, 1986; Du Toit & Pienaar 2005) noted that larger firms tend to employ more sophisticated CB techniques with simpler CB techniques being more popular among

small and medium firms. In the case of Nigeria, firms still employ NDCF techniques, although the use of PBP and ARR methods have declined recently.

A considerable amount of evidence is available about CB practices in Asian countries through studies by Manoj (2002); Hussaini and Shafique (2013); Satish et al. (2009); Singh et al. (2012). Manoj (2002) examined corporate finance practices using a sample drawn from India. The study consisted of 474 private firms and 51 public sector firms. The researcher employed a questionnaire to test the CB practices, capital structure, dividend policy and cost of capital of the selected firms. The results revealed that most respondents consider the objective to maximise earnings before interest and tax (EBIT) and earning per share (EPS) as their corporate finance practice. Further, DCF methodology was the most popular method for evaluating CB decisions with the majority of respondents using the NPV and IRR in their analysis with larger firms more frequently using NPV than their smaller counterparts.

Satish et al. (2009) examined CB practices in India. The study consisted of 100 manufacturing firms in Hyderabad, Delhi, Mumbai, Calcutta, Chennai, Bangalore, and Ludhiana. The study noted that the PBP and the NPV were the most popular CB techniques used while 90 percent of firms used more than one CB technique for evaluating their investment proposals. The study also revealed that the education of finance staff and their experience played a vital role in the selection of CB techniques. Highly educated finance personnel preferred more sophisticated CB techniques such as the NPV and IRR. Many firms also used the WACC when calculating their cost of capital.

Singh et al. (2012) examined the CB decisions of firms in India. The survey consisted of 166 non-financial firms of the BSE 200 index from 2001 to 2011. The study reported that all the sample firms were likely to use DCF techniques in conjunction with NDCF

techniques. Seventy eight percent of the firms employed the IRR for the capital selection while still relying on simpler CB techniques such as the PBP and ARR. The findings indicated that there still remains a theory vs. practice gap in the usage of IRR over NPV.

Over the years certain noteworthy studies in India were conducted. In these studies of India, NPV criterion was observed to be a widely used CB technique followed by IRR although, still relying on simple CB techniques such as the PBP and ARR but there usage had declined.

Hussaini and Shafique (2013) examined the CB decisions of firms in Pakistan. The study consisted of senior executives from five Islamic banks. Their findings suggested that 80 percent of firms practiced DCF techniques with 94 percent of these using the NPV and 88 percent also using the IRR.

Hassan et al. (2011) examined the capital investment practices of large corporations in an emerging market. The study tested the use of different CB techniques to assess the capital investments in 167 listed firms on the Kuwait Stock Exchange (KSE) and 344 unlisted firms in Kuwait. The researchers used a structured multi-choice questionnaire to determine the capital investment techniques employed by Kuwaiti firms. The study reported that the NPV and PBP methods were the most popular techniques to assess capital investment but also found that listed and unlisted firms also applied multiple CB techniques to assist with their capital investment decisions. The results revealed significant differences in capital selection techniques between corporations from different industries and different capital sizes, albeit the number of investments assessed did not show any significant differences in applying different techniques and there was little significant difference between listed and unlisted firms in their CB practices.

Mutairi, Tian, and Tan (2009) examined the CB practices, cost of capital, capital structure, and dividend policy of several Kuwaiti listed firms. The study reported that 97 percent of those firms use IRR, followed by 96 percent using of the NPV method when making investment appraisal decisions. The ARR and PBP methods are less popular, although the PBP is utilised by 54 percent of firms; its criterion is popular with privately and publicly owned firms that are managed by CFO with non-MBA with a medium tenure. The findings also revealed that corporate finance practices varied depending on firm and its management attributes.

In summary, various studies have surveyed firms in many countries regarding their use of CB methods. In the US, survey results noted that the sophistication of CB methods used by CFOs have increased over time. Similarly, some earlier studies of CB practices in South-east Asia (Malaysia, Hong Kong, Philippines, and Singapore) ascribe equal significance to DCF and NDCF methods. It appears that Asian and African CFOs tend to rely more on NDCF methods than sophisticated methods, when selecting long-term investments. Lee and Ip (1984) revealed that the PBP and the NPV were the most regularly used techniques in Hong Kong. Wong et al. (1987) revealed that the PBP was the most prevalent prime method used in Malaysia. In a prior study of Malaysian firms, Han (1986) found that the most prevalent techniques for adjusting for risk were shortening the PBP and requiring higher rates of return for riskier investments. Kester and Chong (1998) and Kester et al. (1999) suggested that CFOs of Singaporean firms found the PBP and IRR to be equally significant for ranking and analysing long-term investments. The studies, also, suggest that these results are similar for firms in Australia, Hong Kong, Indonesia, Malaysia and the Philippines. While there are clear limitations to the literature review, it suggests that a majority of CB studies are focused on developed markets and that there is a scarcity of serious analyses of the situation in emerging markets.

Aside from the aforementioned studies there are those that attempted to investigate CB techniques in a comparative manner (Andor et al., 2015; George, 2011; Hermes et al., 2007; Wong et al., 1987). Wijewardena and De Zoysa (1999) investigated management accounting practices and found that, while Japanese firms highly relied on ARR and PBP, Australian firms favoured the use of PBP and NPV. Also, the results indicated that the ARR and NPV respectively are less preferred methods used by Australian and Japanese firms. Compared to Australian firms, Japanese firms frequently use NDCF methods when evaluating capital investment projects.

Wong et al. (1987) examined the capital investment practices of 250, 270 and 240 listed large firms in, respectively, Malaysia, Singapore, and Hong Kong respectively and found that the PBP was the most popular means to rank capital investment projects. However, most firms used other simple or sophisticated techniques when assessing capital projects. Firms in all three countries undertook little investigation of the risk involved in the investments and often failed to monitor the implementation of accepted investment proposals.

Hermes et al. (2007) examined the CB practices of firms drawn from the Netherlands and China. The study consisted of survey data of 42 Dutch and 45 Chinese firms from 2003-04. The results revealed that the NPV was more important in Dutch firms than Chinese firms, Chinese firms rely heavily on the ARR as a tool of evaluating capital investment selection, and the use of the IRR method does not differ materially between Dutch and Chinese firms. Chinese firms use *cost of equity valuations* less often than Dutch firms.

Andor et al. (2015) examined the CB practices using Central and Eastern European firms (CEE). They investigated 400 firms in 10 CEE countries. The study found that the choice of CB techniques relates to a country's environment, geographical regions, and income

level. According to the results, 61 percent of firms practice DCF techniques for their capital investment decisions with the remaining firms using NDCFs such as PBP and ARR. The survey indicates that corporate finance practices are influenced mostly by firm size, multinational management culture and ownership. George (2011) examined the effect of CB practices on economic development using 225 Western European and 120 West African listed and non-listed firms during 2006-07. The study employed multiple-choice questionnaires relating to CB practices, firm attributes and respondent's experiences. The results suggest that Western European firms use NPV significantly more than West Africa firms with the ARR being the most favoured technique for West Africa firms. The study found that choice of CB techniques is significantly influenced by economic development, financial, human development and technological advancement. Table 2.2 lists the major findings on CB appraisal techniques in emerging countries.

**Table 2.2- Capital Budgeting Appraisal Techniques in Emerging Countries\***

Author	Year Published	Country	Most favoured	DCF(%) with		NDCF(%) with	
				IRR	NPV	PBP	ARR
Pereiro	2006	Argentina	IRR	100.00	87.00	32.00	
Hermes, Smid, & Yao	2007	China	IRR	89.00	49.00	84.00	9.00
Firth	1996	China	PBP	41.00	46.00	47.00	42.00
Velez & Nieto	1986	Colombia	IRR	73.00	66.00	19.00	
Lidija & Silvija	2007	Croatia	IRR	59.00	42.00	56.00	8.00
Lazaridis	2004	Cyprus	PBP	8.86	11.39	36.71	17.72
Wong, Farragher, & Leung	1987	Hong Kong	PBP/ARR	32.00	37.00	47.00	47.00
Kester, Chang, Echanis, Haikal, Mansor, Skully, Tsui, & Wang	1999	Hong Kong	PBP	86.00	88.00	100.00	80.00
Lam, Wang, & Lam	2008	Hong Kong	NPV	57.10	66.70	81.00	81.00
Anand	2002	India	IRR	85.00	66.30	67.50	34.60
Verma, Gupta, & Batra	2009	India	NPV/PBP	10.00	40.00	40.00	26.70
Singh, Jain, & Yadav	2012	India	IRR	78.57	50.00	64.28	39.28
Kester, Chang, Echanis, Haikal, Mansor, Skully, Tsui, & Wang	1999	Indonesia	NPV/IRR	94.00	94.00	81.00	56.00
Leon, Isa, & Kester	2008	Indonesia	PBP	63.60	63.60	86.40	40.90
Hassan, Hosny, & Vasilya	2011	Kuwait	NPV	6.49	21.62	8.47	
Kwong	1986	Malaysia	NPV	66.70	77.80		
Wong, Farragher, & Leung	1987	Malaysia	PBP	35.00	47.00	60.00	42.00
Kester, Chang, Echanis, Haikal, Mansor, Skully, Tsui, & Wang	1999	Malaysia	PBP	89.00	91.00	94.00	69.00
Kantudu	2007	Nigeria	PBP	16.67	10.00	26.67	13.33
Kester, Chang, Echanis, Haikal, Mansor, Skully, Tsui, & Wang	1999	Philippines	PBP	94.00	81.00	100.00	78.00
Wong, Farragher, & Leung	1987	Singapore	IRR/PBP/ARR	52.00	31.00	52.00	52.00
Kester, Chang, Echanis, Haikal, Mansor, Skully, Tsui, & Wang	1999	Singapore	PBP	88.00	86.00	98.00	80.00
Hall	2000	S. Africa	IRR	32.30	16.90	16.90	
Hall & Millard	2010	S. Africa	ARR	23.70	28.60	4.80	33.30
Maroyi & van der Poll	2012	S. Africa	NPV	50.00	92.00	0.00	0.00
Pradeep & Lemay	2009	S. Africa	PBP	28.00	36.00	39.00	22.00
Haddad, Sterk, & Wu	2010	Taiwan	PBP	47.83	30.43	52.17	26.09

\*Note: Percent using discounted and non-discounted techniques among the emerging countries including Argentina, China, Colombia, Croatia, Cyprus, Hong Kong, India, Indonesia, Kuwait, Malaysia, Nigeria, Philippines, South Africa and Taiwan.



### **2.5.3 Risk Assessment of Capital Budgeting**

Risk analysis of investments is a critical aspect of CB decisions (Chadwell-Hatfield et al., 1996; Gitman et al, 2011; Ho & Pike, 1991; Ho & Pike, 1998; Zinn, Lesso, & Motazed, 1977). The use of formal risk assessment of investments and the adjustment for risk in evaluating investments are growing. As the future becomes more uncertain, the chance (or risk) that estimates made concerning the future will not occur increase (Atrill, 2012; Brigham, 1992). Risk in terms of CB may be defined as the variability in actual returns emanating from an investment, over its working life, in relation to estimated returns as forecasted at the time of the initial CB decision (Jain, Singh, & Yadav, 2013). Risk analysis is particularly important in investment decisions (Arrow & Lind, 2014; Petty et al., 1996; Zeeman & Naumann, 2005). Effective capital investment decisions require not only the use of DCF techniques, proper cash flows, and discount rate estimates, but also risk analysis (Brigham & Ehrhardt, 2002). This is due to the time scales involved being very long—as a result, there is more than enough time for things to go wrong between making the decision and the culmination of the investment. If things do go wrong the impact can be both significant and lasting (Peter, 2012).

In considering the risk feature of CB, CFOs should apply risk analysis methods to long-term investments that contribute to the general risk of the firm's business operations. If the risk connected with assets proposed for capital investment is greater than normal, the investment should be subjected to a quicker PBP or a higher hurdle rate. Likewise, if the investment is exceptionally routine and perhaps even less risky than the norm, the CFOs should employ less challenging hurdles. Unfortunately, the risk of investment is relatively challenging for stakeholders and policy makers, as no required disclosure rules apply. This

may open the door for agency conflicts, as finance managers underestimate risk and accept capital investments that should be rejected.

The measurement of return in CB brings with it, its own special challenges. Appraising future cash flows, their timing, and the level of their uncertainty presents the largest challenge as return and risk must be measured together by CFOs when employing techniques (Bennouna et al., 2010).

Finance theory states that firms must take into account risk factors when analysing capital investments. Drury and Tayles (1996) found UK firms relied on sensitivity analysis as their favourite means of dealing with investment risk assessment. In the US, Graham and Harvey (2001) demonstrated that CFOs use a firm-wide discount rate to assess investments which may have different risk features. Researchers, also, noted that large firms were most likely to use a risk-adjusted discount rate rather than small firms. Freeman and Hobbes (1991) noted that Australian CFOs typically use sensitivity analysis as well as comparing best case and worst case scenarios.

Ryan and Ryan (2002) found the use of quantitative techniques in the US (to analysis investment risk) was similar with Australia—although there was an increasing use of scenario analysis, mainly via simulation. Canadian CFOs were seen to use risk analysis techniques, with the prime ones being scenario analysis, sensitivity analysis and the risk-adjusted discount rate (Bennouna et al., 2010). The results were similar to the Australian, Indonesian, Hong Kong, Malaysian, Singaporean and Philippine study by Kester et al. (1999) who found that sensitivity and scenario methods were the most substantial techniques used for investment risk assessment. They, also found that the majority of Australian CFOs use the CAPM; Indonesian and Pilipino CFOs use the cost of debt plus risk premium method and Hong Kong CFOs use the dividend yield plus growth rate method.

Black, Parry, Anderson, and Bennett (2002) note that the majority of New Zealand CFOs use CAPM, whereas the majority of Chinese, Kuwaiti and Singaporean CFOs use sensitivity and scenario analysis methods when valuing risk of investments (Chan et al., 2004; Kester & Chong, 1998; Mutairi et al., 2009). In India, Anand (2002) noted that a majority of CFOs use sensitivity analysis and scenario analysis when analysing capital investments, while a few CFOs relied on a risk-adjusted discount rate, Monte Carlo simulation and decision-tree analysis. Anand, also, noted that large public sector and large firms were more likely to use scenario analysis for assessing investment risk than private and smaller firms. Also, large firms were more likely to use decision-tree analysis than small firms. Brounen et al. (2004) found that large firms were more likely to use NPV and the CAPM when calculating the discount rate in the UK, the Netherlands, Germany and France.

## **2.6 Proper Use of and Pitfalls in Discounted Cash flow**

### **2.6.1 Cash Flow Estimation**

Assessment of cash flows requires immense understanding of the investment before it is implemented (Brigham, 1992; Kashyap, 2014; Modigliani & Miller, 1958). Clearly the most significant stage in analysing a possible investment is estimating its cash flows and the investment outlays that will be required as well as the net cash inflows the investment will produce. Many variables are involved in cash flow forecasting and many individuals and sections of the firm participate in the process (Brigham & Gapenski, 1997). Cash flow estimation can be considered from two different angles; cash inflows and outflows that:

- Are represented by the increase in revenue that is attributable to the investment under review; These also arise as savings in future costs resulting from the purchase of an item of plant or business arrangement (Wilson & Keers, 2003),

- Result from future costs and expenses associated with an investment; In estimating these cash flows, any interest or finance charges on funds acquired should be ignored (Wilson & Keers, 2003).

In terms of specific characteristics of CB practice, DCF techniques should be based on cash flows and not accounting income (Brealey & Myers, 2003). Estimating cash flows properly is more vital than fine-tuning the other investment estimations. It is difficult to estimate most investments' tangible cash flows accurately. DCF calculations do not call for accurate estimates but for accurate assessments of the mean of possible outcomes (Myers, 1984). Common issues in estimating discounted cash flows are deducting from accounting income: non-cash expenses (e.g., depreciation); an allocation of existing overhead costs; interest expenses, and income tax (Nicholson & Ffolliott, 1966). Such errors make it extremely difficult for top management to verify the true cash flows, risks and the present value of capital investment proposals. Moreover, firms are expected to recognise inflation in CB decisions (Brigham & Ehrhardt, 2011). Inflation impacts not only on an investment's future cash flows but also the opportunity cost used as the discount rate (Menachem & Venetia, 1983). In the UK, inflation was properly treated in DCF analysis by only 27 percent of firms (Drury & Tayles, 1996) and also Pike (1996) found that there had been a significant increase in the number of firms making explicit adjustments for inflation: 58 percent of firms made adjustments for changes in general inflation while 56 percent of firms specified different rates for all costs and revenues. Pike (1996) also found that 70 percent of firms estimated future cash flows at constant prices and discounted the investment cash flows at real discount rates. This method is only consistent with financial theory if the assumptions apply, in that future cash flows are expected to increase at the general rate of inflation and income tax and therefore the results indicated are surprising in relation to the increasing sophistication of CB techniques employed. According to Ryan and Ryan (2002) only 31 percent of the firms in the US always or often use inflation adjusted cash flows.

McLaney, Pointon, Thomas, and Tucker (2004) noted that 67 percent of UK firms took tax effects into account when estimating the cost of capital, while Truong et al. (2008) revealed that in most Australian firms, investment analysis took no account of the value of imputation tax credits.

### **2.6.2 Cost of Capital**

The cost of capital is the expected rate of return that is needed to draw market participants to a particular investment (Frino et al., 2013; Gitman et al., 2011; Zeeman & Naumann, 2005). In economic terms, the cost of capital for a given investment is the opportunity cost of forgoing the next best alternative investment (Petty, et al., 1996; Pratt & Grabowski, 2008). The cost of capital is the main parameter of DCF calculation (Bennouna et al., 2010). The firm's cost of capital expressed as a decimal or percent is used in two ways in CB: i) as a minimum profitability rate that prospective investment returns must exceed; and ii) as a discount rate applied to cash flows. The cost of capital is a factor in compensation plans, with bonuses dependent on whether the firm's return on invested capital exceeds the cost of capital (Brigham & Ehrhardt, 2011). The cost of capital is a crucial issue for the firm as it provides the discount rate in the evaluation of capital investment. The intuitive appeal of the capital asset pricing model (CAPM) and weighted average cost of capital (WACC) methods ensures their sustained popularity in firms (McLaney et al., 2004; Zeeman & Naumann, 2005).

CFOs regularly employ the CAPM as a technique to assess the viability of investment proposals and estimate the cost of capital for which they need to know the market risk premium. In the CAPM model, the cost of capital of an investment can be predicted based on the *beta* of the investment and the market risk premium. Another method also used to estimate cost of capital is the WACC. This WACC is a vital metric in the traditional

literature of corporate finance. The WACC is intended to be the cut-off point in CB decisions. CFOs tend to view investments that equal or exceed the hurdle rate as contributing to stakeholder wealth maximisation, while those that fail are viewed as being dilutive to value.

Various studies have considered the way in which the cost of capital has been calculated and employed as the discount rate in CB. Westwick and Shohet (1976) found that in UK the most popular method for selecting the minimum rate of return for use in investment appraisal decisions was to use the firm's bank overdraft rate while less than 10 percent firms mentioned the use of a WACC. This has changed significantly over the subsequent years. Hodgkinson (1989) found that 36 percent of large firms in the UK used the WACC as the discount rate. In more recent years, slightly over half of the UK firms employ a WACC estimate. Arnold and Hatzopoulos (2000); McLaney et al. (2004) note that the WACC is the most popular approach used in estimating the cost of capital. Interestingly, a significant minority of smaller firms are still using the interest rate payable on debt. Graham and Harvey (2001) reported that only 47 percent of firms surveyed in the UK used the CAPM compared to 73 percent usage of the CAPM in the US. In Canada, Payne et al. (1999) compared the CB practice of US and Canadian firms and found that the WACC is more popular in the US than in Canada. This considerable preference for the CAPM has also been confirmed through other studies in Canada (Bennouna et al., 2010; Jog and Srivastava, 1995) and Central and Eastern Europe (CEE) countries (Andor et al., 2015). In Australia, Freeman and Hobbes (1991) found that only 40 percent of firms use the WACC to evaluate investment while 39 percent of firms use the cost of borrowing. However, Truong et al. (2008) noted that the CAPM is the most common method used in estimating the cost of capital in Australia. The next most popular method is the cost of debt plus some premium for equity. It seems that alternative asset pricing models are not being adopted by

Australian firms. This study supports the Kester et al. (1999) assertion of increasing usage of the CAPM for estimating the cost of capital. The Australian results are similar to Graham and Harvey's (2001) study in the US.

Usage of the CAPM in Australia is substantially higher than in the UK (McLaney et al., 2004), or Canada (Jog & Srivastava, 1995). In the European context, Brounen et al. (2004) found a slightly different practice in the use of CAPM relative to findings from other countries. Nevertheless, *rule-of-thumb* techniques continue to enjoy extensive use. The WACC is widely used as a discount rate in estimating the cost of capital. A survey of Paksitani firms by Hussaini and Shafique (2013) found the WACC method to be dominant. Research in India noted that the CAPM was the most popular method with 54 percent of firms estimating a cost of capital (Anand, 2002). The second and the third most popular methods are Gordon's dividend discount model and earnings yield. In a comparative study between Dutch and Chinese firms, the results indicated that 67 percent of Dutch firms used the WACC for discounting purpose while only 10 percent of Dutch firms used a project dependent (risk-adjusted) cost of capital. Similarly, with Chinese firms, 53 percent of firms frequently used the WACC, with 29 percent firms mentioning the use of the cost of debt. 16 percent of firms suggested the use of a project dependent cost of capital. Chinese firms appear to use the cost of debt more often (Hermes et al., 2007). Kester and Chong (1998) report that 52 percent of Singaporean firms use a single discount rate while the remaining firms rely on the WACC. In a South African survey, Pocock, Correia, and Wormald (1991) found that 35 percent of firms employ the cost of the specific source of finance for the investment as the discount rate. In Indonesia, 47 percent of firms use risk premium methods to calculate their cost of equity while risk-adjusted discount rates and the CAPM are less frequently used (Farah et al., 2008).

## **2.7 Contingent Variables and Capital Budgeting**

Identifying contingent variables for CB decisions is a very delicate and a somewhat difficult task, that needs to consider all the complex interrelationships between CB practices and performance (Gordon & Miller, 1976; Maccarrone, 1996; Pike & Ho, 1991). The problem is very hard to resolve because a large number of factors influence CB practices and investment outcomes.

Some of these factors are quantifiable while others are internal and managerial. Contingency theories of finance classify a number of different types of variables. The existing literature shows that important characteristics (contingencies) affecting firm structure include; firm characteristics, environmental uncertainty and behavioural characteristics (Covaleski, Dirsminth, & Samuel, 1996; Mitchell, 2002; Reid & Smith, 2000).

Capital-budgeting focused studies have an extensive tradition in corporate finance literature. Mainly these studies focus on developed and emerging nations, some studies include contingent constructs which explore interconnections between CB practices and contingent attributes.

Firm attributes such as size, capital concentration, risk and uncertainty, ownership and industry attention are considered important determinants of CB practices (Abdel-Kader & Luther, 2008; Chen, 1995; Pike, 1983). Firm size reflects the resources available to the firm. The amount of economic activity a firm can engage in is directly influenced by its size. Generally, firm size is an important factor that can affect structure and other control arrangements of the firm (Abdel-Kader & Luther, 2008; Hall & Weiss, 1967; Marcus, 1969). Haldma and Lääts (2002) argue that the sophistication in CB practices tends to increase in line with firm size. Moving from simple to more sophisticated practices requires



resources and specialists which tend to be more affordable by large firms. Existing studies have shown that large firms employ the NPV method more often and to a greater extent than the IRR method (Arnold & Hatzopoulos, 2000; Mutairi et al., 2009). Drury and Tayles (1996) reported that DCF techniques are used far more extensively by larger firms than smaller firms. Further analysis revealed that 90 percent of the larger firms and 35 percent of the smaller firms widely use either NPV or IRR discounting methods. Hermes et al. (2007) also found that larger firms most frequently use the NPV method to a larger extent than smaller firms. In Australia, Freeman and Hobbes (1991) note that the use of DCF methods increased with the size of the capital expenditure. Ryan and Ryan (2002) found a positive relationship, in the US, between the use of the NPV and IRR methods and the size of the capital budget. However, PBP was used by a greater percentage of firms with smaller capital budgets. These results are similar to the findings by Trahan and Gitman (1995), Graham and Harvey (2001) and Mutairi et al. (2009) and reveal a link between the use of DCF methods and the size of the firm or the level of the firm's capital intensity. The more capital intensive a firm is, the more likely it will use DCF methods. Moreover, Graham and Harvey (2001) note that highly levered firms were significantly more likely to use NPV and IRR than firms with small debt ratios. The study found significant differences between high and low leverage in small firms as well as high and low leverage in large firms.

Determining which firm-specific and environmental factors affect a firm's CB practices is difficult and a clear understanding of a firm's internal and external environments is necessary (Hassan, Shao, & Shao, 1997). The environment of the firm is conceptualised in terms of perceived uncertainties (Duncan, 1972). Piper (1978) noted that if the investment projects are either failing or are not being completed on schedule; they suggest that one of the reasons for these failures relates to poor financial control structure. Also, Daft and MacIntosh (1978) identified task variety and task knowledge as factors affecting the design

of management information systems. Studies conducted by Hopwood (1972) and Otley (1978) show that a firm's structure affects the manner in which budgetary information is best used. Segelod (1998) confirmed that there were differences in the use of sophisticated CB practices among industrial sectors. While capital intensive industries appear to rely on such techniques as decision-making tools, knowledge-intensive industries (in particular professional service firms) hardly make use of CB techniques in their investment decisions. Hence, industry adjustment can be considered very relevant, when estimating the relationship between firm performance and CB practices.

A measure of the expertise level of the CFOs is necessary, since it may be predictable that CFOs with higher skills (a higher level of education, experience and maturity, etc.) will have less difficulty in understanding and using sophisticated CB techniques. Hermes et al. (2007) assert that highly educated, younger CFOs are more likely to use the NPV method, as compared to less educated, older CFOs. Also, firms with over-seas operations had a significantly higher usage for NPV than firms with no over-seas operations. Graham and Harvey (2001) found that CFOs with an MBA were more likely to use the PBP criterion, which was also popular among more mature CFOs. In addition, CFOs with MBAs were more likely to use a single factor CAPM or the CAPM with extra risk factors than non-MBA CFOs. Similarly, in the Kuwait setting, the PBP criterion was very popular among privately and publicly-owned firms managed by CFOs with non-MBA who had medium tenures. More mature CFOs were more likely to use scenario analysis, decision analysis and probabilistic analysis than younger CFOs (Mutairi et al., 2009).

## **2.8 Capital Budgeting and Firm Performance**

Firm performance (profit) is best measured by the aggregate wealth generated by the firm before distribution to its stakeholders, rather than the accounting earnings allocated to the equity holders (Haka et al., 1985). Financial theory suggests that implementing a sophisticated CB system will enhance firm performance (Copeland, 1992). The association between CB practices and firm performance has not received wide attention in the literature, other than a few researchers (Farragher et al., 2001; Klammer, 1973; Kim, 1981; Pike, 1984; Vadeei et al., 2012) who focused their studies on the impact of CB on firm performance.

Klammer (1973) surveyed 369 manufacturing firms in the US, to test the relationship between CB and firm performance. The study found no significant relationship between CB techniques and firm performance. Kim (1981) conducted two studies similar to Klammer's (1973), but found a positive association between the CB process and firm performance. In contrast, research done by Pike (1984) found a negative relationship between CB evaluation techniques and firm performance. Farragher et al. (2001) used multiple-regression models to determine the relationship between CB and business performance and found no discernible relationship between the CB process and firm performance. Vadeei et al. (2012) looked at the relationship between CB techniques and firm performance in listed manufacturing firms in Iran and found a significant positive correlation between CB practices and ROA and that those firms which used sophisticated CB techniques performed better than firms using less sophisticated techniques.

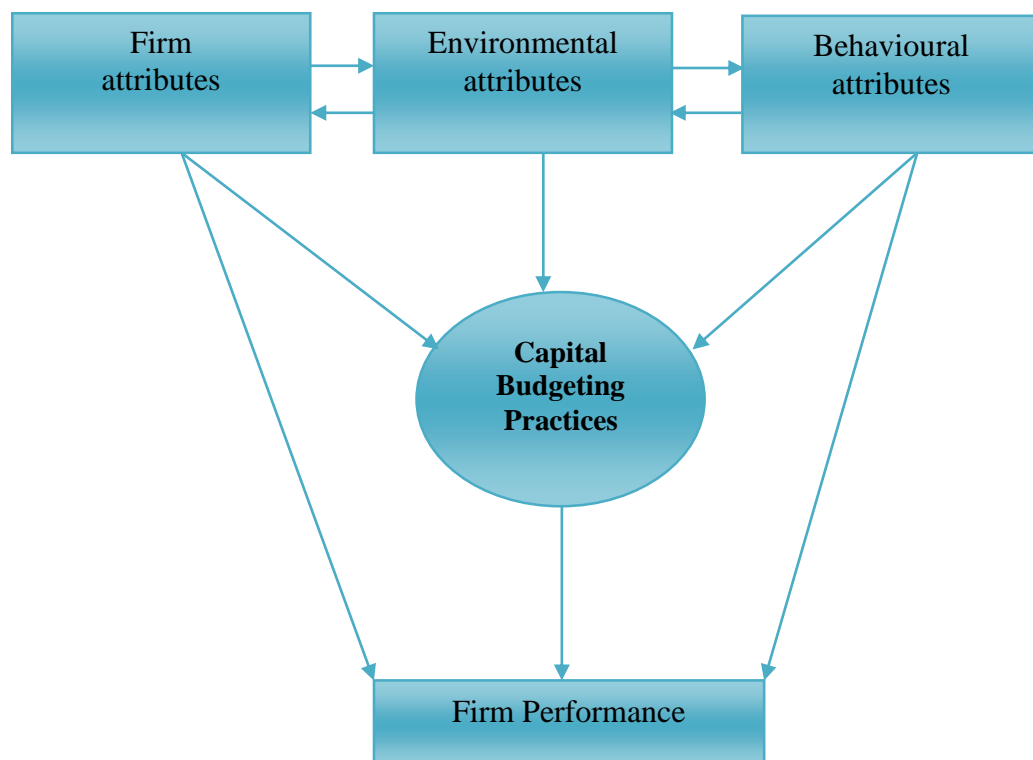
The literature review suggests that CB studies (with some exceptions) have mostly focused on developed countries and that there is still significant scope for studies of the situation in

emerging markets. Also, only a few studies have provided a serious comparison of CB practices in developed vs. emerging countries.

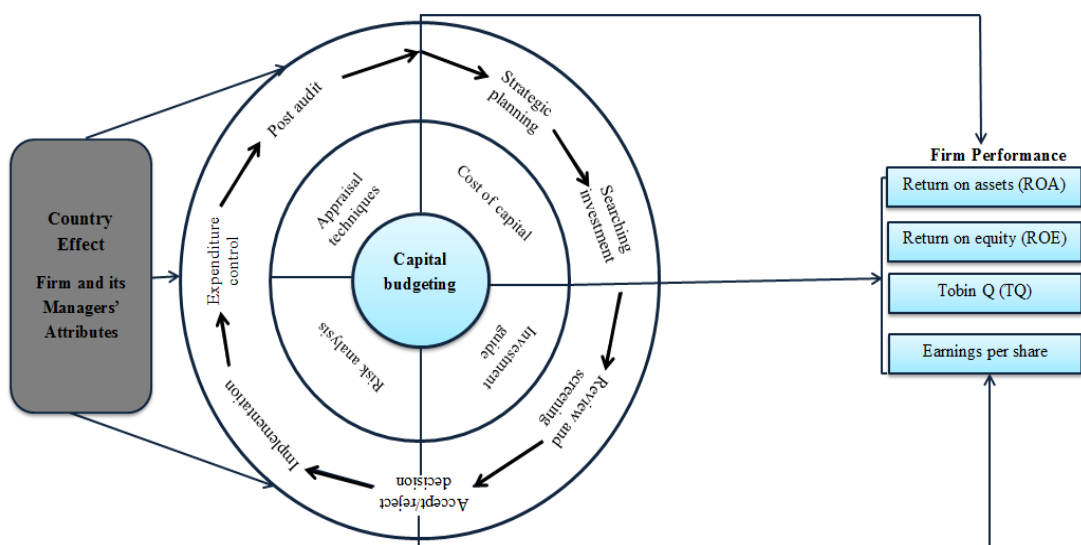
## 2.9 Conceptual Framework

The conceptual framework of this study, in Figure 2.1, was drawn from the literature review. It provides an outline to structure the enquiry of the effect of CB variables on firm performance and to highlight the role of other factors that contribute to corporate performance (e.g., contingency attributes). Evidence from empirical research suggests that there are several variables that influence the relationship between CB practices and firm performance. The CB practices referred to in this study include CB process and CB techniques. Firm performance variables used in this study are accounting measures of ROE, ROA and market-based measure of EPS and TQ. As previously noted, this study examines the CB practices in two countries at two levels of economic development; developed and emerging markets (the two countries under consideration in this study are Australia and Sri Lanka) i.e. the effect of CB on firm performance via a comparative review of key attributes of the structure and operation of firm CB practices in Australia and Sri Lanka.

**Figure 2.1- Contingent Variable and Capital Budgeting**



**Figure 2.2- Conceptual Framework: Capital Budgeting Practices and Firm Performance**



## 2.10 Research Gap and Contribution to the Literature

This research seeks to reduce a gap in the extant literature on the relationship between CB practices and firm performance by documenting and performing a comparative analysis on CB practices, processes, techniques, and outcomes. Many researchers have over the years made extensive efforts to survey and identify the quantitative techniques used by firms around the world. Early and recent research in CB in the US (Graham & Harvey, 2001), UK (Arnold & Hatzopoulos, 2000), Sweden (Sandahal & Sjogren, 2003), UK, Netherlands, Germany and France (Brounen et al., 2004), Netherlands and China (Hermes et al., 2007) and Australia (Truong et al., 2008), have reported that, over time, firms are increasingly adopting more refined CB practices. However, for the most part, these studies have focused on the application and enhancement of modelling techniques. The trend towards the adoption of more refined CB practices has led researchers to consider whether these refinements have actually improved firm performance and profitability. Studies conducted in this area have yielded mixed results. Specifically, while Christy, (1966); Farragher et al. (2001); Klammer (1973); Pike (1984) found that merely adopting refined CB practices does not enhance firm performance, other studies identified an association between CB practices

and firm performance (Kim, 1981; Vadeei et al., 2012). These mixed outcomes, in the extant literature, point to a gap in the understanding of the relationship between CB practices and firm performance, especially in terms of differences between firms in developed and emerging countries.

This study seeks to reduce the above gap by studying similarities and differences in *the relationship between CB practices and firm performance* in a developed country (Australia) and in a emerging country (Sri Lanka). This study and its findings should provide a framework than can contribute to firms in both developed and emerging countries and, also, help structure future research on a relatively large sample of firms from developed and emerging countries. Thus, this study seeks insights that will prepare the way for general rules and outcomes in future research.

## **2.11 Chapter Summary**

This chapter reviewed the extant literature in relation to CB practices and firm performance in developed and emerging countries and is a foundation for subsequent work, presented in the following chapters. The extant literature reviewed includes works on: CB theoretical constructs, processes, and evaluation approaches; along with: agency costs, asymmetric information effects, risk assessment issues, and firm performance.

The significant role that CB practices play in corporate finance is well established by reams of research articles. Some of this research considers CB processes, some uses an evaluation approach in examining: CB appraisal techniques, cost of capital, and risk assessment issues. There appears to be a somewhat limited number of studies undertaken on emerging countries with most focusing on an empirical analysis of CB appraisal and even less

research that identifies similarities and differences in *CB practices and firm performance* in developed and emerging countries.

The mixed outcomes in the extant literature and a dearth of comparative studies suggest a significant gap in understanding *CB practices and firm performance*, especially in terms of similarities and differences in developed and emerging countries. This study seeks to fill this gap by examining the impact of CB practices and firm performance of the listed firms in Australia and Sri Lanka. The next chapter presents a brief review of the capital market situation and context in Australia and Sri Lanka.

# **Chapter Three: Economic, Financial Situation and Development of Capital Markets in Australia and Sri Lanka**

## **3.1 Chapter Introduction**

As previously noted, the objective of this study is to contrast the CB practices of firms in a developed country with the CB practices made by their counterparts in an emerging country and to investigate their differences and similarities via selected samples of Australian and Sri Lankan listed firms. Accordingly, this chapter provides the Australian and Sri Lankan background and the attributes of both economies in general and in particular, their capital markets. This chapter also presents the features of the Australian and Sri Lankan financial markets that may affect an investment decision and firm performance. Furthermore, this chapter highlights important issue that is, the structure of listed firms in both countries, as it provides a safeguard for investors and stakeholders. Additionally, the chapter investigates the financial and economic stability of both countries, because it is considered a vital substance of business's domains in today's global economy. This chapter is organised as follows: Section 3.1 provides a background of Australia. Section 3.2 provides a background of Sri Lanka. The chapter ends with a summary.

## **3.2 Australia at a Glance**

Australia is the sixth largest country in the world in terms of its geographical area (Rawlings-Way, 2011). It is the smallest of the continents and the largest island (Beck, 2015; Rajkumar & Hoolahan, 2004; Schiller, Herzfeld, Brinkman, & Stuart, 2014). Australia is situated within Oceania which borders both the Indian Ocean and the South Pacific Ocean. Australia is comprised of mainland Australia, the island of Tasmania and several small islands in the Indian and Pacific oceans with a total area of 7,686,850 km<sup>2</sup>



and 25,760 km of coastline (Oliver, 1989). Australia is a stable, culturally diverse and democratic society with one of the strongest performing economics in the world (Secombe & Smolicz, 2015). Australia is a developed nation with: a relatively small open economy, a population of around 24 million residents in 2013/14, business practices and regulations that are respected (e.g., its Corruption Perceptions index<sup>6</sup> (CPI) is 80/100 where 100 is no corruption), strong institutions that helped Australia comfortably weather the GFC. Interestingly, while Australia acknowledged its ability to weather the GFC, it continuously improves its capital markets via regulations and encouraging high corporate ethical standards (Hugo, 2014). Australia is home to one of the world's oldest living cultures with its native aboriginal people having arrived 40,000 to 60,000 years before European contact (Rose, 2014). Since European settlement in the late 18th century, Australia identities, population and cultural makeup evolved from British roots, but in changed direction in response to two world wars, mass migration, and Australia's rising Asia-Pacific and global partnerships and responsibilities. As a result, Australia is among the world's most ethnically diverse cultural mosaics (Turner, 2003). Industrial and manufactured goods account for much of Australia's Gross Domestic Product (GDP)<sup>7</sup> (Pietroforte & Gregori, 2003) and its main industries include: mining, food processing, and manufacturing (industrial and transportation equipment, chemicals, iron and steel, textiles, machinery and motor vehicles). The Australian (2004-12) socio-economic conditions are listed in Table 3.1.

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<sup>6</sup> The corruption perception index was created in 1995 by Transparency International, annually ranking countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys.

<sup>7</sup> GDP is the monetary value of all the finished goods and services produced within a country's borders in a specific time period.

**Table 3.1- Economic and Social Statistics of Australia (2004-12)**

		2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Demography</b>										
Population '000		20,046	20,311	20,627	21,016	21,475	21,865	22,172	22,520	22,923
Population Growth %		1.10	1.32	1.56	1.88	2.19	1.82	1.40	1.57	1.79
Labour Force Participation % Male		74.2	74.9	75.6	76.4	76.2	75.6	76.5	72.4	71.9
	% Female	57.9	59.1	60.3	61.2	62.4	61.8	61.8	59.0	58.8
Unemployment % Labour Force		5.1	5.1	4.9	4.4	4.2	5.6	5.1	5.1	5.7
<b>National Accounts</b>										
Per Capita GDP:	US \$ Bn.	32,381.89	33,336.19	33,947.56	34,468.25	35,232.59	35,930.46	35,861.25	36,134.54	36,584.99
GDP (Market Prices):	US \$ Bn.	466.5	611.5	745	850.5	1052.3	923.5	1138.3	1384.2	1532.4
Real GDP Growth %		3.0	3.1	2.7	4.9	2.2	1.5	2.4	2.3	3.3
<b>Expenditure and Savings % of GDP</b>										
Consumption		75.64	75.36	73.66	72.87	72.34	71.13	72.30	71.60	71.79
Government Consumption		17.24	17.35	17.12	17.12	17.00	17.60	18.20	17.86	17.79
Domestic Savings		23.70	24.36	24.64	26.34	27.13	27.66	28.87	27.70	28.40
National Savings		21.55	20.97	22.53	22.89	23.95	26.01	24.30	24.53	25.47

Source: [www.tradingeconomics.com](http://www.tradingeconomics.com) / Australian Bureau of Statistic.

### 3.2.1 An Overview of Social Environments in Australia

Australia is the only country to govern a whole continent; it is the earth's biggest island; it is a compact continent that is approximately 3,900 km from east to west and about 3,220 km from north to south at its widest and largest points (Morgan, 2012). About a third of the continent is classified as arid (receiving less than 250 mm average annual rainfall) and another third is semi-arid (250 to 500 mm). However, Australia's coastal areas have climates ranging from tropical to Mediterranean-style to temperate and usually receive regular rainfall (Alexander, Hope, Collins, Lynch, & Nicholls, 2007). Australia, one of the world's most multicultural countries, is rich in indigenous and immigrant cultures (Smolicz, 1997). Over a quarter of Australia's population was born overseas (Human Development Report, 2011). The total population in Australia was last recorded at 22.8 million residents in 2012 from 10.3 million in 1960, changing 122 percent during the last 50 years (Krockenberger, 2015). Australia is a multi-ethnic, multi-religious country with a diverse and rich culture. The majority of its peoples are of European heritage, making up 92 percent of the country's population. Other ethnic groups that are part of the country's social fabric are Asians (seven percent), aboriginal and others (one percent). The age-dependency ratio (percent of working-age people) in Australia was 49.11 in 2012 (World Bank, 2013). The life expectancy<sup>8</sup> at birth has, on average, been higher for females than males—e.g., a boy born in 2009-11 can expect to live, on average 79.7 years, while a girl born in 2009-11 can expect to live 84.2 years (ABS, 2015).

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<sup>8</sup> Life dependency ratio is the ratio of dependent people younger than 15 or older than 64 to the working age population those ages 15-64.

### **3.2.2 An Overview of Economic Environments in Australia**

In terms of output (GDP), Australia is a relatively large economy (estimated, in 2015, to be the world's 13<sup>th</sup> largest national economy; Eslake, 2002) with only 0.3 percent of the world's population. At US\$ 1.5 trillion, Australia's nominal GDP is two percent of the global economy (ATC, 2015) and the Australian economy has experienced continuous growth over the last few decades (McLean, 2004). While Australia's economy is dominated by services (e.g., 80 percent of economic output), its economic success is based on an abundance of agricultural and mineral resources (McLachlan, Clark, & Monday, 2002). Australia's comparative advantage in the export of primary products is a reflection of the natural wealth of the Australian continent, its former status as a British colony, and its small domestic market. The country is, also, a major regional financial centre and a vital part of the global financial system. In 2012, Australia's economic growth put it among the fastest growing advanced nations (ABS, 2015). Investment has, in recent years, risen very high (relative to GDP) and is one of the highest among developed economies (Nicholls & Rosewall, 2015). Employment growth has also been strong.

Australia's relatively good growth over the past couple of decades (ABS, 2015) flowed from a long succession of economic reforms and the adoption of prudent and disciplined economic policies. However, slowing productivity growth caused GDP growth in the latest decade to not be as fast as it was in the previous decade. Even though there is significant variation in growth across states and industries, the benefits of growth are spread relatively widely across states, regions, and the population.

### **3.2.3 Australian Financial Markets**

Australia's powerful financial markets provide ready access to a wide range of financial products and services, including money exchange and derivatives.

The ASX Group's origin as a national exchange goes back to 1987, when "The Australian Stock Exchange Limited" was formed by legislation drafted by the Australian Parliament to amalgamate six independent state-based stock exchanges. Each of those exchanges brought with it a history of share trading dating back to the 19<sup>th</sup> century. In 2006 The Australian Stock Exchange merged with the Sydney Futures Exchange and originally operated under the name Australian Securities Exchange. Later, however, ASX launched a new group structure to better position it in the contemporary financial market environment. From August 1, 2010 the Australian Securities Exchange has been known as the ASX Group (Australian Stock Exchange, 1996; ASX, 2016).

The early trading history of the Australian stock exchanges was associated with the provision of long-term funds for mines, railways, banks and insurance firms. During the early 1920's the exchange played a significant role as a medium for the raising of funds for the Australian Government, which had previously relied on funds from Britain. In 1988, 1,429 firms were listed on the ASX; by 1999 the number had declined to 1,159 and by July 2012 the number was above 2,205 with a total value of AU\$ 1,228,855 million. The Australian Stock Exchange (ASX) is a very large securities market, with approximately 578,000 trades per day. Australia has the highest participation rate of any country in the share market and the ASX reports that more than 41 percent of adult Australians now own shares (Ross, et al., 2014).

The ASX is the central marketplace in which Australian corporations raise funds. It offers investors an efficient facility for buying and selling shares and other listed securities. The

ASX is one of the world's leading financial market exchanges, offering a full range of services, including listings, trading, clearing and settlement, across a comprehensive range of asset classes. As the first major financial market open every day, ASX is a world leader in raising capital, consistently ranking among the top five exchanges globally.

With a total market capitalisation of around AU\$ 1.5 trillion, the ASX is home to some of the world's leading resource, finance and technology firms. The ASX's network and data centres are connected to leading financial hubs, speed, reliability, state of the art technology and the diversity of the user community are fundamental to the success of the Sydney based ASX Australian liquidity centre. The ASX operates in a world-class regulatory environment with over 150 years of exchange experience and has almost 2,200 listed firms and issuers.

Approximately 125 taxes (including commonwealth taxes such as income tax) make the Australian taxation system highly complex. Many different organisations play different and varied roles within the system and ensure its integrity, including equitable treatment of all Australians (ABS, 2015). Moreover, The ASX corporate governance council was formed in August 2002 and has been chaired by the ASX Group (ASX) since its inception (ASX, 2016). This document marks the first revision of the Council's corporate governance principles and recommendations since they were issued in March 2003. Since 2003, the Council has developed and released recommendations on the corporate governance practices to be adopted by ASX listed companies designed to promote investor confidence and to assist listed companies to meet stakeholder expectations (ABS, 2015).

### 3.3 Sri Lanka at a Glance

Sri Lanka is an island nation of legendary natural beauty located in the Indian Ocean, south-east of India. Its beauty and wealth are fabled in many ancient empires and has been referred to with many names (Taprobane, Salabha, Salike, Serendib, Pa-Ou-Tchow, Ceylon, etc.) that honoured its beauty and wealth. Its history is entwined over the millennia (via gems, cinnamon, and other trade) with such cultural icons as: King Solomon, Queen Sheba, Alexander, Ptolemy, Sindbad, Ibn Batuta, John Milton, Marco Polo, Don Quixote, Vasco de Gama, and Princess Diana. Sri Lanka's area is 65,610 km<sup>2</sup> (Meegaskumbura, Bahir, Milinkovitch, & Schneider, 2002). Cinnamon originating in (and originally only available from) what is now Sri Lanka is mentioned in Chinese texts dating as far back as 2,800 BCE, was used in ancient Egypt, and is also mentioned in the Book of Proverbs as being prized by Solomon's court (cc 961-922 BCE<sup>9</sup>). The Sinhala occupation of Sri Lanka goes back to the 6<sup>th</sup> century BCE when the earliest Indo-Europeans arrived in the country. While there more than a little dispute over when Tamils arrived in Sri Lanka, the earliest written record of the Tamil community is in the 2<sup>nd</sup> century BCE. Later arrivals from India brought Buddhism to the country, beginning about 240 BCE (Gombrich, Gombrich, & Obeyesekere, 1988; Perera, 1988) and they developed great civilisations and cities before European powers began fighting to control the country. The Portuguese conquered the western coastal plains early in the 16<sup>th</sup> century; The Dutch took control of these areas in the middle of the 17<sup>th</sup> century; and, during the following 100 years, or so, that they governed the country, they introduced plantation agriculture, developed trade and left a legacy that includes Roman-Dutch law in Sri Lanka; the British laid claim to Sri Lanka at the end of the 18<sup>th</sup> century and by 1815 had put the entire island under British rule. British domination over

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<sup>9</sup> BCE (Before the Common Era) has mostly replaced the culturally chauvinistic BC (Before Christ).

the next 150 years saw the introduction of coffee, tea, rubber and coconut plantations and efficient administration. In 1948, Sri Lanka became a self-governing dominion within the British Commonwealth (De Silva, 1981; Peebles, 2006).

The development strategies that shaped Sri Lanka's economy over the six decades following independence can be gathered into two eras.

- 1948 to 1976, during which economic policies were aimed at import substitution oriented industrialisation, and
- Post 1976, during which the economy shifted toward a free market strategy.

Sri Lanka has made substantial progress in such areas as education—e.g., the literacy rates are 92.8 and 90 percent for males and females, respectively (CBSL, 2013). Table 3.2 shows the economic and social indicators for Sri Lanka during the period 2004-12.



**Table 3.2- Economic and Social Statistics of Sri Lanka (2004-12)**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Demography</b>									
Population '000	19,435	19,644	19,858	20,039	20,217	20,450	20,653	20,869	20,328
Population Growth %	1.2	1.1	1.1	1.2	1.1	1.1	1.0	1.0	0.91
Labour Force, Participation Rate %	48.6	48.3	51.2	49.8	49.5	48.7	48.1	47.8	47.2
Unemployment % Labour Force	8.3	7.7	6.5	6.0	5.4	5.8	4.9	4.2	4.0
<b>National Accounts</b>									
Per Capita GNP : US \$ Bn.	1,051	1,226	1,402	1,599	1,966	2,033	2,370	2,805	2,866
GDP (Market Prices) : US \$ Bn.	20.7	24.4	28.3	32.4	40.7	42.1	49.6	59.2	59.4
Real GDP Growth %	5.4	6.2	7.7	6.8	6.0	3.5	8.0	8.2	6.4
<b>Expenditure and Savings % of GDP</b>									
Consumption	83.6	82.1	83.0	82.4	86.1	82.1	80.7	84.6	83.0
Government Consumption	12.6	13.1	15.4	15.3	16.2	17.6	15.6	14.8	13.5
Domestic Savings	16.4	17.9	17.0	17.6	13.9	17.9	19.3	15.4	17.0
National Savings	22.0	23.8	22.3	23.3	17.8	23.7	25.3	22.0	24.0

Source: Economic and social statistics of Sri Lanka'2013, Central of Sri Lanka.

### **3.3.1 An Overview of the Social Environment in Sri Lanka**

As noted previously, Sri Lanka known as the “pearl of the Indian Ocean” is an island state of 65,610 km<sup>2</sup>, located in the Indian Ocean, to the south-east of the Indian sub-continent. Sri Lanka’s population in 2012 was 20,328,000, a decline of 541,000 (2.7 percent) from 2011. Sri Lanka is a mosaic of many cultures with 73.8, 12.6, 7.2, 5.5, and 0.9 percent, respectively, Sinhalese, Sri Lankan Tamil, Sri Lankan Moor, Indian Tamil, and Burgher, Malay, and others (Department of Census and Statistics, 2012). There are strong but not immutable links between ethnicity and religion with Sinhalese being mostly Buddhist, Tamils most Hindu and Moors mostly Muslim. The Sinhalese are divided into up-country (Kandyans) and low-country communities. Low-country Sinhala (mostly in the southern and western low-country coastal regions) represent 62 percent of the total Sinhalese population (42.8 percent of the national population) and up-country Sinhalese constitute 25.8 percent of the national population. Sri Lanka is classified as a middle income country by the United Nations Development Programme (UNDP), and is ranked 93 out of 177 countries in terms of the human development index (CIA, 2010). Despite over 30 years of secessionist civil conflict in the North-Eastern province, the nation has had some notable developmental achievements, including over 90 percent adult literacy and a life expectancy of 74 years.

### **3.3.2 An Overview of Economic Environments in Sri Lanka**

South-Asian nations are continuing to liberalise their economies so as to better integrate into the world economy and have increased regional economic integration via the South Asian Association for Regional Cooperation (SAARC) (Economic Research Department, 2008). The Sri Lankan economy has seen healthy annual growth at 6.4 percent during 2003-12 (CBSL, 2012), which is well above other nations in its region. The end of the 30-year

civil conflict in 2009 saw growth in Sri Lanka rise initially to 8 percent per annum which may have reflected a peace dividend that was strengthened by increased confidence driving robust private consumption and investment). Over the past few decades, the economy has grown by an average of 5 percent pa and for the last three years it recorded a growth of well above 6 percent pa. In 2014, the Sri Lankan economy achieved a real GDP growth of 7.4 percent per annum, up from 7.2 percent in 2013 (CBSL, 2013). These growth achievements were attained despite high inflation, continuous current account deficits (about 3 percent of GDP), and a fiscal deficit of about 8.5 percent of GDP that has raised public debt to around 95 percent of GDP. Much of the high inflation was driven by funding of the civil-war effort. Since peace in 2009, inflation has fallen from an average in the mid-teens (1980-2008) to an average of around 6 percent (2009-13) to 3.3 percent in 2014 (GE, 2016). The steady decline in the unemployment rate from 14.7 percent in 1991 to 4.2 percent in of 2013 (GE, 2016) leads to a question of just what is the current *natural rate of unemployment* in Sri Lanka and does it differ from the equivalent rate in developed countries. The age-dependency ratio declined from 0.8749 in 1960 to a minimum of 0.4808 in 2006 and has since risen slightly to 0.5071 in 2013.

### **3.3.3 Sri Lankan Financial Markets**

Sri Lankan financial markets have become increasingly important over recent years and capital market capitalisation currently sits at around 30 percent of GDP (CBSL, 2013). The Sri Lankan capital market is an indicator of the booming and organised economy, where prior to the establishment of the Colombo Stock Market; shares of some publicly owned firms were traded in an unorganised market through private brokers. The prompt development of the capital market during the past few years has attracted a large number of investors as an alternate way of investment. The contribution of the capital market to the

economy has been heavily debated. The Colombo Stock Exchange (CSE), *a firm limited by guarantee*, was established under the Firms Act no.17 of 1982 and is licensed by the Securities and Exchange Commission of Sri Lanka (SEC). The CSE's roots flow from the 1896 inception of the Colombo Share Brokers Association (CSBA). In 1904, the CSBA changed its name to the Colombo Brokers Association (CBA). In 1999, the CSE formed a regional office in Matara in the Southern Province of Sri Lanka and currently operate branches in Kandy, Kurunegala, Negombo, Jaffna, Anuadhapura, and Ratnapura. The share market was opened to the public in July 1984. A public trading floor was established with an open outcry system of trading, instead of the closed door system of trading utilised previously. In 1985, a formal stock exchange was established in Sri Lanka. It was then called the Colombo Securities Exchange limited and in 1990 came to be known as the Colombo Stock Exchange. The CSE was one of the first exchanges in the region to have a depository for listed securities with the implementation of its clearing and settlement house and in 1991 successfully installed an automated electronic clearing and settlement system-central depository system (CDS). The CSE introduction of its automated trading system (ATS) in 1997 has enhanced the transparency and efficiency of the Sri Lankan securities market. In recognition of the technology, systems and regulation, the CSE was admitted to the World Federation of Exchange (WFE) in 1998, becoming its first South Asian member. It was also a founding member of the South Asian Federation of Exchanges (SAFE) in 2000. The CSE is a mutual exchange and has 15 full members and 13 trading members licensed to trade both equity and debt securities and two members licensed to trade in debt securities only. All members are licensed by the SEC to operate as stockbrokers. All members are corporate entities and some are subsidiaries of large financial institutions (CSE, 2014). At present, the CSE functions as a market operator and through its fully owned subsidiary, Central Depository Systems (PVT) limited, acts as a clearing and

settlement system facilitator. In the course of its operations, the CSE interacts with many customers and stakeholders which include issuers (such as firms, corporations and unit trusts) commercial banks, investment banks, fund managers, stockbrokers, financial advisers, market data vendors and investors (CSE, 2014). The CSE has generated a total turnover of LKR 200.5 billion in 2013 (down from LKR 213.8 billion during the same period in 2012). The market value of listed firms or market capitalisation of the CSE stood at LKR 2,459.9 billion as at the end of 2013 reflecting an increase of 13.5 percent. The CSE has shown a decline in the level of market liquidity, as measured by the turnover velocity. Turnover velocity is calculated as turnover divided by average market capitalisation. Turnover velocity decreased from 9.8 percent in 2012 to 8.7 percent during 2013. During 2013, the CSE was a significant source of finance for listed firms and helped raise approximately LKR 68,756.7 million from equity and debt initial public offerings and LKR 25,493.8 million via rights issues. A firm that wishes its securities to be listed on the CSE must have: 1) Stated capital of not less than five hundred million (LKR 500,000,000) rupees at the time of listing; 2) Net profit after tax for three consecutive years immediately preceding the date of application; 3) Positive net assets as (per their consolidated audited financial statements) for the two financial years immediately preceding the application date; 4) A minimum public holding of 25 percent of the total number of listed shares. The CSE has 294 firms across 20 industry sectors, as at February 2013, and a market capitalisation of LKR 2,673.02 billion. Public firms incorporated under the Firms Act no. 7 of 2007 or any other statutory corporation, incorporated or established under the laws of Sri Lanka or established under the laws of any other state are eligible to seek a listing on the CSE to raise debt or equity. Firms desiring to be admitted to the official list of the exchange and to secure a listing of their securities will be required to comply with the

relevant provisions of the above act and the Securities and Exchange Commission act no. 36 of 1987 and the listing rules of the exchange.

Since the late 1980s, corporate failures in Sri Lanka have also increased the attention on proper corporate governance. The legal system of Sri Lanka is a mixture of common law and civil law due to the influence of Dutch and British colonization (CSE, 2014). In 1996, the Chartered Accountants of Sri Lanka (CASL) set up a committee to make recommendations relating to the financial aspects of corporate governance in Sri Lanka, with the support of the CSE, SEC, Ceylon Chamber of Commerce and Institute of Directors of Sri Lanka (CBSL, 2013). The CASL published the first report on the Code of Best Practice on Matters Relating to Financial Aspects of Corporate Governance in 1997. To strengthen the corporate governance framework in Sri Lanka, a revision to the corporate governance code of 1997 was issued in 2003 by the CASL in March 2003 which is fundamental to the efficiency of the operation of financial markets.

### **3.4 Chapter Summary**

This chapter discussed the overall research setting of the study, including an overview of Australia and Sri Lanka in terms of their respective social and economic environments. Australia has established business practices with corporate ethics standards that are perceived as being mostly a high calibre. Sri Lanka, as an emerging economy, is still enhancing its attributes/standards. The effects of socio-economic features are discussed at length for Australia and Sri Lanka, as are their effects on the performance of firms and contribution to investment decisions. This chapter also provided an overview of financial market development in Australia and Sri Lanka, along with the substantial role that development has on investment decisions, and the flow-through impact on firm performance. Australia and Sri Lanka have a strong long-standing mutually beneficial

relationship in terms of trade, business, and development. There is considerable potential for growth in bilateral trade and investment between the two countries. Specifically, Australian firms have more recently become involved in investments in several industries in Sri Lanka (e.g., energy, tourism, water management and dairy industries). Social, economic and cultural factors affect investment decisions and, in turn, impact firm performance. Thus, the factors affecting firm performance in emerging markets may differ from those that operate in developed markets. Therefore, this study seeks insight on the CB practices applied by executives and senior managers in Australia and in Sri Lanka and how these differences impact firm performance in a developed and an emerging economy. The next chapter focuses on the research methods and approach.

# **Chapter Four: Research Approach and Methods**

## **4.1 Chapter Introduction**

This research seeks to determine whether CB practices and/or their effect on firm performance differ significantly between Australia and Sri Lanka. Consequently, the choice and design of an appropriate research methodology was predicated on extant research concerning these relationships. Research methodology provides insight into the procedures by which researchers go about systematically solving research problems by describing, measuring, explaining, and predicting phenomenon (Kothari, 2004; Rajasekar, Philominathan, & Chinnathambi, 2006; Singleton, Straits, & Straits, 1993). Particularly it provides the underpinning theoretical and philosophical assumptions on which research is based and their implications for the method or methods adopted (Saunders, Lewis, & Thornhill, 2012).

This chapter delineates the research approach adopted within this study and is structured as follows: Section 4.1 discusses the research methodologies employed and introduces the different research methods available and justifies the research method adopted in this study; Section 4.2 discusses the research method; Section 4.3 explains the choice of variables employed and the design for measurement and operationalisation; Section 4.4 reports the design of the hypotheses; Section 4.5 discusses the statistical methods used to analyse the data; Section 4.6 then provides on ethical consideration; and Section 4.7 concludes the chapter.



## 4.2 Research Paradigm

In addressing the gap discussed in the previous chapters, this study focuses on two key drivers of CB sophistication, the:

- 1) Relative sophistication of the firms conducting the CB; and
- 2) Development level of the nations in which the firms are embedded.

The issue can also be described as *nature vs. nurture*. Specifically, does a firm's *nature* trump the *nurture* of the development level of the nation in which it is embedded? A researcher's choice of a particular paradigm embodies that individual's assumptions, perceptions and interpretation of the world (Saunders et al., 2012).

The concept of a paradigm refers to a way of examining social phenomena from which particular understanding can be gained and explanations attempted. A research paradigm enables a researcher to work within the context, scientific thinking, and practices within a given conceptual framework. In this sense, Denzin and Lincoln (2011) suggest that the researcher's epistemological, ontological and methodological premises may be termed and embedded within the research paradigm (the interpretive framework.) Principally, it envisages that the theory gives meaning to facts, rather than, simply arising from them. In this context, a research paradigm helps determine the selection of what is to be studied, how research should be conducted, what should be studied, what data should be collected and how it should be interpreted. It also allows the researcher to identify the relationship between variables and specify appropriate methods for conducting the research (Saunders et al., 2012). The major research philosophies considered in economic and social research are pragmatism, interpretivism, realism and positivism.

*Pragmatism* is the philosophical assumption of choice for numerous social researchers as it allows them to mix quantitative and qualitative approaches (Johnson & Onwuegbuzie, 2004; Onwuegbuzie, 2002; Tashakkori & Teddlie, 1998). It entails a practical approach, integrating different perspectives to help collect and interpret data and is considered a concrete methodology aimed at answering research problems (Saunders et al., 2012). Morgan (2007, pp.73) noted that:

“...the great strength of this pragmatic approach to social science research methodology is its emphasis on the connection between epistemological concerns about the nature of the knowledge that produce and technical methodology is its emphasis on the connection between epistemological concerns about the nature of the knowledge that we produce and technical concerns about the methods that we use to generate that knowledge”.

Tashakkori and Teddlie (1998) contend that pragmatism is intuitively appealing, as it avoids the researcher engaging in what they see as rather pointless debates about *side issues* such as truth and reality. However, this research approach does not provide a study context for financial and capital markets and the economic and political settings in Australia and Sri Lanka and, as a result, is not suitable for this research.

*Interpretivism* seeks to emphasise the meaningful nature of social interaction and assumes that people create and associate their own subjective and inter subjective meanings as they interact with the world around them (Johnson & Murray, 2006). Interpretivism advocates that it is necessary for the researcher to understand the differences and nuances associated with the role of humans as social actors. In this respect, it emphasises natural settings together with individual and group perceptions of events and interactions within those settings (Williamson & Johanson, 2013). Its central tenant emphasises the difference between conducting research among people vs research of objects (e.g., trucks, computers, buildings) and looks for “...culturally derived and historically situated interpretations of the social life world” (Crotty, 1998). There is no, direct, one-to-one relationship between

subjects and the object. Given the nature of this research, interpretivism is not suitable, as it deals with the choices and actions of the individuals, not corporations.

*Realism* is a philosophical position relating to scientific enquiry which acknowledges a reality independent of senses that are accessible to the researcher's tools and theoretical speculations (Bryman & Emma, 2003). Ideologically, it opposes the idealism concept *that only the mind and its contents exist*. The essence of realism is that what the senses show us as reality is the truth: Realism posits that there is a reality quite independent of the mind and that objects have an existence independent of the human mind. This assumption underpins the collection of data and the understanding of that data. Further, clarity of this meaning (and in particular the relevance of data and management research) is evident when two forms of realism (Direct and Critical) are contrasted. Direct realism contends that what you see is what you get: that what is experienced via the senses portrays the world accurately. Critical realism, on the other hand, contends that what is experienced are sensations, the images of the things in the real world, not the things directly (Saunders et al., 2012). Given the extent to which this study considers quantitatively measurable and objective concepts, this paradigm was deemed inappropriate for this study.

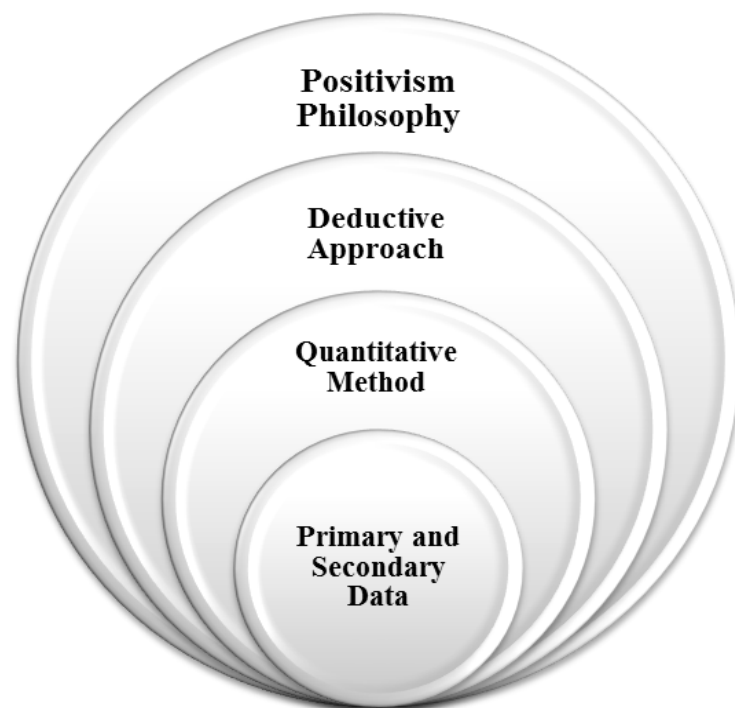
*Positivism*, suggests a two-pronged approach is needed. There is a need: first to study the literature to establish a relevant theory; which can then be used to develop appropriate hypotheses or propositions; which can then be tested for association by deducing logical consequences; that are tested against empirical evidence (Mark, Richard, & Andy, 1999). This approach (per Gray, 2009) suggests that an external reality exists outside of, and independent to, that perceived by the researcher and should be investigated through the rigorous process of scientific inquiry. The aim of positivist researchers is to verify their hypotheses (Lincoln, Lynham, & Guba, 2011). Saunders et al. (2012) contend that the use

of a theoretical framework in positivist research lessens the risk of bias by providing both scope and limitations to the research objectives and questions. Positivist research has been particularly powerful in the disciplines of finance, economics, and accounting (Ryan, Scapens, & Theobald, 2002). Since the 1980's, positivist research has dominated accounting and finance research (Godfrey, Hodgson, Holmes, & Tarca, 2006). Given this study's focus on measurable and observable events concerning CB and performance, a positivist approach seems well suited to this study's research objectives. Moreover, seeking to understand the mechanism of CB practices on firm performance, positivism provides a suitable paradigm to seek facts and causes of social phenomena where the researcher is seen as independent of the research being conducted.

#### **4.2.1 Research Approach**

Figure 4.1 below illustrates the research philosophy, research approach, sources of data and procedures for collecting and coding of data employed in this research.

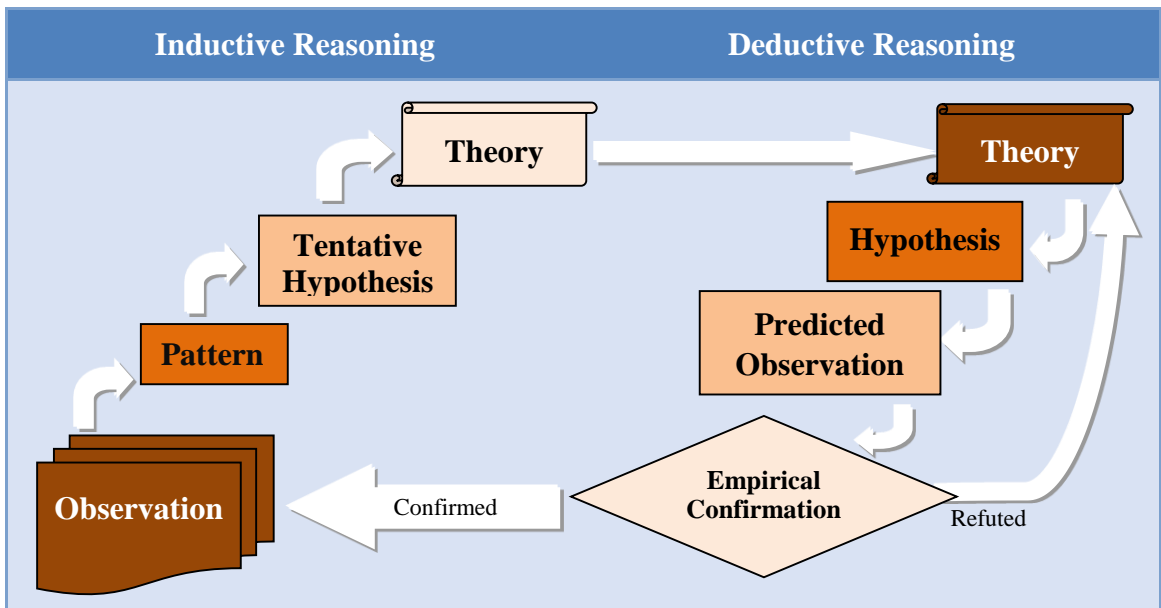
**Figure 4.1- Research Approach**



Quantitative and qualitative methods are the two main approaches used in research. The distinction between qualitative and quantitative research includes: analytical objectives, types of research questions, data analysis and flexibility in the design of the research (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). A qualitative method examines how individuals think and react and is directed towards a deep understanding of their experiences, motivations and values. The qualitative approach involves deep, rich and non-numerical interpretation of social phenomena for discovering the underlying meaning of relationships. Quantitative methods adopt the collection of objective data, rigorous measurement and the use of statistical methods of analysis. Quantitative research involves objective and standardised data, measurement, and its focus is on the analysis of casual relationships between variables rather than processes (Bryman & Emma, 2003; Sheard, 2013). The mixed method incorporates both quantitative and qualitative data-collection techniques and analysis procedures; it may also combine quantitative and qualitative methods in other phases of the research (Saunders et al., 2012). Each approach has strengths and weaknesses that both lead to inherent biases, blind spots, and limitations—e.g., a purely qualitative approach may be inappropriate for exploring CB practices and performance, as it is often too subjective, biased, and lacking consistency. After careful consideration, a quantitative methods approach was adopted in this study.

Research design tends to be either inductive or deductive; where the inductive approach is concerned with the development of new theories garnered from the collection of data (i.e. it flows from specific observations to general principles); and the deductive approach is aimed at testing the predicted outcome of a formulated theory or model of how something works to what is observed (i.e. it flows from general principles to specific predictions which are then validated or refuted by specific observations).

**Figure 4.2- Logic Flows Through and Between Inductive and Deductive Reasoning**



The deductive approach (see Figure 4.2) guides this study’s positivist test of which CB theories are applied by firms, of various sizes and attributes, in a developed and in an emerging country and assess the effect of those theory applications on firm performance. Gray (2009) notes that the deductive approach moves towards hypothesis testing, after which the principles are confirmed, refuted or modified. These hypotheses present an assertion about two or more concepts that attempts to explain the relationship between them. Concepts themselves are abstract ideas that form the building blocks of hypotheses and theories.

In addressing the gap mentioned in the previous chapter (Theoretical Considerations and Literature Review), this study focuses on CB practices and firm performance in two difference countries - developed and an emerging - the data were collected based on questionnaire and published financial statements and consequently has been derived from primary and secondary sources.

## **4.3 Research Methods**

### **4.3.1 Research Design**

Research design is a means to focus the achievement of research goals by depicting the theoretical frameworks, questions, research, generalisations and presentational goals with each other and to the chosen research methods and resources available (Flick, 2014).

### **4.3.2 Population Design**

The population of interest in this study is (initially) the 200 listed firms on the Australian Securities Exchange (ASX) from S&P/ASX200 and the 289 listed firms on the Colombo Stock Exchange (CSE), as at February 2013. While, there are two indices in Australia, the difficulties in reconciling data from both indices precludes the use of both. The S&P/ASX 200 Index was judged as being (overall) a more appropriate benchmark for the Australian equity market as it better meets the need of investment managers to benchmark against a portfolio characterised by sufficient size (market capitalisation) and liquidity (ASX, 2015). Whilst, CSE has recently recorded a remarkable rate of growth and grabbed the attention of policymakers as a key factor in the economic development (CSE, 2014). Therefore, this study seeks insight on the CB practices applied by CFOs in Australia and in Sri Lanka and how these differences impact firm performance in a developed and an emerging economy. In selecting the population, this study excludes financial, investment and securities sector firms because their unique financial attributes, intensity of regulation, and/or intensive use of leverage are likely to confound the outcomes being studied. Also, the risk of missing data was minimised by excluding firms that were not listed throughout the review period. After the eliminations, 150 Australian listed firms and 150 Sri Lankan listed firms remained in the population. Table 4.1 (below) classifies the participating firms via the Global Industry Classification Standards (GICS).

**Table 4.1 -Participating Firms**

<b>Global Industry Classification Standard (GICS)</b>	<b>Australia</b>	<b>Sri Lanka</b>
Consumer Discretionary	20	17
Consumer staples	07	18
Energy	20	16
Health Care	10	05
Industrials	30	36
Information Technology	04	02
Materials	47	37
Telecommunication Services	04	03
Utilities	08	16
	<b>150</b>	<b>150</b>

Source: Australian Securities Exchange and Colombo Stock Exchange official website

### **4.3.3 Data Collection**

Data was collected in two phases. The first phase constituted a structured survey questionnaire which was followed by a second phase of gathering the appropriate financial statements for the relevant period. The integration of multi-method data collection was seen to offer a deeper insight into the research findings. A quantitative research design utilising both primary and secondary data was used to answer the research questions.

In phase one, a structured questionnaire survey was used to explore the CB practices of Australian and Sri Lankan firms as an example of a developed and emerging market. The questionnaire sought information on the CB practices of the responding firms and included two types of questions. The first set of questions sought to describe attributes of the firm and its respondents while the second set investigated attributes of the CB practice. Phase one gives a descriptive study of CB practices in Australian and Sri Lankan listed firms and the comparison of those CB practices and techniques identifies similarities and differences in the practices between firms in a developed (Australia) and emerging economy (Sri Lanka). Phase one sought to determine, whether CB practices differed significantly between Australia and Sri Lanka firms and if any differences can be explained by



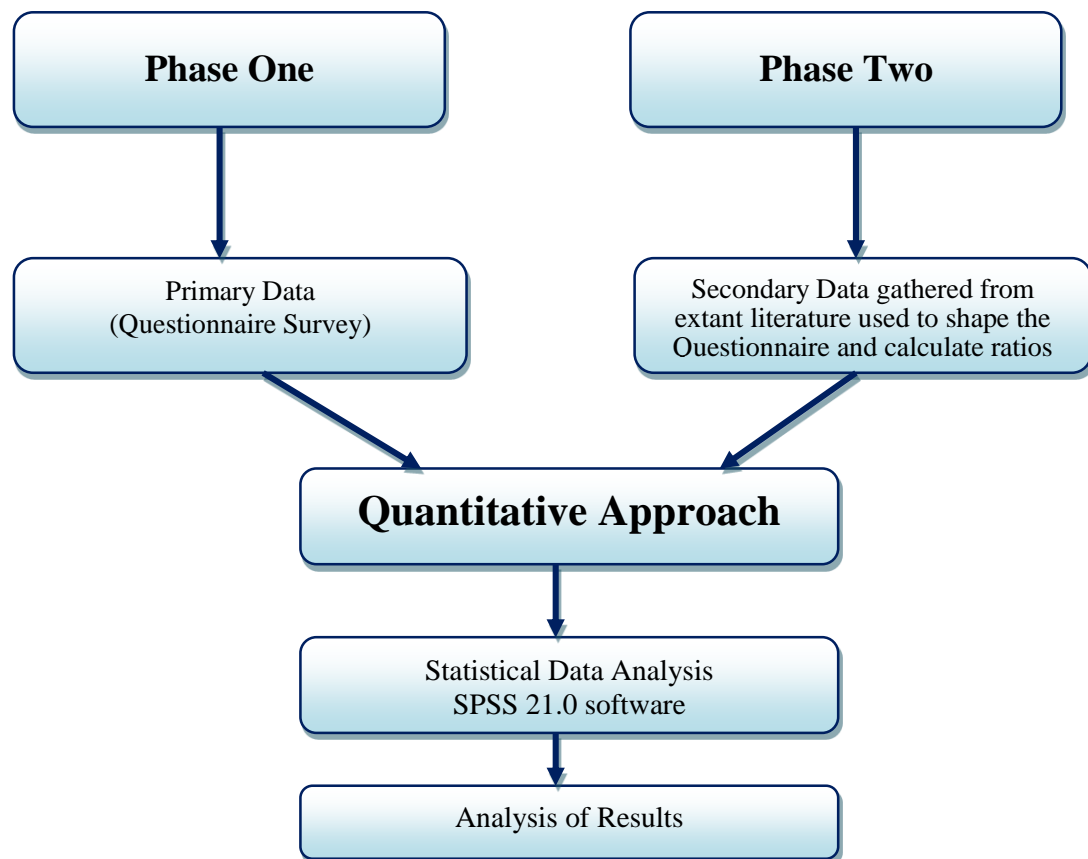
differences in levels of national economic development after adjusting for conflating factors such as firm and CFO attributes.

Phase two examines CB practices via the lens of a process approach and an evaluation approach; which allows for a connection between these different perspectives and firm performance in Australian and Sri Lankan-listed firms. Phase two links the primary data gathered in phase one with secondary data, annual reports of the relevant firms during 2003-12, taken from the ASX, CSE's and SIRCA database to provide: *return on assets* (ROA), *return on equity* (ROE), Tobin's Q (TQ), and *earnings per share* (EPS). The intention of phase two is to explore for relationships between (on one hand) the CB process and choice of appraisal techniques used by developed and emerging countries and (on the other) firm performance (both from an accounting and a market perspective). It was considered that these findings would assist CFOs in shedding light on the numerous corporate finance theories associated with firm performance and the stakeholders' wealth of the firm in Australia and Sri Lanka. Thus, the data used in the quantitative stage of this study was gathered in two phases:

**Phase one:** A structured survey questionnaire of CB practices and its appraisal techniques among Australian and Sri Lankan listed firms.

**Phase two:** A study of the relationships between CB practices and firm performance in Australian and Sri Lankan listed firms.

**Figure 4.3- Research Design**



## **4.4 Variable Measurement**

### **4.4.1 Capital Budgeting Practices (CB Practices)**

Prior research has tended to focus on which CB techniques are selected by firms and those techniques have generally entailed the uses of either DCF or NDCF techniques (Bennouna et al., 2010; Graham & Harvey, 2001; Michael & Guilding, 2013). Recent studies suggest that firms are increasing their use of more sophisticated techniques (Baker et al., 2011; Johnson, Pfeiffer, & Schneider, 2013; Pradeep & Lemay, 2009). Moreover, the literature analysing the association between CB practices and firm performance are using increasingly detailed and more complex definitions of CB practices (Bower, 1970; Farragher et al., 2001; Kim, 1981). Thus, it is important to delineate an acceptable construct within which evolving CB practices can be understood.

Drawing on the approach favoured by Batra and Verma (2014), Kim (1981) and Farragher et al. (2001), this study defines CB practice as being structured procedures for analysing and resolving capital investment decisions. Seven phases act as proxies for the CB processes and together represent the CB model used in this study:

- i. Long-term strategic planning,
- ii. The search for investment opportunities,
- iii. Review and screening,
- iv. Accept/reject decisions ,
- v. Implementation,
- vi. Expenditure control, and
- vii. Post-audit feedback.

### ***The Capital Budgeting Processes (CBP)***

As presented by Batra and Verma (2014), Farragher et al. (2001), Pike (1984) and Kim (1981), the degree of CB sophistication of respondent j (the CBP<sub>j</sub>) estimated as a single metric with:

$$CBP_j = \sum_{k=i}^n (S_{jk})(W_k) \quad (\text{Eq 1})$$

Where:  $S_{jk}$  = Score for CB activity k for firm j  
 $W_k$  = Weight assigned to CB activity k

The building of CBP<sub>j</sub> (Eq 1) is done in two stages:

- i) A constructing weight ( $W_k$ ) for each country that used the mean values of each CB activity. The weights ( $W_k$ ) are based on respondent opinions of the importance of the major CB activities to successful capital investment (Respondents were asked to rate the importance of each CB activity on a Likert scale of 1-5, where 5 is strongly agree). The mean (based on 45 Australian respondents and 73 Sri Lankan respondents) are listed in Table 4.2. The weights ( $W_k$ ) were estimated by dividing the mean score for each activity by the total mean score for all activities. Table 4.2 lists the mean and weight ( $W_k$ ) for Australia and Sri Lanka.

**Table 4.2- Weights for Capital Budgeting Activities**

Capital Budgeting Activity	Australia		Sri Lanka	
	Mean	Weight (W <sub>k</sub> )	Mean	Weight (W <sub>k</sub> )
Long-term investment planning	4.04	13.77	4.32	14.53
Search for investment opportunities	4.27	14.52	4.12	13.88
Review and screening.	4.02	13.69	3.81	12.82
Accept/reject decisions	4.56	15.51	4.47	15.04
Implementation	4.16	14.15	4.49	15.13
Expenditure control and monitoring	4.02	13.69	4.14	13.93
Post-audit	4.31	14.67	4.36	14.67
<b>Total</b>	<b>29.38</b>	<b>100.00</b>	<b>29.71</b>	<b>100.00</b>

ii) Constructing  $S_{jk}$  – The score for CB activity k for firm j ( $S_{jk}$ ) is measured on a scale of 0.0 to 1.0, and considers whether or not a firm conducts each component of that activity.

$$S_{jk} = \frac{\sum_{K=i}^n (X_i)}{N} \quad (\text{Eq 2})$$

Where:  $X_i$  = Respondent's score for each component

$N$  = Total number of component activity

### ***Capital Budgeting Techniques (CBT)***

A firm's choice of CB technique is defined as the most frequently used technique by respondent firms (or dummy which takes the value of 1 if the firm is using at least two or more of CB techniques and the value 0 otherwise).

$$CBT_j = X_i \quad (\text{Eq 3})$$

Where

$X_i = 1$  if respondent conducts at least two or more of CB techniques

$X_i = 0$  if respondent conducts one or does not conduct CB techniques

## **Firm and Managers' Attributes**

The firm attributes (i.e. firm size, income source, ownership and risk level) and manager attributes (i.e. highest education attained, age, and experience) enrich and deepen the understanding of what drives CB practices and make it easier to link the findings of this study to contingency theory.

### ***Firm's Attributes (FA)***

In this study firm size, income source (domestic or overseas) ownership (domestic or foreign) and risk level are considered as firm characteristics. Table 4.3 defines how dummy variables were used in the analysis.

**Table 4.3- Dummy Variables Used to Study Firm Attributes.**

<b>Dummy Variable</b>	<b>Description of the variable and its value rules</b>
Number of employees	Dummy variables would either take the value of 1 if the firm belongs to the more than 500 employees, otherwise it would take the value of 0.
Income source	Dummy variables would either take the value of 1 if the firm belongs to the more than 80 percent domestic income, otherwise it would take the value of 0.
Ownership	Dummy variables would either take the value of 1 if the firm belongs to the domestic ownership, otherwise it would take the value of 0.
Level of risk	Dummy variables would either take the value of 1 if the firm belongs to the higher risk, otherwise it would take the value of 0.

### ***Managers' Attributes (MA)***

In this study, the managers' highest education attained, age, and experience are considered manager characteristics. Table 4.4 below shows the use of dummy variable in the calculation process.

**Table 4.4- Use of Dummy Variables for Mangers' Attributes**

<b>Dummy Variable</b>	<b>Description of the variable and its value rules</b>
Respondent Education background	The value is 1 if the managers have master degree or more, otherwise it takes the value of 0.
Respondents Age	The value is 1 if the manager's ages is in the 55-65 category, otherwise it takes the value of 0.
Respondents Experience	The value is 1 if the manager has been in their position longer than 10 years; otherwise it takes the value of 0.

#### **4.4.2 Firm Performance**

As suggested by the extant literature (e.g., Farragher et al., 2001; Guedj, Jennifer, & Sulaeman, 2009; Haka et al., 1985; Klammer, 1973; Kim, 1981; Moore & Reichert, 1989), the effect of CB practices on firm performance is explored using different measures of corporate performance (i.e. net profit ratio (NP), return on assets (ROA), return on equity (ROE), operating rate of return (ORR), earnings per share (EPS), price earnings ratio (PE) and Tobin Q (TQ)).

This study measures firm performance using an accounting and market perspective. The ROA, ROE, TQ and EPS are measured in terms of a ten year average during 2003-12.

##### ***Return on Assets (ROA)***

ROA measures the amount of profit the firm generates as a percent of the value of its total assets. ROA is a measure of performance used in the corporate finance literature (Gustavo, Roni, Shlomo, & Richard, 2003; Heras, Dick, & Casadesus, 2002; Maury, 2006; Kim, 1981; Pasiouras & Kosmidou, 2007). It is a measure which assesses the efficiency of assets employed and provides investors with a rate of return earned from the use of firm assets (Bonn, Yoshikawa, & Phan, 2004). ROA is computed based on the following formula:

$$ROA = \frac{\text{Net Income after Taxation}}{\text{Equaity Capital}} \quad (\text{Eq 4})$$

### ***Return on Equity (ROE)***

ROE measures the profit generated from the money invested by shareholders (Easton, 2004). ROE is used to assess rates of return on shareholder equity and has been used in existing studies to measure firm performance (Bernadette, Muralidhar, Robert, Jay, & Karen, 2001; Pasiouras & Kosmidou, 2007). It is defined as the net income divided by the equity capital.

$$ROE = \frac{\text{Net Income after Taxation}}{\text{Equity Capital}} \quad (\text{Eq 5})$$

### ***Tobin Q (TQ)***

Tobin's Q (TQ) is a performance measure widely used in corporate finance as a proxy for firm performance (Bergstressera & Philippon, 2006; Harold & Villalonga, 2001; Patrick, Chen, & Wang, 2011). TQ is defined as the ratio of the market value of assets to the replacement value of assets which shows the financial strength of a firm (Hoon & Larry, 2001). TQ is computed as the market value of firm's equity plus book value of its debt to the book value of total assets.

$$TQ = \frac{\text{Market value of Common Stock} + \text{Book value of Preferred Stock} + \text{Book Value of Long term Debt}}{\text{Book value of total assets}} \quad (\text{Eq 6})$$

### ***Earnings per Share (EPS)***

The portion of a firm's earnings allocated to each outstanding share of equity. EPS is an indicator of firm performance and is widely used in the corporate finance literature (Kim, 1981; Larcker, 1983; Machuga & Pfeiffer, 2002; Ohlson & Nauroth, 2005; Zhang, Qing, & Schniederjans, 2004). EPS is computed based on the following formula:

$$EPS = \frac{\text{Net Income after Taxation and Preference Share Dividend}}{\text{Number of Equity Shares}} \quad (\text{Eq 7})$$

## 4.5 Hypotheses Development

Based on the literature the following alternative hypotheses are proposed to be tested.

CB focused studies have a broad tradition in corporate finance literature. This research mainly focuses on developed nations. Specifically: Graham and Harvey (2001) and Shao and Alan (1996) for: the USA; Baker, Dutta, and Samir (2011), Bennouna et al., (2010), Vijay and Ashwani (1995) for Canada; Alkaraan and Northcott (2006), Arnold and Hatzopoulos (2000) for the UK; and Truong, Partington, and Peat (2008), Freeman and Hobbes (1991) for Australia. Only a few studies emphasise CB evaluation techniques in emerging countries (e.g. Malaysia, Indonesia, China, and Singapore were considered by: Farah, Mansor, & George, 2008; Chan, Kamal, & William, 2004; and Kester & Chong, 1998; and African economies were studied by: Maroyi & van der Poll, 2012; Hassan, Hosny, & Vasilya, 2011; Pradeep & Lemay, 2009; Sulaiman, 2007, and Coltman, 1995; and India was looked at by: Manoj (2002); Satish, Sanjeev, & Roopali, 2009; Singh, Jain, & Yadav, 2012). Although previous research has considered CB practices, this study is among only a few studies using a comparative approach (Andor et al., 2015; Brounen, De Jong, & Koedijk, 2004; Graham & Harvey, 2001; Hermes et al., 2007; Payne, Heath, & Gale, 1999; Peel, 1999) to contrast national development level with CB choices. Thus, hypotheses H<sub>1</sub> (H<sub>1a</sub>; H<sub>1b</sub>; H<sub>1c</sub>) are:

H<sub>1</sub>: Capital budgeting practices are applied more extensively in developed countries than in emerging countries.

H<sub>1a</sub>: There are significant differences in the application of CB practices between industrial sectors.

H<sub>1b</sub>: There is a significant difference in CB practices between high risk and low risk firms.

H<sub>1c</sub>: Firms and respondents attributes have an effect on the choice of CB practices employed.



Financial theory suggests that sophisticated CB systems should enhance firm performance, but empirical testing of this assertion appears to have been very limited. Vadeei et al., (2012), Farragher et al. (2001), Pike (1984), Kim (1981), and Klammer (1973) looked at the impact of CB on firm performance. Klammer (1973), in a survey of 369 USA manufacturing firms, found no significant relationship between CB techniques and firm performance. In contrast, Kim (1981) and Vadeei et al., (2012) find a positive association between the CB process and firm performance. In other research, Pike (1984) find a negative association between CB evaluation techniques and firm performance and Farragher et al., (2001), Pike (1984), and Christy (1966) find no significant relationship between the sophistication of CB processes and firm performance. Thus, for the most part, these studies focus on the application and enhancement of the applied modelling techniques. The trend towards adoption of more refined CB practices has led researchers to consider whether such refinements enhance performance and profitability. The mixed outcomes of the research suggests that a significant gap exists in understanding the nature, intensity, and direction of the relationship between CB practises and performance.

Hypetheses H<sub>2</sub> (H<sub>2a</sub>; H<sub>2b</sub>) follow:

H<sub>2</sub>: The use of more sophisticated CB practices leads to higher performance than that of firms using less sophisticated CB practices.

H<sub>2a</sub>: Capital budgeting processes significantly affect firm performance.

H<sub>2b</sub>: A firm's CB techniques are expected to have a positive influence on a firm's performance.

## **4.6 Empirical Analysis**

The statistical analysis of the quantitative results used social science software 22.1 (SPSS) and the analysis includes descriptive statistics, correlation analysis, multiple regression analysis, analysis of variance and T-test.

#### **4.6.1 Descriptive Statistics**

Descriptive statistics are widely used in extant research on CB practices (De Andrés et al., 2015; Arnold & Hatzopoulos, 2000; Bennouna et al., 2010; Chen, 1995; Fremgen, 1973; Hussaini & Shafique, 2013; Truong et al., 2008; Wnuk-Pel, 2014). Descriptive statistics summarise or characterise a data set (Berenson et al., 2013). When describing data for both samples and population quantitatively it is usual to reveal certain measures of central tendency (e.g., arithmetic mean, mode or median). The mean is the most significant measure of central tendency and is often considered the gate-way to understanding statistical formulas (Nolan & Heinzen, 2014).

Descriptive statistics are used to organise and describe the attributes of a data set (Salkind, 2000), and assist in identifying trends and patterns of data, and offer bases for comparing variables. In this research, descriptive statistics offer an appraisal of the CB practices among Australian and Sri Lankan respondents and also connects with the attributes of the firm and its respondents. Particularly, they assist in quantifying the extent to which firms have adopted more sophisticated practices on CB and the trends in firm performance. It is expected that firms will have a higher mean value for CB practices if they are using highly sophisticated CB processes.

#### **4.6.2 Correlation Coefficient**

Statistical research of the type is heavily predicated on using correlation analysis of CB practices and firm performance (Haka, 1987; Pike, 1984; Ross, 1986; Verbeeten, 2006). A correlation reflects the dynamic quality of the relationship between variables and allows a researcher to understand whether variables move independently or in the same or opposite direction (Salkind, 2000). The correlation coefficient is a statistic that quantifies the relationship between two variables and quantifies the relationship as nil, positive, or

negative. Positive correlation is an association between two variables such that CB practices with high scores on variables tends to have high scores on firm performance variables as well, and those with low scores on CB variables tend to have low scores on the firm performance variables.

### 4.6.3 Multiple Regression Analysis

Much of the existing CB literature employs a multiple regression analysis as part of its discourse (De Andrés et al., 2015; Farragher et al., 2001; Klammer, 1973; Pike, 1984). Multiple regression is simply an extension of bivariate regression to include two or more independent variables (Cohen, Cohen, West, & Aiken, 2013). It provides information on the impact of an independent variable on the dependent variable while simultaneously controlling for any confounding effects of other independent variables. Regression models are developed in this study to address the impact of CB practices on firm performance. The variables CB process and techniques that affect a firm's performance (Farragher et al. 2001; Pike, 1984; Kim, 1981; Klammer, 1973), are expected to be positively related to firm performance, in Australia and Sri Lanka. The following estimation models are used to examine the impact of CB practices on firm performance.

$$ROA (performance) = \beta_0 + \beta_1 CBP_j + \beta_2 CBT_j + \beta_3 EDU + \beta_4 AGE + \beta_5 EXP + \beta_6 SOE + \beta_7 DI + \beta_8 OWN + \beta_9 RL + \varepsilon \quad (\text{Eq 8})$$

$$ROE (performance) = \alpha_0 + \alpha_1 CBP_j + \alpha_2 CBT_j + \alpha_3 EDU + \alpha_4 AGE + \alpha_5 EXP + \alpha_6 SOE + \alpha_7 DI + \alpha_8 OWN + \alpha_9 RL + \varepsilon \quad (\text{Eq 9})$$

$$EPS (performance) = \mu_0 + \mu_1 CBP_j + \mu_2 CBT_j + \mu_3 EDU + \mu_4 AGE + \mu_5 EXP + \mu_6 SOE + \mu_7 DI + \mu_8 OWN + \mu_9 RL + \varepsilon \quad (\text{Eq 10})$$

$$TQ (performance) = \lambda_0 + \lambda_1 CBP_j + \lambda_2 CBT_j + \lambda_3 EDU + \lambda_4 AGE + \lambda_5 EXP + \lambda_6 SOE + \lambda_7 DI + \lambda_8 OWN + \lambda_9 RL + \varepsilon \quad (\text{Eq 11})$$

Where:

$\beta_0, \alpha_0, \mu_0, \lambda_0$  = Constant terms  
 $\beta_1, \beta_9, \alpha_1, \alpha_9, \mu_1, \mu_9, \text{ and } \lambda_1 - \lambda_9$  = Regression coefficients  
 $CBP_j$  = Capital budgeting practices for firm j  
 $CBT_j$  = Choice of CB techniques for firm j  
 $EDU$  = Respondent highest education level  
 $AGE$  = Respondent age  
 $EXP$  = Respondent experience  
 $SOE$  = Firm size by number of employees  
 $DI$  = Firm level of domestic focus  
 $OWN$  = Firm Ownership (domestic vs. foreign)  
 $RL$  = Firm Risk level  
 $\varepsilon$  = Error term

#### 4.6.4 Analysis of Variance (ANOVA)

ANOVA is an analysis that tests differences among sets of means that are grouped by more than one classifying variable/factor. It examines the cross-tabulation of means and determines whether the observed differences are significant. ANOVA is used when there are a number of independent variables and each contributes to some aspect of the make-up of the phenomenon. It tests if there are differences in the mean scores on the dependent variables, across the groups. The strength of ANOVA lies in its capacity to distinguish effects on a response from among many different sources of variations compared simultaneously or in certain cases through time. It can identify interacting factors and it can measure the scale of variation within a hierarchy of effects. Extend literature considering CB has often incorporated an ANOVA procedure to determine whether there are any significant effects of CB practices on control variables (Chen, 1995; Lam et al., 2008; Hassan et al., 1997; Schulz & Cheng, 2002). In this research, a one-way ANOVA procedure was used to determine if there are significant differences in CB practices, including process and evaluation approach between firms and its Respondents attributes.

#### **4.6.5 Independent Samples t-Test**

Another important tool employed by researchers is the t-test. Independent sample t-tests can be used to determine whether there is a significant difference between two sets of means—in this study, a t-test is used to determine if there are significant differences between Australian and Sri Lankan CB practices. Normality distributed data is required for t-tests. Gordon and Smith (1992) and Hermes et al. (2007) used a similar analysis in their studies on CB practices in a comparative perspective.

#### **4.7 Ethical Considerations**

Data has been derived from both primary and secondary sources. In order to conduct the primary data collection (i.e. the questionnaire) this research follows the ethics guidelines of the Federation University Human Research Ethics Committee (HREC). The objectives ensure that questions are designed according to the standard requirements of the ethics committee and confirm that no demeaning questions are asked. The approval of ethical considerations protects the information privacy and confidentiality of all participants. It was agreed that the participants through completion of the survey granted informed consent and the involvement in the study is voluntary. Participants were advised that they could withdraw at any time by discontinuing completion of the survey. As secondary data has been derived from the annual financial reports of the Australian and Sri Lankan firms (published in the SIRCA database and CSE website) ethical approval is not required (see Appendix C for an ethics approval form).

## **4.8 Chapter Summary**

This chapter reviews the research methodology behind this study and explores CB practices and firm performance research methods. The choice of a positivism philosophy and quantitative approach are justified. The population design choices, data collection and the variable measurements are also discussed—as are the research methods employed to collect the data and the statistical techniques used to analyse the data to answer the research questions. The next section discusses the study findings.

# **Chapter Five: Analysis and Results**

## **5.1 Chapter Introduction**

This study investigates whether CB practices differ significantly between Australia and Sri Lanka in terms of its effect on firm performance. The effect of environmental differences in developed and emerging economics on CB practices and the flow-on effects to firm performance are of particular interest. This chapter gives details of the statistical tests including a detailed analysis of the influence of CB practices on firm performance. The organisation of this chapter is as follows: Section 5.1 gives the questionnaire survey results; Section 5.2 reports reliability and validity of test results; Section 5.3 presents the descriptive analysis of capital budgeting practices; a cross classification of the survey results is given in Section 5.4; Section 5.5 reports inferential analysis; and Section 5.6 summarises the chapter.

## **5.2 Questionnaire Survey Results**

### **5.2.1 Questionnaire Response**

The questionnaires posted to 150 Australian- and 150 Sri Lankan-listed firms from Jun-Sep /2014 asked about firm and respondent demographics along with various aspects of CB practices. Australian seven questionnaires (i.e. it was assumed that firms that could not be reached were no longer part of the population) were returned without response, resulting in an effective population of 143. In order to increase the response rate, after a month, a reminder letter was sent to the Australian and Sri Lankan firms who did not respond to the questionnaires. The questionnaire response rates are categorised and given in Table 5.1, with 118 questionnaires completed and returned. The 45 and 73 returned questionnaires from, respectively, Australian and Sri Lankan firms give a response rate of 31.5 and 48.7

percent for, respectively, the Australian firms and Sri Lankan firms. These response rates compare favourably to other recent CB studies, e.g., Trahan and Gitman (1995) who obtained a 12 percent response rate in a questionnaire mailed to 700 CFOs; Hermes et al. (2007) who got 17 percent response rate for Dutch firms; and a 15 percent response rate for a questionnaire mailed to 250 Dutch and 150 Chinese CFOs; Truong et al. (2008) received a 24.48 percent response rate to a questionnaire mailed to 356 CFOs; Bennouna et al. (2010) obtained a 18.4 percent response rate in a questionnaire mailed to 478 CFOs; Hanaeda and Serita (2014) obtained a 6.2 percent rate in a questionnaire mailed to 3,618 CFOs. However, due to CFO time constraints and the commercial sensitivity of some of the requested information, the studies response rate is less than a few previous studies, e.g., Pike (1996) who obtained a 71 percent response rate in a questionnaire mailed to 208 CFOs; Hassan et al. (2011) who received a 52 percent response rate to a questionnaire mailed to 511 CFOs.

**Table 5.1- Questionnaire Response**

	Number of Companies		
	Australia	Sri Lanka	Total
Number of questionnaire sent	150	150	300
Untraced questionnaires	(07)	-	(07)
Effective population	143	150	293
Number of responses	45	73	118
Percentage	<b>31.47</b>	<b>48.67</b>	<b>40.27</b>

### 5.2.2 Participants' Attributes

Figure 5.1 (below) shows that a majority of the respondents are CFOs (53 and 68 percent in, respectively, Australia and Sri Lanka) and that a significantly higher percentage of the Sri Lankan respondents are executives (Director, CFO, or CEO) than the Australian respondents.



**Figure 5.1- Questionnaire Respondent's Position in their Firm**

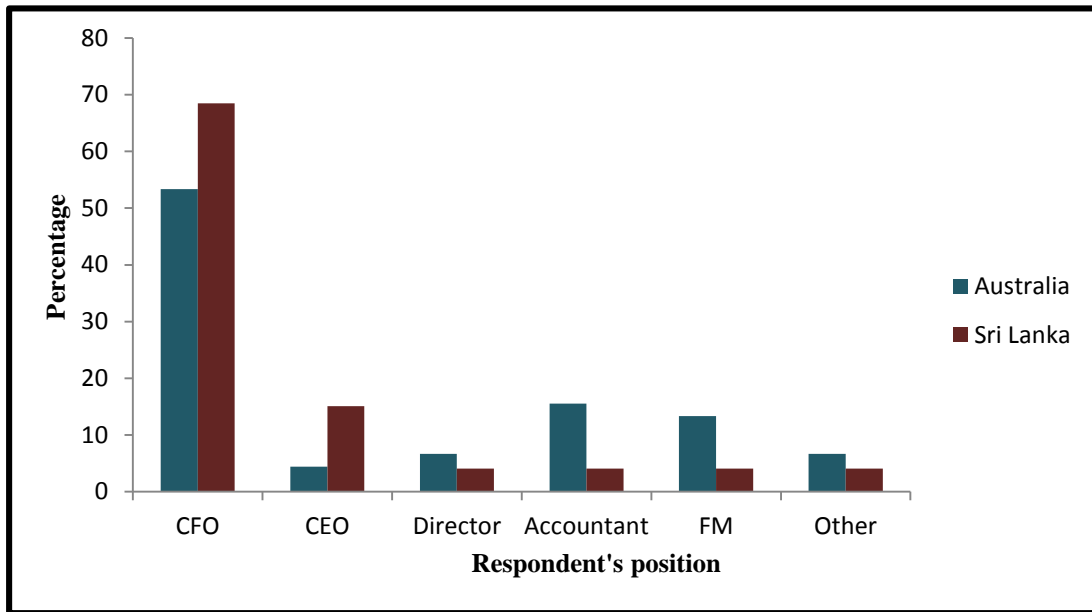


Figure 5.2 shows the vast majority of respondents are male (80 and 89 percent in, respectively, Australia and Sri Lanka). This response suggests that finance positions are a male-dominated enclave in both developed and emerging countries.

**Figure 5.2- Gender of the Questionnaire Respondent**

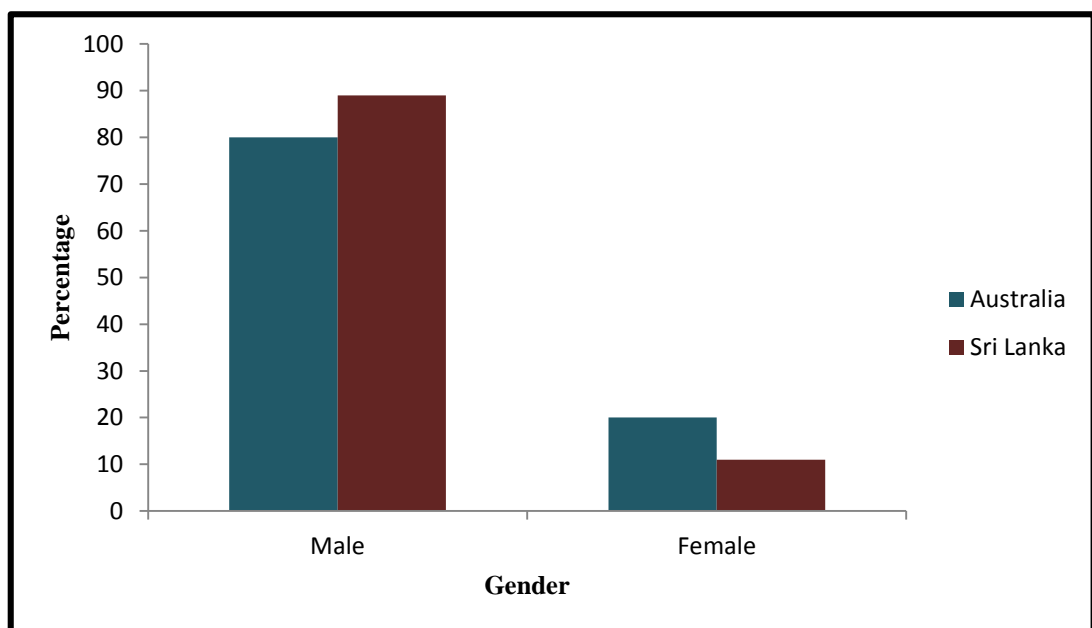


Figure 5.3 shows that the Australian and Sri Lankan respondents have roughly similar education backgrounds, but that Sri Lankan respondents have (on average) slightly higher maximum education attainments.

**Figure 5.3- Questionnaire Respondent’s Education Background**

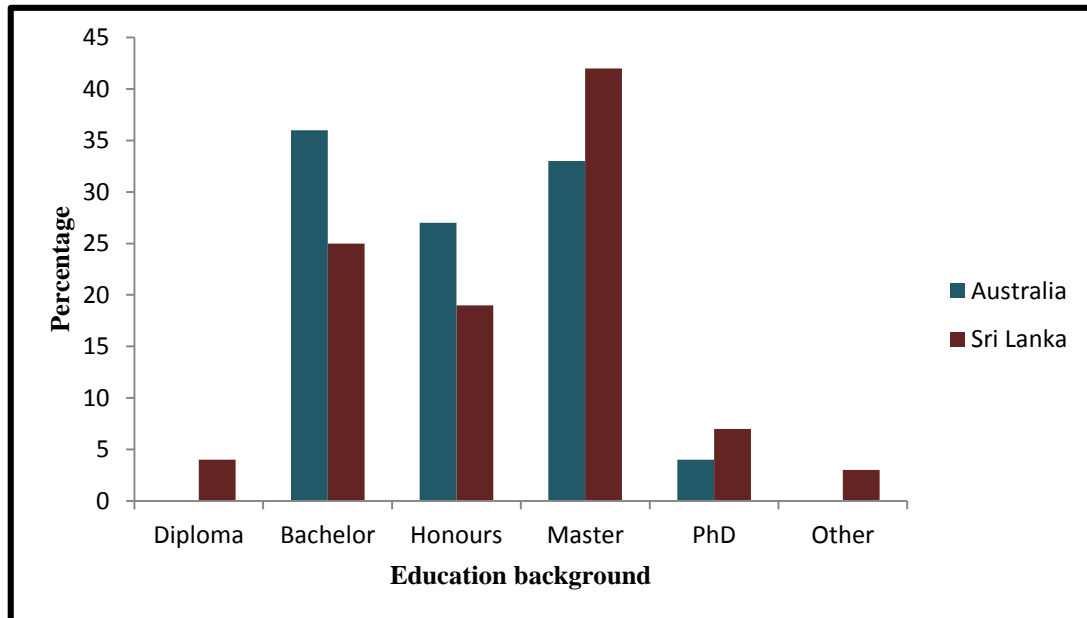


Figure 5.4 shows that the average age of Sri Lankan respondents is significantly higher than the average age of Australian respondents. This age mix difference partially explains the education differences in Figure 5.3—e.g., a Masters and/or a PhD require more years to be dedicated to education and, as a result, are less likely to be found in younger individuals, especially those who have worked long enough for a firm to be promoted to a position of high responsibility. The significant age differential in Figure 5.4 suggests that the Sri Lankan culture may be much more respectful of the merits of age than what is found in youth-centric Western cultures like Australia.

**Figure 5.4- Questionnaire Respondent's Age Group**

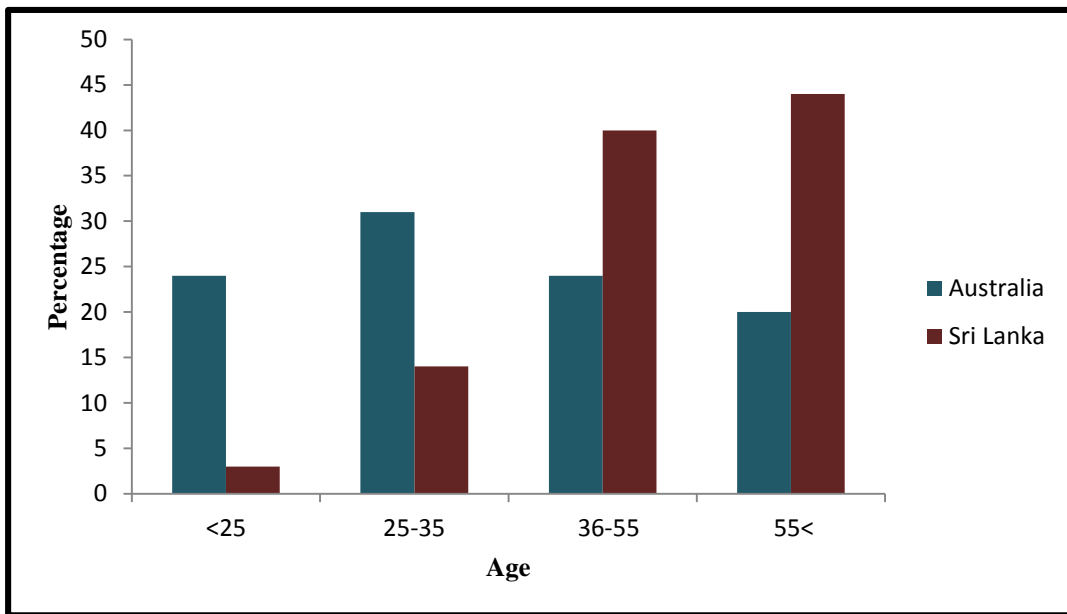
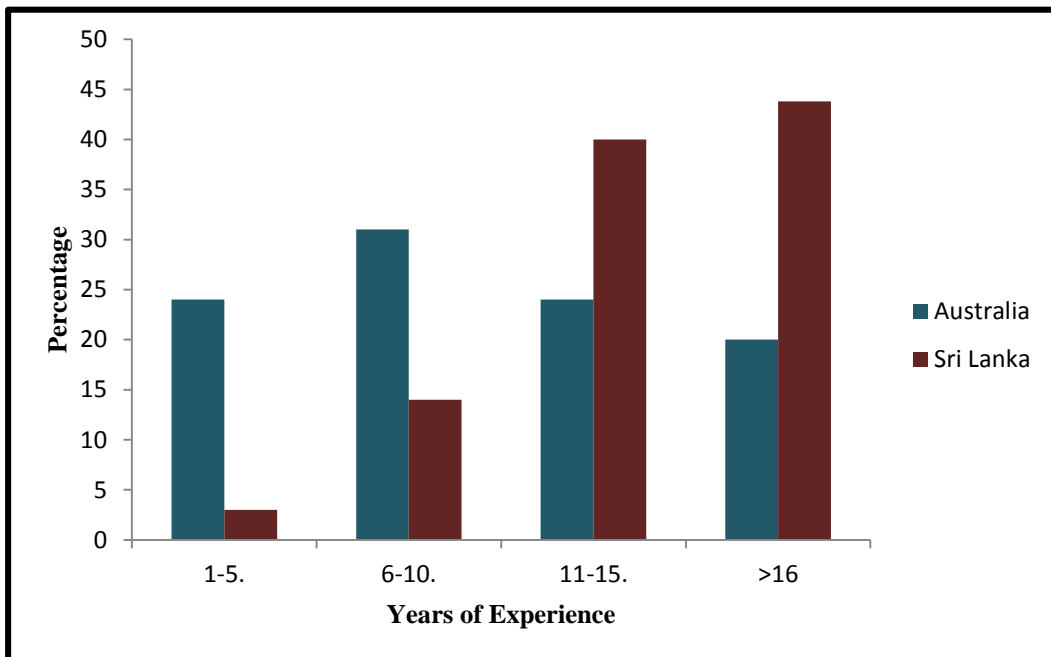


Figure 5.5 shows the work experience of Sri Lankan respondents is much higher than that of Australian respondents—that outcome is consistent with the age distributions in Figure 5.4 and the relative positions in Figure 5.1.

**Figure 5.5- Questionnaire Respondent's Experience**



### 5.2.3 Firm Attributes

Figure 5.6 shows that the distribution of respondent firms by GICS is roughly similar for Australia and Sri Lanka. The important differences are that, compared to Australia, the Sri Lankan GICS distribution has only one utility and much more industry. The near absence of utilities in Sri Lanka is explained by Sri Lankan utilities being mostly owned by the government—at some future date, Sri Lanka may follow the example of developed countries and privatise its government owned utilities. The relatively high preponderance of industrial firms in Sri Lanka is consistent with it being a developing/emerging country.

**Figure 5.6- Industrial Sectors of Responding Firms**

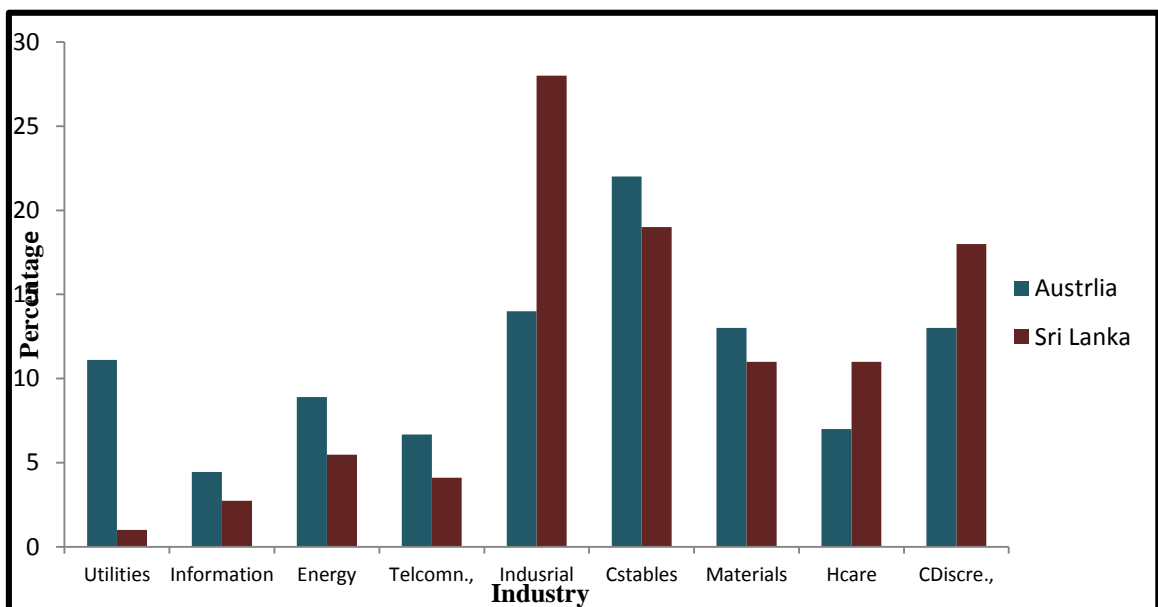


Figure 5.7 shows that 89 percent of responding Australian firms have over 500 employees, whereas, 64 percent of responding Sri Lankan firms have over 500 employees. It is also apparent from the figure that four percent and 26 percent of the firms have 250 to 500 employees in Australia and Sri Lanka respectively. Another two percent of the Australian firms have 100 to 250 employees. No Sri Lankan firms reported that they have fewer than 100 employees.

**Figure 5.7- Number of Employees in Responding Firms**

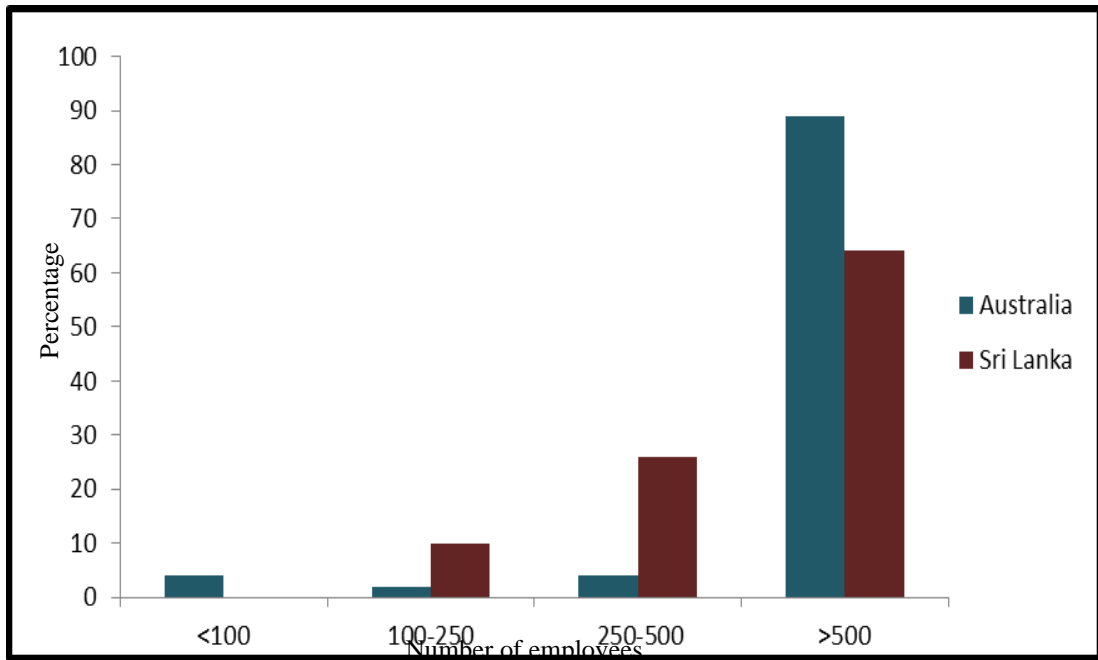


Figure 5.8 shows that a great majority of the Australian and Sri Lankan responding firms earn over 80 percent of their revenues in their domestic market and that export oriented firms are a small proportion of the total firms.

**Figure 5.8- Share of Income Earned in the Domestic Market – Responding Firms**

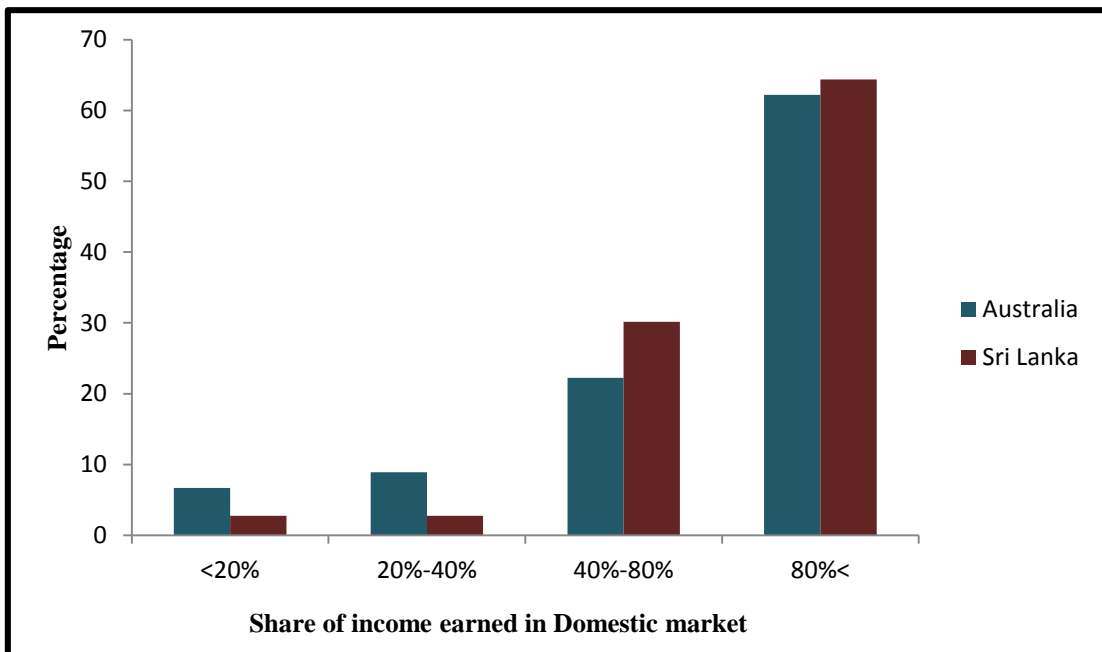
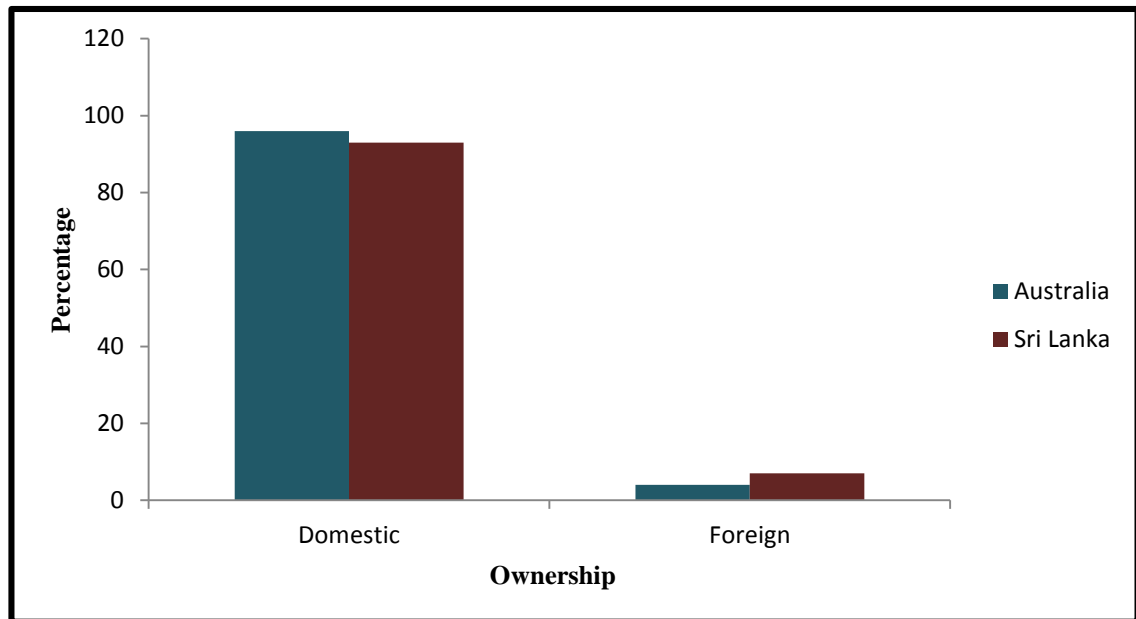


Figure 5.9 shows that very few responding firms in Australia or Sri Lanka are foreign owned. 96 and 93 percent of the firms respectively in Australia and Sri Lanka are domestic-owned firms and the relatively large number of state-owned firms in Sri Lanka is a major difference between Sri Lanka and Australia.

**Figure 5.9- Ownership of Responding Firms**



#### 5.2.4 Corporate Management Attributes

Table 5.2 (the perceived overall-risk situation of responding Australian and Sri Lankan firms—Q# A11 of the questionnaire), shows that Australian firms perceive a much higher risk distribution than that perceived by Sri Lankan firms.

**Table 5.2- Overall Risk Situation**

Country	Very High	High	Moderate	Low	Very Low
Australia	9	42	42	7	0
Sri Lanka	0	4	64	30	1

Table 5.3, the level of risk factors of the responding Australian and Sri Lankan firms (Q# A12, questionnaire) shows that, across all risk categories, Sri Lankan firms perceive their business environment to be significantly less risky than what the Australian firms perceive.

These perceptions suggest that Australian firms face relatively higher costs (e.g., wages and taxes) and much higher internal and international competition than what their counterparts in Sri Lanka face.

Table 5.4, the ranking of the corporate objectives of the responding Australian and Sri Lankan firms (Q# A13, questionnaire) show both groups of firms are more likely to perceive a goal as *important* rather than *very important* and both groups of firms rank *sustainability* as being slightly more vital than *profitability*. Also, neither group of firms have a clear gradient in their ranking of objects (i.e. when the values under *important* and *very important* are added, no objectives were ranked as being significantly less important than the others).

Table 5.5; in ranking the importance of their stakeholders (Q# A14, questionnaire), the Sri Lankan firms do not show a clear gradient (i.e. when the values under *important* and *very important* are added, none of the stakeholders were ranked as being significantly less important than the others—this is very close to the Ethical Branch of Stakeholder Theory). The Australian firms rank suppliers and the government as significantly less important than other stakeholders (i.e. with combined *important* and *very important* ranks of, respectively, 75 and 53). It is, also, interesting that Australian firms rank customers as being somewhat less important than employees or shareholders—i.e. the combined *important* and *very important* ranks are, respectively, 85, 93, and 94. The equivalent rankings by Sri Lankan firms for customers, employees, and shareholders are, respectively, 96, 96, and 92 and for suppliers and the government are, respectively, 91 and 88. The relative importance of suppliers and the government in Sri Lanka likely reveals a lot about the nature of the Sri Lankan business environment.

**Table 5.3- Risk Factors**

Risk Factors	Australia					Sri Lanka				
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
Cash flow	20	53	24	2	0	11	21	44	25	0
Access to credit	24	40	27	9	0	4	15	47	29	5
Firm size	11	44	36	9	2	1	8	70	18	3
New markets	13	56	27	2	0	1	8	70	18	3
Competitive pressure	20	44	36	0	0	7	14	62	18	0
Innovations	20	47	27	7	0	4	16	49	27	3
Staff-competence	9	58	29	4	0	3	22	51	18	7
Legal risk	9	40	38	13	0	0	21	27	34	18
Regulatory risk	9	42	36	9	4	3	18	29	38	12

**Table 5.4- Firms' Corporate Objective**

Risk Factors	Australia					Sri Lanka				
	Very Important	Important	Neutral	Slightly Important	Not at all Important	Very Important	Important	Neutral	Slightly Important	Not at all Important
Maximise profit	49	47	4	0	0	37	52	11	0	0
Maximise sustainable	33	58	7	0	2	30	63	7	0	0
Retain market	24	60	11	2	2	27	52	19	1	0
Maintain productivity	33	53	11	0	2	37	51	10	3	0
Maintain continuity	29	42	24	4	0	34	53	8	4	0

**Table 5.5- Importance of Stakeholders**

Risk Factors	Australia					Sri Lanka				
	Very Important	Important	Neutral	Slightly Important	Not at all Important	Very Important	Important	Neutral	Slightly Important	Not at all Important
Customers	36	49	16	0	0	81	15	4	0	0
Employees	33	60	7	0	0	71	25	3	1	0
Shareholders	47	47	7	0	0	67	25	5	1	1
Suppliers	24	51	22	2	0	55	36	7	1	1
Government	13	40	33	7	0	47	41	11	1	0



### 5.3 Reliability Analysis

The reliability analysis tested the research instrument (questionnaire) consistency and stability over a variety of conditions (Ndubisi, 2012). Although researchers suggest 0.7 is acceptable, a value more than 0.6 is also regarded as a satisfactory cut-off (Gliem & Gliem, 2003; Hair, Bush, & Ortinau, 2000; Sekaran, 2003). The results of the reliability test for the measures, as presented in Table 5.6, suggests that all results in this study are reliable. Reliability estimates (Cronbach's alpha) for CB practices are as follows: long-term strategic planning (0.636), search for investment opportunities (0.644), review and screening (0.796), analysis and evaluation (0.685), accept/reject decisions (0.728), implementation (0.842), expenditure control and monitoring (0.866) and post-audit (0.840). The Alpha coefficients for the measures range from 0.636-0.866, suggesting a high degree of reliability.

**Table 5.6 - Reliability Statistics**

Variables	Question No	No of Items	Mean	Cronbach's alpha value
Long-term strategic planning	B1	10	3.834	0.636
Search for investment opportunities	B2	10	3.701	0.644
Review and screening	B3	10	3.677	0.796
Analysis and evaluation	B4	19	3.267	0.685
Accept/reject decisions	B5	12	3.907	0.728
Implementation	B6	10	3.975	0.842
Expenditure control and monitoring	B7	10	3.928	0.866
Post-audit	B8	10	3.935	0.840

### 5.4 Descriptive Analysis: Capital Budgeting Practices

(Note: Where these sections refer to a question from the questionnaire, the referenced words are in italics).

#### 5.4.1 Long-term Strategic Planning

Table 5.7 shows that in both Australia and Sri Lanka, 82 percent of the respondents *agree* or *strongly agree* that long-term strategic planning is an important phase in CB decisions. In both countries, a majority of respondents believe that *long-term investment decisions*

*[should] derive from an explicit corporate strategy* and be driven by a formal planning process (the latter sentiment is much stronger in Sri Lanka than it is in Australia). In both countries, respondents tend to strongly believe that the evaluation of long-term investments is senior management's prerogative. The Australian respondents tend to be more neutral and the Sri Lankan respondents a little more positive that *long-term investment decisions involve intra-firm negotiations*. A similar rate of Australian and Sri Lankan respondents agree or strongly agree that *financial evaluation methods are often used in the early analysis of long-term investments*, respectively, 62 and 66 percent. Given the proclivity of Sri Lankan executives to follow rules and policy *come what may*, it is surprising that a significantly larger proportion of Sri Lankan respondents agree or strongly agree that *an investment whose expected return falls below the required level may still be accepted* (49 and 69 percent for, respectively, Australian and Sri Lankan respondents). In both countries, a majority of respondents agree or strongly agree that *strategic long-term investment decisions are influenced by competitors* (64 and 71 percent for, respectively, Australian and Sri Lankan respondents). It is interesting that Australian respondents appear to be less willing to accept an investment *if its expected return meets the minimum return* (53 and 69 percent for, respectively, Australian and Sri Lankan respondents). While a majority of respondents in both countries agree or strongly agree that *maximising the profit is the long-term goal of our firm*, that sentiment was very much stronger in Sri Lanka (60 and 80 percent for, respectively, Australian and Sri Lankan respondents). In general, while there is a lot of overlap in the corporate cultures of the Australian and Sri Lankan respondents, the Australian respondents appear to be more willing to step outside of corporate policy/culture—to think outside of the box. This suggests that Australian culture may be more individualistic than that of Sri Lanka (see, Hofstede, 1980).

**Table 5.7- Survey Question# B1: Long-term Strategic Planning**

No	#B1: Statements	Australia					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	Long-term investment planning for investment is a significant phase	24	58	16	2	0	4.04	0.716
2	Long-term investment decisions derive from an explicit corporate strategy of your firm.	24	69	7	0	0	4.18	0.535
3	Long-term investment decisions emerge through the formal planning processes of your firm.	13	56	31	0	0	3.82	0.650
4	The evaluation of long-term investments is left to the decision of top level management.	22	51	24	3	0	3.93	0.751
5	Long-term investment decisions are influenced by negotiations among associations in the firm.	7	40	46	7	0	3.47	0.726
6	Financial evaluation methods are often used in the early analysis of long-term investments.	24	38	24	14	0	3.73	0.986
7	An investment whose expected return falls below the required level may still be accepted	7	42	38	9	4	3.38	0.912
8	Strategic long-term investment decisions are influenced by competitors.	11	53	29	4	3	3.67	0.826
9	A long-term investment will be accepted if its expected return meets the minimum return	4	49	31	11	5	3.38	0.912
10	Maximising the profit is the long-term goal of our firm.	20	40	24	7	9	3.56	1.160

No	#B1: Statements	Sri Lanka					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	Long-term investment planning for investment is a significant phase	49	33	18	0	0	4.32	0.762
2	Long-term investment decisions derive from an explicit corporate strategy of your firm.	44	34	22	0	0	4.22	0.786
3	Long-term investment decisions emerge through the formal planning processes of your firm.	34	48	14	4	0	4.12	0.798
4	The evaluation of long-term investments is left to the decision of top level management.	19	49	32	0	0	3.88	0.711
5	Long-term investment decisions are influenced by negotiations among associations in the firm.	14	46	25	15	0	3.58	0.915
6	Financial evaluation methods are often used in the early analysis of long-term investments.	13	53	28	6	0	3.72	0.755
7	An investment whose expected return falls below the required level may still be accepted	6	63	24	6	1	3.65	0.735
8	Strategic long-term investment decisions are influenced by competitors.	14	57	26	1	2	3.80	0.744
9	A long-term investment will be accepted if its expected return meets the minimum return	8	61	29	0	2	3.75	0.666
10	Maximising the profit is the long-term goal of our firm.	22	63	13	0	2	4.03	0.731

Respondents are asked to rate on Likert scale of 1 (strongly disagree) to 5 (strongly agree). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (strongly disagree) to 5 (strongly agree).

#### 5.4.2 Search for Investment Opportunities

In Table 5.8, 95 and 75 percent of the respondents from, respectively, Australia and Sri Lanka either *strongly agree* or *agree* that *the search for investment opportunities is a significant phase* for long-term investment decisions. The process of matching the search for investments to strategic goals is considered important by respondents in both countries (82 and 77 percent for, respectively, Australian and Sri Lankan respondents).

Australian respondents appear to be more willing than Sri Lankan respondents to change corporate strategy *to accommodate beneficial projects that are identified* (53 and 46 percent for, respectively, Australian and Sri Lankan respondents). However, respondents from both countries appear to be equally accepting that if an *excellent investment presents itself the corporate vision may be changed to accommodate it* (47 and 46 percent for, respectively, Australian and Sri Lankan respondents). The Australian firms appear to be more active than Sri Lankan firms in constantly searching into attractive investment opportunities (62 and 45 percent for, respectively, Australian and Sri Lankan respondents). Finding *alternatives of each investment opportunities before the final decision* appears to be less essential to Australian respondents (55 and 66 percent for, respectively, Australian and Sri Lankan respondents).

Sri Lankan respondents tend to be *neutral* or to *disagree* with the idea that a *profitable investment proposal is not just born; someone has to suggest it* (53 and 11 percent *agree* or *strongly agree* for, respectively, Australian and Sri Lankan respondents). Australian and Sri Lankan respondents tend to agree on the usefulness of rewards as *a significant tool for identifying potential investments* (the sum of *strongly agree* and *agree* is 51 and 54 percent for, respectively, Australian and Sri Lankan respondents). Sri Lankan respondents are more likely to believe that *investment opportunities are identified and proposed by top level*

*management* (the sum of *strongly agree* and *agree* is 45 and 76 percent for, respectively, Australian and Sri Lankan respondents). Sri Lankan respondents are more likely to believe that the *firm should ensure that it has identified potentially profitable investment opportunities* (the sum of *strongly agree* or *agree* is 65 and 73 percent for, respectively, Australian and Sri Lankan respondents). The forgoing results suggest that Australian managers may be significantly more flexible, confident, and willing to take calculated risks than their Sri Lankan counterparts.

**Table 5.8- Survey Question # B2: Search for Investment Opportunities**

No	#B2: Statements	Australia					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	The search for investment opportunities is a significant phase	31	64	5	0	0	4.27	0.539
2	The firm has a process for searching investment which is in accordance with strategic goals.	18	64	18	0	0	4.00	0.603
3	Corporate strategy may be changed to accommodate beneficial projects that are identified.	13	40	40	7	0	3.60	0.809
4	If excellent investment presents itself the corporate vision may be changed to accommodate it.	16	31	44	7	2	3.51	0.920
5	The firm has R & D divisions constantly searching into attractive investment opportunities.	18	44	29	5	4	3.67	0.977
6	Firm should find alternatives of each investment opportunities before the final decision.	24	31	36	7	2	3.68	0.996
7	A profitable investment proposal is not just born; someone has to suggest it.	7	46	31	9	7	3.38	0.983
8	The individuals' rewards are significant tool for identifying potential investments to your firm.	7	44	29	16	4	3.34	0.977
9	Investment opportunities are identified and proposed by top level management.	9	36	44	7	4	3.38	0.912
10	The firm should ensure that it has identified potentially profitable investment opportunities.	18	47	29	2	4	3.71	0.944

No	#B2: Statements	Sri Lanka					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	The identification of investment opportunities is a significant phase	45	30	18	6	1	4.12	0.985
2	The firm has a process for searching investment which is in accordance with strategic goals.	40	37	16	7	0	4.10	0.915
3	Corporate strategy may be changed to accommodate beneficial projects that are identified.	10	36	48	6	0	3.49	0.748
4	If excellent investment presents itself the corporate vision may be changed to accommodate it.	8	23	45	24	0	3.16	0.882
5	The firm has R & D divisions constantly searching into attractive investment opportunities.	8	37	45	10	0	3.44	0.781
6	Firm should find alternatives of each investment opportunities before the final decision.	7	59	27	7	0	3.65	0.711
7	A profitable investment proposal is not just born; someone has to suggest it.	1	10	52	31	6	4.07	3.509
8	The individuals' rewards are significant tool for identifying potential investments to your firm.	11	43	32	14	0	3.52	0.868
9	Investment opportunities are identified and proposed by top level management.	18	58	23	1	0	3.92	0.682
10	The firm should ensure that it has identified potentially profitable investment opportunities.	10	63	27	0	0	3.82	0.586

Respondents are asked to rate on Likert scale of 1 (strongly disagree) to 5 (strongly agree). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (strongly disagree) to 5 (strongly agree).

### 5.4.3 Review and Screening

In Table 5.9, both Australian and Sri Lankan respondents *strongly agree* or *agree* that *review and screening* as a substantial phase for CB decisions (89 and 83 percent for, respectively, Australian and Sri Lankan respondents). Consistent with the forgoing perceptions, 89 percent of Australian firms and 79 percent of Sri Lankan firms either *strongly agree* or *agree* that the firm have *strategies and processes for screening that is in accordance with the firm's goals*. However, running counter to the forgoing perceptions, only 66 and 25 percent of, respectively, Australian respondents and Sri Lankan respondents *strongly agree* or *agree* that their *firm has written investment screening guidelines for investment decisions*. Inconsistency between belief and action continues in the assessment of whether their *firm considers the review aspects throughout the entire CB process*, in that only 65 and 42 percent of, respectively, Australian and Sri Lankan respondents *strongly agreed* or *agreed*.

Inefficiency may be an issue, because only 67 and 46 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that during preliminary screening *management isolates marginal investments*. Consistent with this concern of inefficiency, only 73 and 53 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that processes are in place to screen out pathetic projects. However, inconsistent with the perceptions stated above, only 49 and 68 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that their firm's *review and screening involves some preliminary quantitative analysis and judgements*. Further, 62 and 78 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that their *firm has an established review staff/board for screening identified investment*.

Sri Lankan respondents strongly believe that the *investment review and screening phase decision clearly affects the success or failure of the firm* (i.e. 48 and 81 percent of, respectively, Australian and Sri Lankan respondents *strongly agreed* or *agreed*). Both the Australian and Sri Lankan respondents *strongly agree* or *agree* (66 percent) that their *firm has regular and pre-decided procedures*.

While both the Australian and Sri Lankan respondents strongly agree that review, analysis, and screening are essential to their firm's success, a majority of Sri Lankan firms do not appear to have *written investment screening guidelines for investment decisions*. Also, Sri Lankan firms appear to be more likely to engage in *preliminary quantitative analysis and judgements* on investment projects and are more likely to have *an established review staff/board for screening identified investments*. However, even though Sri Lankan firms appear to have more means to evaluate projects, Sri Lankan respondents appear to be much less confident than Australian respondents in the ability of their firm to isolate *marginal investments* or to sort out *pathetic projects*.



**Table 5.9-Survey Question # B3: Review and Screening**

No	#B3: Statements	Australia					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	The review and screening is a substantial phase.	16	73	9	2	0	4.02	0.583
2	The firm has process for screening that is in accordance with the firm's goals.	18	71	11	0	0	4.07	0.539
3	The firm has written investment screening guidelines for investment decisions.	13	53	34	0	0	3.80	0.661
4	The firm considers the review aspects throughout the entire capital budgeting process	16	49	31	4	0	3.76	0.773
5	During the preliminary screening time management isolates marginal investments.	20	47	29	2	2	3.80	0.869
6	There exist processes for screening opportunities where pathetic project are sorted out.	13	60	24	3	0	3.84	0.672
7	Review and screening involves some preliminary quantitative analysis and judgements.	18	31	38	13	0	3.53	0.943
8	The firm has an established review staff/board for screening identified investments.	2	60	24	11	3	3.49	0.815
9	This phase decision clearly affects the success or failure of the firm.	11	37	38	7	7	3.40	1.009
10	The firm has regular and pre-decided procedures.	7	59	16	11	7	3.49	1.014

No	#B3: Statements	Sri Lanka					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	The review and screening is a substantial phase.	10	73	8	8	1	3.81	0.776
2	The firm has process for screening that is in accordance with the firm's goals.	8	71	15	6	0	3.82	0.653
3	The firm has written investment screening guidelines for investment decisions.	7	18	34	41	0	2.90	0.930
4	The firm considers the review aspects throughout the entire capital budgeting process.	8	34	48	10	0	3.41	0.779
5	During the preliminary screening time management isolates marginal investments.	12	34	53	0	0	3.59	0.704
6	There exist processes for screening opportunities where pathetic project are sorted out.	16	37	47	0	0	3.70	0.739
7	Review and screening involves some preliminary quantitative analysis and judgements.	12	56	29	3	0	3.78	0.692
8	The firm has an established review staff/board for screening identified investments.	14	64	16	6	0	3.86	0.713
9	This phase decision clearly affects the success or failure of the firm.	12	69	16	1	0	3.92	0.595
10	The firm has regular and pre-decided procedures.	10	56	18	4	0	3.71	0.697

Respondents are asked to rate on Likert scale of 1 (strongly disagree) to 5 (strongly agree). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (strongly disagree) to 5 (strongly agree).

#### **5.4.4 Capital Budgeting Analysis Methods**

As can be seen in Table 5.10, the NPV and IRR methods are now widely used techniques among the Australian firms participating in the survey. NPV and IRR are the two most popular techniques, with 98 percent of the firms reporting they use these techniques, although, PBP is also prevalent (83 percent) in Australia. Although, most Sri Lankan respondents selected PBP and IRR as their most regularly used CB techniques, a substantial percentage uses PBP as their primary method in CB decisions. The NPV method is less preferred in Sri Lanka, with only 56 percent of the respondents noting that they use PBP always. Interestingly, a large percentage of Australian and Sri Lankan firms still use PBP. In contrast to this, other CB techniques such as discounted payback period (DPP) and ARR are less frequently used in Australia. However, only 51 percent of Australian firms use ARR as the prevalent CB techniques. While the DPP and ARR techniques are clearly the least popular in Sri Lanka, only 30 percent and 24 percent respectively of the Sri Lanka respondents use these methods. The mean values for NPV and IRR techniques are 4.62 followed by PBP technique (4.16) in Australia whereas the mean value for the PBP and IRR are 4.01 and 3.78 of the Sri Lankan firms respectively.

The results also illustrate that scenario approach and sensitivity analyses are the most extensively used techniques for assessing the capital investments risk in Australia. The results indicate that among Australian respondents, 76 percent of the respondents use scenario approach or sensitivity analysis, 31 percent use decision tree approach while 26 percent respondents employ probabilistic (Monte Carlo) simulation. For Sri Lankan firms, 79 percent of respondents indicate that they use a scenario approach most widely, 34 percent of respondents mentioned sensitivity analyses, while 29 percent of respondents stated that they use a risk adjusted discount rate most often. Compared to Australian firms, Sri Lankan

firms appear to use the scenario approach more often. Interestingly, few firms in Sri Lanka would use decision tree approach and probabilistic (Monte Carlo) simulation to evaluate their risk. Twelve percent and 13 percent of the respondents would usually use the decision tree approach and probabilistic (Monte Carlo) simulation respectively while only 16 percent of Australian respondents considered using a risk adjusted discount rate. The results also present the mean values for the scenario approach and sensitivity analyses as 4.04 and 3.94 followed by decision tree approach with 3.04 in Australia whereas the mean value for the scenario approach is 4.25 for Sri Lankan firms.

In estimating the cost of capital, 85 percent of Australian firms rely to some extent on the WACC; 75 percent use the CAPM most frequently, 49 percent mention using interest payable on debt capital, 33 percent use the earnings yield on shares, 24 percent note that they use the dividend yield on shares method most often. In Sri Lanka, 85 percent of respondents use the WACC most commonly, 64 percent use the interest payable on debt capital, while 37 percent state that they use the earnings yield on shares most often. Compared to the Sri Lankan firms, Australian firms appear to use the WACC and CAPM more often. Thus, the WACC has clearly established its position as the most popular method in both countries and dividend yield on shares method and CAPM method are used much less; 24 and 31 percent of the Australian and Sri Lankan firms report they use these methods frequently. The results also shows the mean values for WACC and CAPM are 4.24 and 4.04 followed by interest payable on debt capital with 3.38 in Australia whereas the mean value for the WACC is 3.93 of the Sri Lankan firms.

Table 5.10 presents the results of the survey on the techniques used by Australian and Sri Lankan firms to guide long-term investment decisions. As shown in the table, most of the firms in Australia adhere to the RO analysis over the other techniques. The RO analysis is

highly ranked as frequently/mostly practiced in CB with 73 percent in Australia, while 30 percent of Sri Lankan firms indicated that they frequently/mostly use this technique. Thus, the RO analysis is used more often by Australian firms than by Sri Lankan firms. Forty two percent of firms in Australia stated that they use game theory most often. For the Sri Lankan firms, game theory technique is used much less; only four percent of the Respondents accepted they use this method most often. Twenty percent and 13 percent of Australian firms reported that they use *balanced scorecard* and *value chain analysis*, respectively. Similar to Australian firms, these methods are the least popular for Sri Lankan firms. On the other hand, about 17-18 percent of firms in Sri Lanka prefer *balanced scorecard* and *value chain analysis* as a guide to long-term investment decisions. The results also show the mean values for the *RO* and *game theory* as 3.58 and 3.09 followed by *balanced scorecard* with 2.69 in Australia—the mean value for the *RO* is 2.79 for Sri Lankan firms.

**Table 5.10- Survey Question # B4-B8: Capital Budgeting Analysis Methods**

**Capital Budgeting Techniques**

Techniques	Australia							Sri Lanka						
	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never
PBP	4.16	0.903	41	42	13	2	2	4.01	0.808	25	60	7	8	0
DPP	2.87	1.401	16	20	24	16	24	2.81	1.036	5	25	19	47	4
ARR	3.24	1.417	22	29	18	13	18	2.77	0.936	3	21	33	38	5
NPV	4.62	0.614	67	31	2	0	0	3.64	0.806	14	42	40	3	1
IRR	4.62	0.535	65	33	2	0	0	3.78	0.804	16	51	29	3	1

**Risk Assessment Techniques**

Techniques	Australia							Sri Lanka						
	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never
Scenario	4.04	0.737	29	47	24	0	0	4.25	1.024	54	25	14	4	3
Sensitivity	3.94	0.720	20	56	22	2	0	3.18	1.059	12	22	33	33	0
Decision tree	3.04	1.065	7	24	49	7	13	2.92	0.595	0	12	69	18	1
Monte Carlo	2.87	1.307	13	13	45	5	24	2.66	0.870	1	12	47	30	10
Risk adjusted	2.56	0.990	0	16	44	20	20	3.04	0.978	8	21	42	25	4

## Cost of Capital

Techniques	Australia							Sri Lanka						
	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never
WACC	4.24	0.957	49	36	9	4	2	3.93	0.673	14	71	10	5	0
CAPM	4.04	0.796	31	44	22	3	0	2.74	1.280	8	23	26	19	24
Interest payable	3.38	1.093	13	36	35	7	9	3.63	0.613	3	61	32	4	0
Dividend yield	2.82	1.007	2	22	44	18	14	3.04	0.978	3	33	39	18	7
Earnings yield	3	0.977	2	31	40	18	9	3.12	1.013	7	30	38	18	7

## Techniques or Information to Guide Long-term Investment Decision

Techniques	Australia							Sri Lanka						
	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never	Mean	Std	Frequently	Mostly	Neutral	Rarely	Never
Real option	3.58	1.076	9	64	13	2	11	2.79	1.092	7	23	19	44	7
Game theory	3.09	1.083	4	38	31	16	11	2.29	0.677	0	4	29	59	8
Balanced score	2.93	0.809	0	20	32	9	9	2.67	0.987	7	11	30	47	6
Value chain	2.69	0.925	2	11	53	20	13	2.53	1.015	7	10	22	53	8

Respondents are asked to rate on Likert scale of 1 (never) to 5 (frequently). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (never) to 5 (frequently).

#### 5.4.5 Accept/Reject Decision

In Table 5.11, 98 and 97 percent of, respectively, Australian and Sri Lankan respondents said that the *accept/reject decision...phase* is *very important* or *important*. *Quantitative analysis judgment* is described as being *very important* or *important* by 96 of Australian and Sri Lankan respondents. *Consistency with corporate strategy* is *very important* or *important* for 91 and 89 percent of, respectively, Australian and Sri Lankan respondents.

*Improved market image for the firm* is seen as *very important* or *important* by 85 percent of Australian and Sri Lankan respondents; who also see *improved competitive position* as being *very important* or *important* (85 and 76 percent of, respectively, Australian and Sri Lankan respondents). *The ability to expand in the future* is ranked as *very important* or *important* by 85 and 76 percent of, respectively, Australian and Sri Lankan respondents.

*Increased market share* is slightly less important (64 and 72 percent of, respectively, Australian and Sri Lankan respondents see it as *very important* or *important*). Australian and Sri Lankan respondents have very similar views on: *Business expansion/development*; *Increased saving from disposable expenses*; *Risk position*; and *Environmental factors*.

*Competitive advantage* appears to be somewhat more important to Sri Lankan firms (it is *very important* or *important* to 60 and 70 percent of, respectively, Australian and Sri Lankan respondents). This last set of perceptions appears to be converse to that expressed by Australian respondents on *improved competitive position*.

**Table 5.11- Survey Question # B9: Accept and Reject Decision**

No	#B9: Statements	Australia					Mean	Std
		Very import	Import	Neutral	Slightly import	Not at all import		
1	The accept/reject decision is an important phase	58	40	2	0	0	4.56	0.549
2	Quantitative analysis judgment	18	78	4	0	0	4.13	0.457
3	Consistency with corporate strategy	20	71	9	0	0	4.11	0.531
4	Improved market image for the firm	38	47	9	4	2	4.13	0.919
5	Improved competitive position	27	58	13	0	2	4.07	0.780
6	The ability to expand in the future	33	54	10	0	3	4.11	0.910
7	Increased market share	24	40	24	4	8	3.71	1.100
8	Business expansion/development	24	44	24	4	4	3.84	0.928
9	Increased saving from disposable expenses	16	44	27	11	2	3.60	0.923
10	Risk position	11	51	31	4	3	3.64	0.830
11	Environmental factors	7	51	29	4	9	3.42	1.011
12	Competitive advantage	16	44	27	9	4	3.58	1.011

No	#B9: Statements	Sri Lanka					Mean	Std
		Very import	Import	Neutral	Slightly import	Not at all import		
1	The accept/reject decision is an important phase	49	48	3	0	0	4.47	0.555
2	Quantitative analysis judgment	44	52	4	0	0	4.40	0.571
3	Consistency with corporate strategy	40	49	11	0	0	4.29	0.656
4	Improved market image for the firm	15	60	23	1	0	3.89	0.657
5	Improved competitive position	11	66	22	1	0	3.86	0.608
6	The ability to expand in the future	11	63	26	0	0	3.85	0.593
7	Increased market share	10	62	26	3	0	3.78	0.651
8	Business expansion/development	6	62	30	3	0	3.70	0.617
9	Increased saving from disposable expenses	3	53	41	1	1	3.55	0.646
10	Risk position	8	55	36	0	1	3.68	0.685
11	Environmental factors	11	51	34	4	0	3.68	0.724
12	Competitive advantage	7	63	26	3	1	3.71	0.697

Respondents are asked to rate on Likert scale of 1 (not at all important) to 5 (very important). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (not at all important) to 5 (very important).



#### 5.4.6 Implementation

In Table 5.12, 96 and 90 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that *implementation is a significant phase* for CB decisions. After reviewing that *the establishment of plan and the assignment of team occur when a decision is made*, 87 and 74 percent of, respectively, Australian and Sri Lankan respondents *strongly agreed* or *agreed*. The response to during *...the implementation phase entire divisions of your firm are involved*, is *strongly agree to* or *agree by*, respectively, Australian and Sri Lankan respondents. Australian and Sri Lankan respondents *strongly agree* or *agree*, by respectively, 58 and 80 percent of their numbers, that their *firm reviews implementation procedures each year*. Australian and Sri Lankan respondents *strongly agree* or *agree*, by respectively, 66 and 84 percent that *top management are involved in all aspects of the implementation and evaluation process*.

*Strongly agree* or *agree* is the response by 76 and 78 percent of, respectively, Australian and Sri Lankan respondents to: *When developing strategies, consideration is given to the barriers to implementation activities*. Australian and Sri Lankan respondents *strongly agree* or *agree*, by respectively, 65 and 82 percent that *the firm is prepared to adopt corrective steps if required at the implementation level*. *Strongly agree* or *agree* is what 73 and 85 percent of, respectively, Australian and Sri Lankan respondents said about: *Top level management constantly monitor and observe the implementation process*. Implementation mechanisms heavily influence the corporate framework is an assertion to which 53 and 79 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. Australian and Sri Lankan respondents *strongly agree* or *agree*, by respectively, 60 and 75 percent that *the implementation is scrutinised by examining risk analysis and alternative cash estimations*. In almost all areas of investment project implementation, Sri Lankan firms appear to be less relaxed than the Australian firms.

**Table 5.12-Survey Question # B10: Implementation**

No	#B10: Statements	Australia					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	Implementation is a significant phase.	20	76	4	0	0	4.16	0.475
2	The establishment of plan and the assignment of team occur when a decision is made.	18	69	11	2	0	4.02	0.621
3	During the implementation phase entire divisions of your firm are involved.	4	60	31	2	3	3.62	0.716
4	The firm reviews implementation procedures each year.	9	49	40	2	0	3.64	0.679
5	Top management are involved in all aspects of the implementation and evaluation process.	13	53	24	10	0	3.71	0.815
6	When developing strategies, consideration is given to the barriers to implementation activities.	9	67	22	0	2	3.80	0.694
7	The firm is prepared to adopt corrective steps if required at the implementation level.	16	49	24	9	2	3.67	0.929
8	Top level management constantly monitor and observe the implementation process.	16	57	16	7	4	3.73	0.963
9	Implementation mechanisms heavily influence the corporate framework.	7	44	38	11	0	3.47	0.786
10	The implementation is scrutinised by examining risk analysis and alternative cash estimations.	7	53	24	11	5	3.47	0.944

No	#B10: Statements	Sri Lanka					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	Implementation is a significant phase	59	31	10	0	0	4.49	0.669
2	The establishment of plan and the assignment of team occur when a decision is made.	42	32	22	4	0	4.12	0.897
3	During the implementation phase entire divisions of your firm are involved.	19	53	23	3	2	3.86	0.808
4	The firm reviews implementation procedures each year.	33	47	14	6	0	4.08	0.829
5	Top management are involved in all aspects of the implementation and evaluation process.	40	44	15	1	0	4.22	0.750
6	When developing strategies, consideration is given to the barriers to implementation activities.	37	41	21	1	0	4.14	0.787
7	The firm is prepared to adopt corrective steps if required at the implementation level.	36	46	18	0	0	4.18	0.714
8	Top level management constantly monitor and observe the implementation process.	38	47	12	1	2	4.19	0.811
9	Implementation mechanisms heavily influence the corporate framework.	26	53	18	1	2	4.01	0.790
10	The implementation is scrutinised by examining risk analysis and alternative cash estimations.	22	53	25	0	0	3.97	0.687

Respondents are asked to rate on Likert scale of 1 (strongly disagree) to 5 (strongly agree). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (strongly disagree) to 5 (strongly agree).

#### **5.4.7 Expenditure Control and Monitoring**

In Table 5.13, 93 and 91 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that: *Expenditure control is an important phase in the CB practice.* In terms of: *There is constant monitoring of progress of investments with the strategic planning of the firm,* 92 and 89 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. *Strongly agree* or *agree* is the response by 71 and 91 percent of, respectively, Australian and Sri Lankan respondents to: *Deviations from the estimated cash flows are monitored on a regular basis.* In terms of: *Top management usually support expenditure control and monitoring processes,* 60 and 90 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. *Strongly agree* or *agree* is the response by 60 and 89 percent of, respectively, Australian and Sri Lankan respondents to: *CFOs can receive progress reports at regular intervals concerning the project monitoring.* The response to: *The firm has the ability to assess the effect of inflation factors on financial decisions* is 65 and 75 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. In terms of: *The firm has an established effective operational internal control system,* 65 and 77 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. The response to: *The firm updates its monitoring procedures on a timely basis,* are 60 and 82 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. *Strongly agree* or *agree* is the response by 51 and 89 percent of, respectively, Australian and Sri Lankan respondents to: *The firm's accounting system provides break-downs to enable analysis of variances.* Australian and Sri Lankan respondents *strongly agree* or *agree* by, respectively, 71 and 81 percent that: *Variations in future cash flows from forecasts should be reported to top management.* In almost all areas of investment project *expenditure control and monitoring,* Sri Lankan firms appear to be less relaxed than Australian firms.

**Table 5.13- Survey Question # B11: Expenditure Control and Monitoring**

No	#B11: Statements	Australia					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	Expenditure control is an important phase in the capital budgeting practice in your firm.	9	84	7	0	0	4.02	0.398
2	Constant monitoring of progress of investments with the strategic planning of the firm.	16	76	4	2	2	4.00	0.707
3	Deviations from the estimated cash flows are monitored on a regular basis	4	67	29	0	0	3.76	0.529
4	Top management usually support expenditure control and monitoring processes.	11	49	36	4	0	3.67	0.739
5	CFOs can receive progress reports at regular intervals concerning the project monitoring.	13	47	33	4	3	3.64	0.857
6	The firm has the ability to assess the effect of inflation factors on financial decisions.	7	58	22	11	2	3.56	0.867
7	The firm has an established effective operational internal control system	9	56	31	0	4	3.64	0.830
8	The firm updates its monitoring procedures on a timely basis	9	51	24	11	5	3.49	0.968
9	The firm's accounting system provides breakdowns to enable analysis of variances.	11	40	33	13	3	3.44	0.923
10	Variations in future cash flows from forecasts should be reported to top management	7	64	22	7	0	3.71	0.695

No	#B11: Statements	Sri Lanka					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	Expenditure control is an important phase in the capital budgeting practice in your firm.	26	63	10	1	0	4.14	0.631
2	There is constant monitoring of progress of investments with the strategic planning of the firm.	19	72	6	3	0	4.08	0.595
3	Deviations from the estimated cash flows are monitored on a regular basis	23	68	6	3	0	4.12	0.622
4	Top management usually support expenditure control and monitoring processes.	18	72	10	0	0	4.08	0.520
5	CFOs can receive progress reports at regular intervals concerning the project monitoring.	27	62	11	0	0	4.16	0.601
6	The firm has the ability to assess the effect of inflation factors on financial decisions.	21	54	25	0	0	3.96	0.676
7	The firm has an established effective operational internal control system	25	52	21	1	1	3.97	0.799
8	The firm updates its monitoring procedures on a timely basis	22	60	16	2	0	4.03	0.666
9	The firm's accounting system provides breakdowns to enable analysis of variances.	29	52	18	1	0	4.08	0.722
10	Variations in future cash flows from forecasts should be reported to top management	30	51	18	1	0	4.10	0.730

Respondents are asked to rate on Likert scale of 1 (strongly disagree) to 5 (strongly agree). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (strongly disagree) to 5 (strongly agree).

#### 5.4.8 Post-audit

In Table 5.14, 96 and 89 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that: *The post-audit is an important phase of long-term investment decision making.* The Australian and Sri Lankan respondents *strongly agree* or *agree* by 89 percent that: *The auditor discusses key results with the CFO during the progress of the review of decisions.* *Strongly agree* or *agree* is the response by 67 and 85 percent of, respectively, Australian and Sri Lankan respondents to: *The firm satisfies the purpose, scope, conduct, and results of the post completion audit.* In terms of: *the firm has regular and pre-agreed procedures for the post-audit,* 65 and 72 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. *Strongly agree* or *agree* is the response by 67 and 84 percent of, respectively, Australian and Sri Lankan respondents to: *The results of post-audits assist to evaluate projects and to improve future forecasts.* In the survey, 71 and 82 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree* that: *a post implementation audit provides useful feedback to investment appraisal.* *Strongly agree* or *agree* is the response by 57 and 81 percent of, respectively, Australian and Sri Lankan respondents to: *Audit information prompts management to consider a thorough review of the strategic plan.* In terms of: *Post-audits relate to the current long-term decisions support process of the implementation,* 58 and 81 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. The Australian and Sri Lankan respondents reviewed: *Audits contribute to improvement of investment decision by analysing past rights and wrongs* and, respectively, 67 and 80 percent *strongly agree* or *agree*. In their review of: *post-audit conclusions and opinion are logical and well documented,* 73 and 85 percent of, respectively, Australian and Sri Lankan respondents *strongly agree* or *agree*. In almost all areas of investment project post-audits, Sri Lankan firms appear to have more faith in their internal review process than Australian firms.

**Table 5.14-Survey Question # B12: Post-audit**

No	#B12: Statements	Australia					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	The post-audit is an important phase.	38	58	2	2	0	4.31	0.633
2	The auditor discusses key results with CFO during the progress of the review of decisions.	18	71	9	2	0	4.04	0.601
3	The firm satisfies the purpose, scope, conduct, and results of the post completion audit.	20	47	31	2	0	3.84	0.767
4	The firm has regular and pre-agreed procedures for the post-audit.	16	49	29	2	4	3.69	0.925
5	The results of post-audits assist to evaluate projects and to improve future forecasts.	9	58	22	7	4	3.60	0.915
6	A post implementation audit provides useful feedback to investment appraisal in your firm.	11	60	20	4	5	3.69	0.900
7	Audit information prompts management to consider a thorough review of the strategic plan.	13	44	36	7	0	3.64	0.802
8	Post-audits relate to the current long-term decisions support process of the implementation.	9	49	29	9	4	3.49	0.944
9	Audits contribute to improvement of investment decision by analysing past rights and wrongs.	16	51	20	4	9	3.60	1.095
10	Post-audit conclusions and opinion are logical and well documented.	13	60	27	0	0	3.87	0.625

**Survey Question # B12: Post-audit**

No	#B12: Statements	Sri Lanka					Mean	Std
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
1	The post-audit is an important phase.	51	38	7	4	0	4.36	0.788
2	The auditor discusses key results with CFO during the progress of the review of decisions.	30	59	7	4	0	4.15	0.720
3	The firm satisfies the purpose, scope, conduct, and results of the post completion audit.	21	64	12	3	0	4.03	0.666
4	The firm has regular and pre-agreed procedures for the post-audit.	14	58	29	0	0	3.85	0.638
5	The results of post-audits assist to evaluate projects and to improve future forecasts.	15	69	16	0	0	3.99	0.565
6	A post implementation audit provides useful feedback to investment appraisal in your firm.	18	64	16	1	0	3.99	0.635
7	Audit information prompts management to consider a thorough review of the strategic plan.	23	58	15	4	0	4.00	0.745
8	Post-audits relate to the current long-term decisions support process of the implementation.	26	55	14	4	0	4.00	0.833
9	Audits contribute to improvement of investment decision by analysing past rights and wrongs.	16	64	16	3	0	3.95	0.664
10	Post-audit conclusions and opinion are logical and well documented.	18	67	14	1	0	4.01	0.612

Respondents are asked to rate on Likert scale of 1 (strongly disagree) to 5 (strongly agree). Researchers report the overall mean, standard deviation (Std) as well as the % of respondents that answered 1 (strongly disagree) to 5 (strongly agree).

## 5.5 Cross-Classification of the Survey Results

### 5.5.1 Long-term Strategic Planning

The respondents of the participating firms in both countries were asked to express their opinion on *long-term strategic planning as a phase* to the CB process. As shown in Table 5.15(a), respondents with a Bachelor degree in Australia mostly agree that *long-term strategic planning is an important phase* in CB decisions as compared to respondents with other degrees. While respondents with Bachelor/Honours in Sri Lanka significantly agree with above at the 5% level, as compared to those with other degrees. *An investment with an expected return below the required level may still be accepted because of non-cash benefits* is significantly agreed to by respondents with a Masters degree in Australia. This result is similar with those for the respondents with PhD in Sri Lanka. Table 5.15(b) shows those of the Australian firms, the statements with regard to long-term strategic planning were significantly agreed by middle-aged respondents (25-35 years) while all these statements received significant mean score among adult aged Sri Lankan respondents (35-55 years). The results in Table 5.15(c) indicate that Australian respondents (except those with over 16 years of experience) significantly agreed that *long-term strategic planning for investment is a substantial phase of CB practices*, while the Sri Lankan respondents except those with under five years of experience significantly agreed. In Australia, statements about long-term strategic planning were significantly agreed by junior (1-5 years) and middle (6-10 years) experienced respondents while middle (6-10) and high (11-15) experienced respondents, significantly agreed. As shown in Table 5.15(d), the significant convention with long-term strategic planning practices is clearly visible among consumer staples and consumer discretionary sectors in Australia while a comparable result observed among utilities, industrial, material, consumer staples, health care and consumer discretionary sectors in Sri Lanka. Table 5.16(e) shows that firms with 100-250 employees are

significantly more likely to agree on long-term strategic planning as a practice of CB process. All long-term strategic planning practices excluding *long term investment decisions are influenced by negotiations among associations* and are widely agreed by firms that have 250-500 employees in Sri Lanka. In Australia, only a few long-term strategic planning practices including *an investment whose expected return falls below the required level may still be accepted for intentional reasons, long-term investment decisions are influenced by negotiations among associations, a long-term investment will be accepted if its expected return meets the minimum requirements of return on investment and maximising the profit is the long-term goal* are preferred significantly by firms which have more than 500 employees. Table 5.15 (f) indicates that Australian and Sri Lankan firms with 40-80 percent of their revenues from their domestic market are more likely to agree with *long-term strategic planning as a substantial phase*. Whereas, *long-term investment decisions derive from an explicit corporate strategy* are most favoured by Australian firms except domestic-sales focused firms (>80). Table 5.15(g) illustrates, domestic-owned firms from Australia and Sri Lanka are more motivated to consent to the long-term strategic planning practices. Table 5.15(h) shows that there seems to be quite some differences with respect to agreeing with long-term strategic planning as a significant phase between moderate risk firms and other firms in both countries.



**Table 5.15-Long-term Strategic Planning vs. Firm and Its Respondent's Attributes**

**Table 5.15 (a)-Long-term Strategic Planning vs. Education Background (\*\* is significance level of 5 %)**

Long-term strategic planning (LSP)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
LSP is a significant phase	0	3.94**	3.92**	4.20	4.50	4.00	4.39**	4.36**	4.29	4.40
Invest decision drive from an corporate strategy	0	4.31**	3.92**	4.20	4.50	3.33	4.22**	4.36**	4.26	4.40
Invest decisions emerge through the formal planning process	0	3.81**	3.67	3.87	4.50	3.33	4.11**	4.07**	4.23	4.20
The evaluation is left to the decision of top level management	0	4.00**	3.58	4.13	4.00	4.00	3.67**	4.00**	3.90	4.00
LTI decision are influenced by negotiations among associations	0	3.31**	3.42	3.67	3.50	3.00	3.33**	3.79**	3.63	4.20
Financial evaluation often used in early analysis in investment	0	3.75**	3.50	3.73	5.00	3.67	3.50**	4.00**	3.73	3.80
Ex return falls below required level-may still be accepted	0	3.50**	3.58	3.07**	3.50	3.33	3.61**	3.57**	3.70	3.80**
Strategic invest decisions are influenced by competitors	0	3.88**	3.42	3.67	3.50	3.00	3.94**	3.79**	3.77	4.00
Accepted if it is ex return meets minimum returns on invest	0	3.13**	3.42	3.53	4.00	3.67	3.67**	3.71**	3.73	4.40
Maximising the profit is the long-term goal of the firms	0	3.69**	3.17	3.67	4.00	3.67	4.00**	4.07**	4.10	4.40

**Table 5.15 (b)-Long-term Strategic Planning vs. Age Group**

Long-term strategic planning (LSP)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
LSP is a significant phase	3.00	4.00**	4.05**	4.22	0.00	4.13**	4.24**	4.71**
Invest decision drive from an corporate strategy	5.00	4.07**	4.25**	4.11	0.00	3.75**	4.22**	4.50
Invest decisions emerge through the formal planning process	4.00	3.40**	3.90**	4.33	0.00	3.63**	4.18**	4.21
The evaluation is left to the decision of top level management	3.00	3.80**	4.20**	3.67	0.00	3.86**	3.90**	3.79
LTI decision are influenced by negotiations among associations	3.00	3.53**	3.50	3.33	0.00	4.00**	3.63**	3.21
Financial evaluation often used in early analysis in investment	4.00	3.60**	3.85**	3.67	0.00	4.00**	3.76**	3.43
Ex return falls below required level-may still be accepted	4.00	3.27**	3.35	3.56	0.00	2.86	3.78**	3.57
Strategic invest decisions are influenced by competitors	4.00	3.67**	3.65**	3.67	0.00	3.43	3.88**	3.71
Accepted if it is ex return meets minimum returns on invest	3.00	3.27**	3.40	3.56	0.00	3.14	3.86**	3.64
Maximising the profit is the long-term goal of the firms	4.00	3.53**	3.80	3.00	0.00	3.29	4.08**	4.21

**Table 5.15 (c)-Long-term Strategic Planning vs. Management Experience**

Long-term strategic planning (LSP)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
LSP is a significant phase	4.00**	4.07**	4.27**	3.78	4.50	4.00**	4.31**	4.41**
Invest decision drive from an corporate strategy	4.18**	4.14**	4.09**	4.33	4.00	3.90**	4.31**	4.25
Invest decisions emerge through the formal planning process	3.36**	3.71**	4.09**	4.22	3.50	3.70**	4.14**	4.28
The evaluation is left to the decision of top level management	3.73**	3.79**	4.18**	4.11	4.00	3.78**	3.93**	3.84
LTI decision are influenced by negotiations among associations	3.64**	3.50**	3.45	3.22**	4.00	3.89**	3.72**	3.34**
Financial evaluation often used in early analysis in investment	3.73**	3.71**	3.45	4.11	4.50	4.00**	3.48**	3.81
Ex return falls below required level-may still be accepted	3.09**	3.50**	3.82**	3.00	1.50	3.78**	3.69**	3.72
Strategic invest decisions are influenced by competitors	3.73**	3.64**	3.73	3.56	3.00	3.67**	3.79**	3.91
Accepted if it is ex return meets minimum returns on invest	3.55**	3.21**	3.18	3.67	2.50	3.56**	3.79**	3.84
Maximising the profit is the long-term goal of the firms	3.73**	3.64**	3.00	3.89	2.50	3.78**	4.00**	4.22

**Table 5.15 (d) -Long-term Strategic Planning vs. Industrial Sectors**

Long-term strategic planning (LSP)	Australia: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
LSP is a significant phase	4.00**	4.00	4.25	4.00	3.67**	4.20**	4.17	4.33**	3.83**
Invest decision drive from an corporate strategy	4.20**	4.50	4.25	4.00	4.17**	4.00**	4.67	3.67**	4.17**
Invest decisions emerge through the formal planning process	4.00**	3.50	4.00	3.67	3.83	3.70**	4.17	4.33**	3.33**
The evaluation is left to the decision of top level management	3.60**	4.50	4.50	4.00	4.00	3.90**	4.33	2.67**	3.83**
LTI decision are influenced by negotiations among associations	3.40**	3.50	3.50	4.00	3.00	3.50**	3.50	4.00	3.33**
Financial evaluation often used in early analysis in investment	3.60**	3.50	4.25	3.33	3.83	3.30**	4.33	3.33	4.00**
Ex return falls below required level-may still be accepted	3.60	4.00	3.00	3.33	3.50**	3.40**	3.00	3.00	3.67**
Strategic invest decisions are influenced by competitors	4.20**	4.00	3.75	3.00	3.67**	3.50**	3.67	4.33**	3.33**
Accepted if it is ex return meets minimum returns on invest	3.60**	4.00	4.00	3.00	3.33**	2.90**	4.00	3.67**	2.83**
Maximising the profit is the long-term goal of the firms	3.80**	4.00	4.25	3.33	4.00	2.90**	4.00	2.33	3.67**

Long-term strategic planning (LSP)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
LSP is a significant phase	5.00	5.00	4.50	4.33	4.25**	4.50**	4.13**	4.50**	4.00**
Invest decision drive from an corporate strategy	5.00	5.00	4.75	4.33	4.20**	4.36**	4.13**	4.38**	3.69**
Invest decisions emerge through the formal planning process	5.00	4.50	4.50	4.33	3.75**	4.36**	4.50**	4.38**	3.77**
The evaluation is left to the decision of top level management	3.00	4.00	4.25	3.67	3.68**	3.57**	4.25**	3.75**	4.31**
LTI decision are influenced by negotiations among associations	3.00	3.50	4.50	3.33	3.47**	3.36**	3.75**	3.50**	3.77**
Financial evaluation often used in early analysis in investment	2.00	3.50	4.00	3.67	3.68**	3.86**	3.88**	3.63**	3.69**
Ex return falls below required level-may still be accepted	3.00	3.50	4.00	3.67	3.53**	3.86**	3.13**	4.00**	3.69**
Strategic invest decisions are influenced by competitors	4.00	4.00	3.75	3.67	3.84**	3.57**	3.50**	4.13**	4.00**
Accepted if it is ex return meets minimum returns on invest	4.00	4.00	3.75	4.00	3.63**	3.57**	3.50**	4.00**	4.00**
Maximising the profit is the long-term goal of the firms	4.00	4.00	4.25	4.33	4.11**	4.07**	3.50**	4.13**	4.00**

**Table 5.15 (e)-Long-term Strategic Planning vs. Number of Employees**

Long-term strategic planning (LSP)	Australian Number of Employees				Sri Lankan Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
LSP is a significant phase	3.50	5.00	4.00	4.05	0.00	4.00**	4.58**	4.26
Invest decision drive from an corporate strategy	5.00	4.00	4.00	4.15	0.00	4.00**	4.58**	4.11
Invest decisions emerge through the formal planning process	3.50	4.00	4.00	3.83	0.00	3.86**	4.47**	4.02
The evaluation is left to the decision of top level management	4.50	5.00	4.00	3.88	0.00	4.00**	3.53**	4.00
LTI decision are influenced by negotiations among associations	3.50	4.00	3.00	3.48**	0.00	4.29**	3.21	3.63
Financial evaluation often used in early analysis in investment	4.00	3.00	4.50	3.70	0.00	4.00**	3.53**	3.76
Ex return falls below required level-may still be accepted	1.50	4.00	3.00	3.48**	0.00	4.14**	3.63**	3.59**
Strategic invest decisions are influenced by competitors	3.50	4.00	4.00	3.65	0.00	3.71**	3.79**	3.83
Accepted if it is ex return meets minimum returns on invest	4.50	3.00	4.00	3.30**	0.00	3.86**	3.74**	3.74
Maximising the profit is the long-term goal of the firms	4.00	4.00	5.00	3.45**	0.00	4.00**	4.05**	4.02

**Table 5.15 (f)-Long-term Strategic Planning vs. Domestic Income**

Long-term strategic planning (LSP)	Australian Domestic Focus				Sri Lankan Domestic Focus			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
LSP is a significant phase	3.33	3.75	3.90**	4.21	3.00	4.50	4.36**	4.34
Invest decision drive from an corporate strategy	4.67**	4.50**	4.10**	4.11	3.00	5.00	4.36**	4.17
Invest decisions emerge through the formal planning process	4.00	4.00	3.70	3.82	4.00	4.50	4.45**	3.96
The evaluation is left to the decision of top level management	4.00	4.25	4.10**	3.82	4.00	3.50	3.68**	3.98
LTI decision are influenced by negotiations among associations	3.00	3.25	3.50	3.54**	3.00	3.00	3.32	3.76
Financial evaluation often used in early analysis in investment	4.00	4.25	3.90	3.57	4.00	4.00	3.55**	3.78
Ex return falls below required level-may still be accepted	3.00	3.75**	3.00	3.50**	4.00	4.00	3.91**	3.50**
Strategic invest decisions are influenced by competitors	3.00	4.00	3.30	3.82	4.00	3.00	3.68**	3.89
Accepted if it is ex return meets minimum returns on invest	4.00	3.25	3.50	3.29**	4.00	3.50	3.68**	3.78
Maximising the profit is the long-term goal of the firms	4.00	4.50**	3.60	3.36	4.00	4.50	4.00**	4.02

**Table 5.15 (g)-Long-term Strategic Planning vs. Ownership**

Long-term strategic planning (LSP)	Australian Firm Ownership		Sri Lankan Firm Ownership	
	Domestic	Foreign	Domestic	Foreign
LSP is a significant phase	4.13**	4.00	4.31**	4.40**
Invest decision drive from an corporate strategy	4.10**	5.00	4.22**	4.20
Invest decisions emerge through the formal planning process	3.80**	4.00	4.09**	4.60**
The evaluation is left to the decision of top level management	3.83**	5.00	3.91**	3.40**
LTI decision are influenced by negotiations among associations	3.53**	3.50	3.61**	3.20
Financial evaluation often used in early analysis in investment	3.60**	5.00	3.72**	3.80**
Ex return falls below required level-may still be accepted	3.40**	2.00	3.63**	4.00
Strategic invest decisions are influenced by competitors	3.75**	3.00	3.82**	3.60**
Accepted if it is ex return meets minimum returns on invest	3.38**	4.00	3.75**	3.80**
Maximising the profit is the long-term goal of the firms	3.48**	3.50	4.03**	4.00**

**Table 5.15 (h)-Long-term Strategic Planning vs. Overall Risk Situation**

Long-term strategic planning (LSP)	Australian Overall Risk Situation				Sri Lankan Overall Risk Situation					
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
LSP is a significant phase	4.25	4.26	3.79**	4.00	0.00	0.00	4.00	4.45**	4.28**	4.00
Invest decision drive from an corporate strategy	4.25	4.21	4.16**	4.00	0.00	0.00	4.00	4.55**	4.09**	4.00
Invest decisions emerge through the formal planning process	4.25	3.79	3.84**	3.33	0.00	0.00	5.00	4.41**	4.00**	3.67
The evaluation is left to the decision of top level management	4.00	4.00	3.89**	3.67	0.00	0.00	5.00	3.68**	3.96**	3.67
LTI decision are influenced by negotiations among associations	3.75	3.63	3.26	3.33	0.00	0.00	5.00	3.59**	3.54**	3.67
Financial evaluation often used in early analysis in investment	4.00	3.68	3.84**	3.00	0.00	0.00	5.00	3.73**	3.70**	3.67
Ex return falls below required level-may still be accepted	3.00	3.53	3.26	3.67	0.00	0.00	1.00	3.86**	3.63**	3.33
Strategic invest decisions are influenced by competitors	4.25	3.63	3.53**	4.00	0.00	0.00	1.00	3.82**	3.87**	3.67
Accepted if it is ex return meets minimum returns on invest	3.25	3.26	3.53**	3.33**	0.00	0.00	1.00	3.77**	3.83**	3.33
Maximising the profit is the long-term goal of the firms	3.75	3.16	3.84**	4.00**	0.00	0.00	1.00	4.18**	4.04**	3.67

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.2 Search for Investment Opportunities

This section delivers an analysis of respondent insights on practices with respect to the search for investment opportunities in Australia and Sri Lanka. As shown in Table 5.16(a), *the search for investment opportunities as a phase* is more likely to be seen as important by respondents with Bachelor or Honours degree in Australia and Sri Lanka—the, search for investment opportunities’ statements is seen as being more important by respondents with a Bachelor degree over respondents with other degree in Australia. For Sri Lankan firms, all practices with regard to search for investment opportunities except for *a profitable investment is not just born; someone has to suggest it* were significantly agreed by respondents with bachelor degree. *The firm has research and development department constantly searching and researching into attractive investments and opportunities* that tend to agree more by respondents without diploma in Sri Lanka—this result is consistent with that of respondents with a Bachelor or Honours degree in Australia. Table 5.16(b) also shows that *the search for investment opportunities as a phase* is being applied mostly by young adult (25-35) or middle-aged (35-55) respondents in Australia, and is also true for over 25 years of age respondents in Sri Lanka. These practices received significantly higher mean scores among middle aged (25-35) respondents in Australia. These practices, except for *firm has research and development divisions constantly searching and researching into attractive investment opportunities*, are favoured by middle-age (25-35) respondents in Sri Lanka. The search for investment opportunities is a significant phase in the CB practices was most favoured by respondents with over 16 years of experience in Australia and over six years’ experience in Sri Lanka. Table 5.16 (c) indicates that respondents in Australia, with 1-10 years of experience, agreed significantly with all practices of search for investment opportunities, as compared to other respondents—this is true for those in Sri Lanka who have over 10 years of experience. Table 5.16(d) shows that,

in Australia, firms in utilities, consumer staples, health care, and consumer discretionary markets are more likely to agree with the need to search for investment opportunities. In Sri Lanka, firms in industrial, consumer staples, material, health care and consumer discretionary markets tended to agree with the need to search for investment opportunities. Table 5.16 (e) notes that firms in Australia with over 500 employees, mostly agree with all the practices for search for investment opportunities; except *the firm has research and development divisions constantly searching and researching into attractive investment opportunities*. Conversely small firms (100-250 employees) in Sri Lanka are more likely to agree to all of these practices; except *search for investment opportunities is a significant phase*. In addition Table 5.16(f) shows that respondents from firms with domestic income focus of under 20 or 40-80 percent, are significantly more likely to agree with the *search for investment opportunities as a significant phase* to CB practices. Sri Lankan firms with a domestic income focus of 40-80 percent are more likely to agree to the need to search for investment opportunities. As shown in Table 5.16(g), respondents in domestic-owned firms in Australia and Sri Lanka mostly agree with all the practices for search for investment opportunities, as compared to respondents from foreign-owned firms. Table 5.16 (h) reports that firms in Australia with moderate risk levels mostly agree with search of investment opportunities as a significant phase, as compared to the other firms. While Sri Lankan firms with moderate and lower risk levels mostly agree with *search of investment opportunities as a significant phase*, as compared to the other firms.

**Table 5.16-Search for Investment Opportunities vs. Firm and Its Respondent's Attributes**

**Table 5.16 (a)-Search for Investment Opportunities vs. Education Background (\*\* is significance level of 5 %)**

Search for investment opportunities (SIO)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
The search for investment opportunities is a significant phase	0.00	4.13**	4.25**	4.40	4.50	3.00	4.33**	4.21**	4.16	4.00
The firm has a formal process for searching opportunities	0.00	4.06**	3.92**	3.87	5.00	2.67	4.17**	4.29**	4.19	3.60
Vision may be changed to accommodate beneficial investments	0.00	3.38**	3.75	3.80	3.00	3.00	3.28**	3.71**	3.58**	3.20
If excellent opportunity presents -strategy may be changed	0.00	3.38**	3.50	3.67	3.50	3.33	2.94**	3.07	3.29**	3.20
The firm has R& D divisions constantly investments	0.00	3.56**	3.92**	3.60	3.50	3.67	3.56**	3.64**	3.35**	3.00**
Firm should find alternatives before tune the final decision	0.00	3.56**	3.67	3.73	4.50	3.00	3.78**	3.79**	3.65	3.40**
A investment is not just born; someone has to suggest it	0.00	3.44**	3.33	3.40	3.00	3.67	5.33	3.71	3.65**	3.80
The rewards is significant tool for identifying investments	0.00	2.94**	3.25	3.80	3.50	3.33	3.50**	3.93**	3.35**	3.60**
Investments are identified by top level management.	0.00	3.06**	3.50	3.47	4.50	4.67**	3.50**	4.21**	3.97	4.00
The firm should ensure it has identified profitable investment	0.00	3.63**	3.92**	3.60	4.00	4.67**	3.67**	4.00**	3.77	3.80**

**Table 5.16 (b)-Search for Investment Opportunities vs. Age**

Search for investment opportunities (SIO)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
The search for investment opportunities is a significant phase	5.00	4.20**	4.30**	4.22	0.00	4.13**	3.98**	4.64**
The firm has a formal process for searching opportunities	4.00	3.93**	4.05**	4.00	0.00	4.00**	4.02**	4.43
Vision may be changed to accommodate beneficial investments	5.00	3.53**	3.75**	3.22	0.00	4.13**	3.41**	3.43**
If excellent opportunity presents -strategy may be changed	5.00	3.53**	3.45	3.44	0.00	3.75**	3.20	2.71**
The firm has R& D divisions constantly investments	5.00	4.00**	3.30	3.78	0.00	3.38	3.37**	3.71
Firm should find alternatives before tune the final decision	5.00	3.67**	3.60	3.78	0.00	3.75**	3.65**	3.64
A investment is not just born; someone has to suggest it	5.00	3.27**	3.45	3.22**	0.00	3.75**	3.71**	5.57
The rewards is significant tool for identifying investments	4.00	3.47**	3.30	3.11	0.00	3.75**	3.53**	3.36
Investments are identified by top level management.	5.00	3.27**	3.35	3.44	0.00	3.88**	3.90**	4.00
The firm should ensure it has identified profitable investment	5.00	3.40**	3.70**	4.11	0.00	4.13**	3.75**	3.93



**Table 5.16 (c)-Search for Investment Opportunities vs. Management Experience**

Search for investment opportunities (SIO)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
The search for investment opportunities is a significant phase	4.18**	4.29**	4.36**	4.22	4.00	3.70**	4.00**	4.38**
The firm has a formal process for searching opportunities	3.82**	4.00**	4.09**	4.11	4.00	4.00**	3.93**	4.28
Vision may be changed to accommodate beneficial investments	3.55**	3.86**	3.64	3.22	4.50	4.00**	3.34	3.41**
If excellent opportunity presents -strategy may be changed	3.45**	3.50**	3.55	3.56	4.50	3.70**	3.07	3.00**
The firm has R& D divisions constantly investments	3.82**	3.86**	3.55	3.33	4.00	3.30**	3.38	3.50**
Firm should find alternatives before tune the final decision	3.36**	3.90**	4.00**	3.33	4.50	3.70**	3.66**	3.59**
A investment is not just born; someone has to suggest it	3.55**	3.36**	3.09	3.56	4.50	3.80**	3.66**	4.50
The rewards is significant tool for identifying investments	3.64**	3.21**	3.36	3.11	4.00	3.80**	3.62**	3.31**
Investments are identified by top level management.	3.36**	3.36**	3.36	3.44	4.50	4.00**	3.93**	3.84
The firm should ensure it has identified profitable investment	3.45**	3.50**	4.00**	4.00	4.50	4.10**	3.76**	3.75**

**Table 5.16 (d)-Search for Investment Opportunities vs. Industry Sectors**

Search for investment opportunities (SIO)	Australia: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The search for investment opportunities is a significant phase	4.40**	4.50	4.25	4.00	4.00	4.30**	4.67**	4.33**	4.00**
The firm has a formal process for searching opportunities	4.00**	4.50	4.50	3.67	3.83**	3.70**	4.33**	4.33**	3.83**
Vision may be changed to accommodate beneficial investments	4.40**	4.00	3.75	4.00	3.17**	3.70**	3.00**	3.33**	3.50**
If excellent opportunity presents -strategy may be changed	3.80**	4.00	3.75	3.33	2.83**	3.40**	3.33**	3.67**	4.00**
The firm has R& D divisions constantly investments	4.00**	4.50	4.00	2.33	3.50	3.70**	3.33**	4.00**	3.83**
Firm should find alternatives before tune the final decision	3.40**	5.00	4.00	2.67	3.33**	4.10**	3.33**	4.33**	3.50**
A investment is not just born; someone has to suggest it	3.60**	4.00	4.00	2.67	3.67**	3.10**	3.83**	3.33**	2.67**
The rewards is significant tool for identifying investments	3.40**	4.50	3.50	3.00	2.83**	3.40**	4.00**	3.00**	2.83**
Investments are identified by top level management.	3.80**	3.00	4.25	3.00	3.00**	3.30**	3.67**	4.00**	2.67**
The firm should ensure it has identified profitable investment	3.80**	3.50	4.00	3.33	3.67**	4.00**	4.00**	4.00**	2.83**

Search for investment opportunities (SIO)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The search for investment opportunities is a significant phase	5.00	5.00	4.50	4.67	3.85**	4.36**	4.50**	4.25**	3.54**
The firm has a formal process for searching opportunities	5.00	5.00	4.50	4.00	4.00**	4.29**	4.50**	4.13**	3.46**
Vision may be changed to accommodate beneficial investments	3.00	3.50	4.25	3.00	3.65**	3.50**	3.63**	3.25**	3.23**
If excellent opportunity presents -strategy may be changed	2.00	2.50	3.75	3.00	3.35**	2.93**	3.25**	2.88**	3.31**
The firm has R& D divisions constantly investments	4.00	3.50	3.75	3.67	3.30**	3.36**	3.50**	3.75**	3.31**
Firm should find alternatives before tune the final decision	4.00	4.00	3.75	3.67	3.70**	3.57**	3.88**	4.00**	3.23**
A investment is not just born; someone has to suggest it	3.00	4.00	3.50	4.00	3.85**	3.29**	3.88**	3.63**	5.92
The rewards is significant tool for identifying investments	2.00	3.50	4.75	3.67	3.45**	3.21**	3.25**	4.00**	3.54**
Investments are identified by top level management.	3.00	3.50	4.50	4.33	3.80**	3.86**	4.00**	4.13**	3.85**
The firm should ensure it has identified profitable investment	3.00	3.50	4.25	4.00	3.75**	3.79**	3.63**	4.00**	3.92**

**Table 5.16 (e)-Search for Investment Opportunities vs. Number of Employees**

Search for investment opportunities (SIO)	Australian Number of Employees				Sri Lankan Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
The search for investment opportunities is a significant phase	5.00	4.00	4.00	4.25	0.00	3.57	4.53**	4.04
The firm has a formal process for searching opportunities	4.00	4.00	4.00	4.00**	0.00	3.86**	4.37**	4.02
Vision may be changed to accommodate beneficial investments	4.00	4.00	3.00	3.60**	0.00	3.57**	3.32	3.55**
If excellent opportunity presents -strategy may be changed	5.00	3.00	2.00	3.53**	0.00	3.43**	2.95	3.21**
The firm has R& D divisions constantly investments	4.50	4.00	4.00	3.60	0.00	3.29**	3.53**	3.43**
Firm should find alternatives before tune the final decision	3.00	5.00	3.50	3.70**	0.00	3.14**	3.79**	3.68**
A investment is not just born; someone has to suggest it	4.50	4.00	4.00	3.28**	0.00	3.43**	3.68**	4.32
The rewards is significant tool for identifying investments	4.50	3.00	2.50	3.33**	0.00	4.14**	3.42	3.47**
Investments are identified by top level management.	3.50	3.00	3.50	3.38**	0.00	4.00**	3.79**	3.96
The firm should ensure it has identified profitable investment	3.50	3.00	4.00	3.73**	0.00	4.14**	3.68**	3.83

**Table 5.16 (f)-Search for Investment Opportunities vs. Domestic Income**

Search for investment opportunities (SIO)	Australian Domestic Focus				Sri Lankan Domestic Focus			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
The search for investment opportunities is a significant phase	4.67**	4.00	4.10**	4.32	4.00	4.00	4.18**	4.11
The firm has a formal process for searching opportunities	4.00	3.75**	4.10**	4.00	4.00	4.50	4.32**	3.98
Vision may be changed to accommodate beneficial investments	3.33	3.25	3.90**	3.57**	4.00	3.50	3.27	3.57**
If excellent opportunity presents -strategy may be changed	4.00	3.00	3.40	3.57	4.00	3.00	2.86	3.28**
The firm has R& D divisions constantly investments	3.33	3.50	3.40	3.82	3.00	3.50	3.55**	3.40**
Firm should find alternatives before tune the final decision	3.00	3.75	3.50	3.82	4.00	3.50	3.64**	3.66**
A investment is not just born; someone has to suggest it	3.00	4.25	3.20	3.36**	4.00	3.50	3.50	4.36
The rewards is significant tool for identifying investments	3.33	2.75	3.60	3.32**	3.00	3.00	3.32	3.66**
Investments are identified by top level management.	3.00	3.50	3.20	3.46**	4.00	4.00	3.68**	4.02
The firm should ensure it has identified profitable investment	3.33	4.00	3.40	3.82	4.00	4.00	3.64**	3.89

**Table 5.16 (g)-Search for Investment Opportunities vs. Ownership**

Search for investment opportunities (SIO)	Australian Firm Ownership		Sri Lankan Firm Ownership	
	Domestic	Foreign	Domestic	Foreign
The search for investment opportunities is a significant phase	4.28**	4.50	4.09**	4.60**
The firm has a formal process for searching opportunities	4.00**	4.00	4.07**	4.40**
Vision may be changed to accommodate beneficial investments	3.63**	4.00	3.49**	3.40**
If excellent opportunity presents -strategy may be changed	3.50**	4.50	3.18**	3.00
The firm has R& D divisions constantly investments	3.80**	3.50	3.48**	3.20
Firm should find alternatives before tune the final decision	3.83**	3.00	3.67**	3.60
A investment is not just born; someone has to suggest it	3.40**	3.00	4.13**	3.20
The rewards is significant tool for identifying investments	3.35**	4.00	3.57**	2.80**
Investments are identified by top level management.	3.40**	3.50	3.94**	3.60**
The firm should ensure it has identified profitable investment	3.70**	4.00	3.82**	3.80**

**Table 5.16 (h)-Search for Investment Opportunities vs. Overall Risk Situation**

Search for investment opportunities (SIO)	Australian Overall Risk Situation					Sri Lanka Overall Risk Situation				
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
The search for investment opportunities is a significant phase	4.50	4.32	4.21**	4.00	0.00	0.00	3.00	4.17**	4.18**	4.00
The firm has a formal process for searching opportunities	4.25	3.89	4.11**	3.67	0.00	0.00	4.00	4.06**	4.18**	4.00
Vision may be changed to accommodate beneficial investments	4.00	3.68	3.37	4.00	0.00	0.00	3.33	3.47**	3.55**	4.00
If excellent opportunity presents -strategy may be changed	4.25	3.63	3.26	3.33	0.00	0.00	3.00	3.15	3.18**	4.00
The firm has R& D divisions constantly investments	4.25	3.74	3.47	3.67	0.00	0.00	3.33	3.38**	3.59**	3.00
Firm should find alternatives before tune the final decision	4.50	3.84	3.37	3.67	0.00	0.00	4.00	3.55**	3.82**	4.00
A investment is not just born; someone has to suggest it	3.75	3.05**	3.53**	4.00	0.00	0.00	4.00	3.66**	4.95	4.00
The rewards is significant tool for identifying investments	3.50	3.26**	3.32	3.67	0.00	0.00	3.67	3.51**	3.55**	3.00
Investments are identified by top level management.	3.50	3.32**	3.37	3.67	0.00	0.00	4.00	3.85**	4.00**	5.00
The firm should ensure it has identified profitable investment	4.00	3.47	3.89**	3.67	0.00	0.00	3.67	3.79**	3.91**	4.00

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.3 Review and Screening

The respondents are questioned on their agreement regarding their views on review and screening as a phase in CB process. As shown in Table 5.17(a), review and screening practices as a phase is considered important by respondents with a Bachelor degree in Australia and Sri Lanka compared to other educational background. *Review and screening of investment is a substantial phase* in the CB practice was significantly agreed by respondents with a Bachelor or Honours degree in Australia. This result is consistent with Sri Lankan firms. Table 5.17 (b) shows that respondents who mostly agree with the long-term strategic planning practices are more prevalent in middle-age (25-35) group as compared to the other respondents. Conversely all these practices except the firm has written investment screening guidelines for investment decisions received significant support among respondents who are in the young adult category (25-35) in Sri Lanka. As shown in Table 5.17(c), review and screenings' practices as a phase received a significant level of agreement among respondents who have 1-10 years of experience in Australia—this result is similar to that of the respondents with 6-10 years of experience in Sri Lanka. Well experienced (>16 years) respondents in Australia did not significantly agree with the review and screening practices as a phase in CB compared to other respondents—experienced respondents (>16 years) in Sri Lanka appear to agree slightly more. The results in Table 5.17(d) reveal that practices with respect to review and screenings are significantly preferred by Australian industrial sectors excluding information, energy and industrial sectors. This result is similar to that of the respondents in Sri Lanka working in industrial, consumer staples, materials, health care and consumer discretionary markets. Table 5.17(e) presents review and screenings practices as a phase are significantly more likely to agree by respondents that belong to the medium size firm (100-500 employees) in Sri Lanka. Though there is no significant difference in the use of review and screenings as a phase in

CB among Australian firms in terms of firm size compared with Sri Lanka. Table 5.17(f) reports that firms with a 20-80 percent focus in domestic markets in Australia considered that review and screenings practice is a phase most significantly preferred in CB practices compared with other firms. However the results reveal that Sri Lankan firms that belong to the 40 to 80 domestic incomes favoured with review and screenings practices as a phase than other firms. As shown in Table 5.17(g), review and screenings practices as a process of CB is significantly agreed by domestic owned companies in Australia whereas this is true for those in Sri Lanka. In addition the respondents from foreign owned companies in Sri Lanka considered that these practices are highly significant as shown by the mean scores *except firms have written investment screening guidelines for investment decisions*. Table 5.17(h) shows that the moderate level risk firms are significantly more likely to agree on review and screenings as a practice in CB in Australia whereas this result is consistent with those for the lower risk firms in Sri Lanka. The results also reveal that there seems to be no significant difference with long-term strategic planning as a significant phase between very high risk firms in both countries.

**Table 5.17- Review and Screening vs. Firm and Its Respondent's Attributes****Table 5.17 (a)-Review and Screening vs. Education Background (\*\* is significance level of 5 %)**

Review and screening (RAS)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
The review and screening is a substantial phase	0.00	3.88**	4.00**	4.13	4.50	3.33	3.89**	3.86**	3.71	4.20
The firm has process for screening accordance with invest goals	0.00	3.88**	4.00**	4.33	4.00	3.33	3.83**	4.07**	3.74	4.00
The firm has written investment screening guidelines	0.00	3.88**	3.67**	3.80	4.00	3.00	2.94**	2.71	2.87**	3.60
The investment's review throughout the entire budgeting	0.00	3.56**	3.75**	3.87	4.50	3.00	3.39**	3.14	3.48**	4.00
Investment are subjected to a preliminary screening process	0.00	4.00**	3.50	3.80	4.00	3.00	3.78**	3.50	3.52**	3.80
There exist proper processes where pathetic ones are sorted out	0.00	3.63**	4.00**	3.93	4.00	3.33	3.67**	3.50**	3.74	4.20
The screening involves some preliminary quantitative analysis	0.00	3.38**	3.58	3.60	4.00	3.33	3.89**	3.57	3.74	4.20
The firm has an established review staff /board for screening	0.00	3.63**	3.08	3.60	4.00	3.00	3.78**	3.86**	3.97	4.40
This phase decision clearly affects the success or failure	0.00	3.50**	3.25	3.40	3.50	3.33	4.00**	3.79**	3.97	4.20
The firm has regular and pre -decided procedures for review	0.00	3.31**	3.42	3.67	4.00	3.00	3.72**	3.79**	3.65	4.40

**Table 5.17 (b)-Review and Screening vs. Age**

Review and screening (RAS)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
The review and screening is a substantial phase	4.00	4.07**	4.00**	4.00	0.00	4.00**	3.73**	4.00
The firm has process for screening accordance with invest goals	4.00	4.07**	4.10**	4.00	0.00	4.00**	3.78**	3.86
The firm has written investment screening guidelines	5.00	3.60**	3.90**	3.78	0.00	3.38	2.98	2.36**
The investment's review throughout the entire budgeting	4.00	3.73**	3.75**	3.78	0.00	3.88**	3.45**	3.00**
Investment are subjected to a preliminary screening process	5.00	3.60**	3.85**	3.89	0.00	3.88**	3.65**	3.21**
There exist proper processes where pathetic ones are sorted out	3.00	3.80**	3.85**	4.00	0.00	3.88**	3.82**	3.14**
The screening involves some preliminary quantitative analysis	4.00	3.47**	3.50	3.67	0.00	3.38**	3.88**	3.64
The firm has an established review staff /board for screening	4.00	3.60**	3.60**	3.00	0.00	4.00**	3.86**	3.79
This phase decision clearly affects the success or failure	5.00	3.27**	3.55	3.11	0.00	4.50**	3.82**	3.93
The firm should ensure it has identified profitable investment	4.00	3.27**	3.75**	3.22	0.00	3.63**	3.73**	3.71

**Table 5.17 (c)-Review and Screening vs. Experience**

Review and screening (RAS)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
The review and screening is a substantial phase	3.91**	4.14**	4.09**	3.89	3.50	3.80**	3.72**	3.91
The firm has process for screening accordance with invest goals	4.00**	4.2**	3.82**	4.22	4.00	4.10**	3.69**	3.84
The firm has written investment screening guidelines	3.55**	3.79**	3.73**	4.22	4.00	3.60**	2.76	2.75**
The investment's review throughout the entire budgeting	3.55**	3.79**	3.91**	3.78	4.00	3.80**	3.31	3.34**
Investment are subjected to a preliminary screening process	3.45**	3.71**	3.82**	4.33	4.00	3.80**	3.55**	3.53**
There exist proper processes where pathetic ones are sorted out	3.64**	3.86**	3.82**	4.11	4.50	3.90**	3.76**	3.53**
The screening involves some preliminary quantitative analysis	3.18**	3.64**	3.55	3.78	4.00	3.70**	3.86**	3.72
The firm has an established review staff /board for screening	3.73**	3.29**	3.64	3.33	4.50	4.00**	3.83**	3.81
This phase decision clearly affects the success or failure	3.36**	3.43**	3.00	3.89	5.00	4.20**	3.76**	3.91
The firm should ensure it has identified profitable investment	3.36**	3.50**	3.00	4.22	3.50	3.70**	3.62**	3.81

**Table 5.17 (d)-Review and Screening vs. Industry Sectors**

Review and screening (RAS)	Australia: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The review and screening is a substantial phase	3.60**	3.50	4.50	4.00	3.67**	4.20**	3.83**	4.00**	4.50**
The firm has process for screening accordance with invest goals	4.20**	4.00	4.25	4.67	3.67**	3.90**	4.17**	4.33**	4.00**
The firm has written investment screening guidelines	4.00**	3.50	4.25	3.67	3.67**	3.80**	4.00**	3.67**	3.50**
The investment's review throughout the entire budgeting	3.80**	3.50	4.00	4.00	3.17**	4.00**	4.00**	3.67**	3.50**
Investment are subjected to a preliminary screening process	3.80**	3.00	4.25	3.67	3.83**	3.40**	4.17**	4.67**	3.67**
There exist proper processes where pathetic ones are sorted out	3.40**	3.50	4.00	3.67	3.67**	3.90**	4.33**	4.00**	3.83**
The screening involves some preliminary quantitative analysis	3.20**	4.00	4.50	2.67	3.33**	3.60**	3.83**	3.67**	3.17**
The firm has an established review staff /board for screening	3.60**	4.00	3.75	3.00	3.33**	3.60**	4.17**	3.00**	2.83**
This phase decision clearly affects the success or failure	3.00**	3.50	4.25	2.33	3.50**	3.20**	4.17**	3.00**	3.33**
The firm should ensure it has identified profitable investment	3.00**	3.50	4.50	3.33	3.33**	3.20**	3.50**	4.33**	3.50**



Review and screening (RAS)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The review and screening is a substantial phase	4.00	4.00	4.00	4.00	3.55**	4.07**	3.75**	3.88**	3.77**
The firm has process for screening accordance with invest goals	4.00	4.00	4.00	4.00	3.60**	4.00**	4.13**	4.00**	3.54**
The firm has written investment screening guidelines	2.00	2.50	4.00	2.67	2.90**	2.86**	2.75**	2.50**	3.15**
The investment's review throughout the entire budgeting	3.00	3.00	4.25	3.67	3.30**	3.36**	3.38**	3.38**	3.46**
Investment are subjected to a preliminary screening process	3.00	3.00	4.50	3.67	3.55**	3.29**	3.50**	3.50**	3.92**
There exist proper processes where pathetic ones are sorted out	3.00	3.00	4.00	3.67	3.55**	3.64**	3.88**	3.38**	4.15**
The screening involves some preliminary quantitative analysis	4.00	4.00	3.75	4.00	3.70**	3.71**	3.75**	3.75**	3.92**
The firm has an established review staff /board for screening	4.00	4.00	4.25	4.00	3.70**	4.07**	4.13**	3.75**	3.62**
This phase decision clearly affects the success or failure	4.00	4.00	4.00	4.00	3.85**	4.14**	3.88**	3.88**	3.77**
The firm should ensure it has identified profitable investment	4.00	4.00	4.00	4.00	3.45**	3.93**	3.63**	3.75**	3.69**

**Table 5.17 (e)-Review and Screening vs. Number of Employees**

Review and screening (RAS)	Australian Number of Employees				Sri Lankan Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
The review and screening is a substantial phase	4.50	4.00	4.00	4.00	0.00	4.14**	3.79**	3.77
The firm has process for screening accordance with invest goals	4.50	3.00	4.00	4.08	0.00	4.43**	3.79**	3.74**
The firm has written investment screening guidelines	4.00	4.00	4.00	3.78	0.00	3.57**	2.63**	2.91**
The investment's review throughout the entire budgeting	4.00	5.00	3.00	3.75	0.00	3.43**	3.37**	3.43**
Investment are subjected to a preliminary screening process	4.00	3.00	4.50	3.78	0.00	3.86**	3.42**	3.62**
There exist proper processes where pathetic ones are sorted out	4.50	4.00	4.00	3.80	0.00	4.00**	3.42**	3.77**
The screening involves some preliminary quantitative analysis	3.50	4.00	4.00	3.50**	0.00	3.71**	3.74**	3.81**
The firm has an established review staff /board for screening	3.50	4.00	4.00	3.45**	0.00	4.00**	3.68**	3.91
This phase decision clearly affects the success or failure	4.00	4.00	4.50	3.30**	0.00	3.86**	3.63**	4.04
The firm should ensure it has identified profitable investment	2.50	4.00	4.50	3.48**	0.00	4.14**	3.79**	3.77**

**Table 5.17 (f)-Review and Screening vs. Domestic Income**

Review and screening (RAS)	Australian Domestic Focus				Sri Lankan Domestic Focus			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
The review and screening is a substantial phase	4.00	3.75**	3.80**	4.14	4.00	4.00	3.86**	3.77
The firm has process for screening accordance with invest goals	4.00	3.75**	4.20**	4.07	4.00	4.00	3.86**	3.79**
The firm has written investment screening guidelines	4.00**	4.25**	4.00**	3.64**	3.00	3.50	2.68	2.98**
The investment's review throughout the entire budgeting	3.67	3.50**	3.90**	3.75	3.00	3.00	3.36**	3.47**
Investment are subjected to a preliminary screening process	3.67**	4.25**	3.90**	3.71	4.00	3.50	3.50**	3.62**
There exist proper processes where pathetic ones are sorted out	4.00	3.75**	3.70**	3.89	4.00	3.50	3.64**	3.72**
The screening involves some preliminary quantitative analysis	2.67**	4.00	3.40	3.61**	4.00	4.00	3.73**	3.79
The firm has an established review staff /board for screening	3.33	4.00	3.40	3.46**	4.00	4.00	3.95**	3.81
This phase decision clearly affects the success or failure	3.67**	4.25**	2.90	3.43**	4.00	4.00	3.82**	3.96
The firm should ensure it has identified profitable investment	3.00**	4.00	3.60**	3.43**	3.00	4.00	3.86**	3.66**

**Table 5.17 (g)-Review and Screening vs. Ownership**

Review and screening (RAS)	Australian Firm Ownership		Sri Lankan Firm Ownership	
	Domestic	Foreign	Domestic	Foreign
The review and screening is a substantial phase	4.00**	5.00	3.76**	4.20**
The firm has process for screening accordance with invest goals	4.03**	5.00	3.81**	4.20**
The firm has written investment screening guidelines	3.75**	4.50	2.91**	3.00
The investment's review throughout the entire budgeting	3.78**	4.50	3.40**	3.40**
Investment are subjected to a preliminary screening process	3.73**	4.50	3.58**	3.60**
There exist proper processes where pathetic ones are sorted out	3.80**	4.00	3.70**	3.80**
The screening involves some preliminary quantitative analysis	3.50**	3.50	3.79**	3.80**
The firm has an established review staff /board for screening	3.48**	3.50	3.85**	4.20**
This phase decision clearly affects the success or failure	3.35**	3.00	3.91**	4.00**
The firm should ensure it has identified profitable investment	3.43**	4.00	3.72**	3.80**

**Table 5.17 (h)-Review and Screening vs. Overall Risk Situation**

Review and screening (RAS)	Australian Overall Risk Situation				Sri Lankan Overall Risk Situation					
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
The review and screening is a substantial phase	4.50	4.26	3.68**	4.00	0.00	0.00	2.67	3.85**	3.95**	2.00
The firm has process for screening accordance with invest goals	4.00	4.26	3.89**	4.00	0.00	0.00	4.00	3.74**	3.91**	5.00
The firm has written investment screening guidelines	3.75	3.89	3.79**	3.33	0.00	0.00	3.33	2.77	3.14**	3.00
The investment's review throughout the entire budgeting	4.00	4.00	3.47**	3.67**	0.00	0.00	3.33	3.32**	3.55**	5.00
Investment are subjected to a preliminary screening process	4.25	3.63	3.95**	3.33	0.00	0.00	3.00	3.66**	3.55**	3.00
There exist proper processes where pathetic ones are sorted out	4.25	3.79	3.84**	3.67**	0.00	0.00	3.67	3.70**	3.64**	5.00
The screening involves some preliminary quantitative analysis	4.00	3.47**	3.53**	3.33	0.00	0.00	4.00	3.83**	3.68**	3.00
The firm has an established review staff /board for screening	3.50**	3.47**	3.53**	3.33	0.00	0.00	4.00	3.77**	4.00**	5.00
This phase decision clearly affects the success or failure	3.50	3.11**	3.63**	3.67**	0.00	0.00	3.67	3.96**	3.82**	5.00
The firm should ensure it has identified profitable investment	3.25	3.42**	3.53**	4.00	0.00	0.00	3.33	3.70**	3.82**	3.00

\*\* denotes a significantly different from zero at the 5 % level

#### 5.5.4 Accept/Reject Decision

This section explores the views of respondents on the importance of the accept/reject decision as a phase of the CB process. As shown in Table 5.18(a), respondents without a PhD rely to some extent on the accept/reject decision as a phase of CB process in Australia and Sri Lanka. In Australia the highest mean score for this phase is 4.18 among respondents who hold an Honours degree. This result is quite similar for Sri Lanka. For Australian firms, an accept/reject decision practices are more popular among respondents with a Bachelor degree, whereas, the accept/reject decision practice is consistently popular among respondents with Diploma, Bachelor or Honours degree in Sri Lanka. Compared to the Australian respondents with a PhD, Sri Lankan respondents with a PhD consider *future cash flow, market share, business development, risk position, environmental factors and competitive advantage* significantly more useful to their accept/reject decision. Table 5.18(b) shows young adult respondents (25-35) are more likely to apply all the factors in line with accept/reject decisions than other age clusters in Australia. In Sri Lanka, these factors are considered more by young adult (25-35) or middle age (35-55) respondents. *Risk position, environmental factors, and competitive advantage* are favoured mostly by the mature respondents in Australia, while *quantitative analysis judgment, business expansion, disposable expenses and consistency with corporate strategy* tend to be used more by mature respondents in Australia than other factors. The results in Table 5.18(c) show less experienced (1-10) Australian respondents are likely to consider all these factors for their accept/reject decision—this result is consistent with those for the 6-15 years experienced respondents in Sri Lanka. All these practices except *consistency with corporate strategy, improved market image, competitive position and ability to expand in the future* are also consistently more popular among highly experienced (>16) Sri Lankan respondents over respondents in Australia. Table 5.18(d) illustrates that these proxies are the most widely

considered by firms in utilities, consumables, materials, and consumer discretionary markets for finalising the accept/reject decision—in Sri Lanka, all of these factors are a significant part of the accept/reject decision for firms in the industrial, consumables, materials, health care and consumer discretionary markets. There is no obvious difference between energy sectors in Australia and Sri Lanka in terms of the accept/reject decision. As shown in Table 5.18(e), accept/reject decision practices are significantly employed by Sri Lankan firms (100 – 500 employees). The table also indicates that large Sri Lanka firms (>500 employees) are more motivated to apply all the factors of the accept/reject decision excluding *consistency with corporate strategy, improved market image and improved competitive position*. In contrast to the Australian firms, however, only large Sri Lankan firms (>500 employees) consider accept/reject decision as a major phase for the CB process. Also, these Sri Lankan firms are more likely to consider *quantitative analysis, environmental factors and disposable expenses* in their investment selection. Table 5.18(f) shows that Sri Lankan domestic focused firms (40-80 percent) are more likely to consider all the factors concerning accept/reject decisions. While, highly focused Sri Lankan domestic firms (>80 percent) are more inclined to consider all these elements except *improved market image and improved competitive position* for decision. The results in Table 5.18(g) explain that Australian domestic-owned firms are more likely to use a more complete range of factors when making long-term CB decisions. This result is consistent with Sri Lankan firms. Table 5.18 (h) shows that respondents who mostly agree on the accept/reject factors are more prevalent in firms with moderate to lower-risk position, as compared to the other firms. While in Australia, high-risk firms are more likely to consider *competitive advantage and market share* in their long-term CB decisions.

**Table 5.18-Accept/Reject Decisions vs. Firm and Its Respondent's Attributes****Table 5.18 (a)-Accept/Reject Decisions vs. Education Background (\*\* is significance level of 5 %)**

Accept/reject decisions (ADR)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
The accept/reject decision is an important phase	0.00	4.56**	4.58**	4.53**	4.50	4.00**	4.50**	4.57**	4.45**	4.40
Quantitative analysis judgment	0.00	4.06**	4.25**	4.13	4.00	4.00**	4.44**	4.43**	4.42**	4.40
Consistency with corporate strategy	0.00	4.00**	4.25**	4.13	4.00	4.33**	4.11**	4.43**	4.32**	4.40
Improved market image for the firm	0.00	3.81**	4.33**	4.33	4.00	4.33**	3.89**	3.57**	3.97	4.20
Improved competitive position	0.00	3.94**	4.17**	4.13	4.00	4.33**	3.83**	3.64**	3.90	4.20
The ability to expand in the future	0.00	4.13**	4.25**	3.93	4.50	4.00**	3.89**	3.79**	3.87	3.80**
Increased market share	0.00	3.75**	3.67**	3.73	3.50	4.33**	3.72**	3.79**	3.77**	3.80**
Business expansion/development	0.00	4.00**	3.83**	3.73	3.50	3.67**	3.89**	3.50**	3.71**	3.40**
Increased saving from disposable expenses	0.00	3.50**	3.75	3.53	4.00	3.67**	3.67**	3.57**	3.52**	3.20**
Risk position	0.00	3.50**	3.67	3.73	4.00	4.00**	3.78**	3.71**	3.71	3.20**
Environmental factors	0.00	3.38**	3.50	3.33	4.00	4.00**	3.67**	3.71**	3.71	3.60**
Competitive advantage	0.00	3.75**	3.33	3.60	3.50	3.67**	3.78**	3.93**	3.65**	3.60**

**Table 5.18 (b)-Accept/Reject Decisions vs. Age**

Accept/reject decisions (ADR)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
The accept/reject decision is an important phase	5.00	4.67**	4.55**	4.33	0.00	4.63**	4.49**	4.29
Quantitative analysis judgment	4.00	3.93**	4.20**	4.33	0.00	4.38**	4.41**	4.36**
Consistency with corporate strategy	4.00	4.07**	4.10**	4.22	0.00	3.88**	4.33**	4.36**
Improved market image for the firm	5.00	4.33**	4.05**	3.89	0.00	4.25**	3.80**	4.00
Improved competitive position	5.00	4.13**	4.10**	3.78	0.00	4.13**	3.76**	4.07
The ability to expand in the future	5.00	3.93**	4.15**	4.22	0.00	4.25**	3.75**	4.00
Increased market share	4.00	4.07**	3.65**	3.22	0.00	4.13**	3.71**	3.86
Business expansion/development	5.00	3.93**	3.85**	3.56	0.00	4.13**	3.69**	3.50**
Increased saving from disposable expenses	3.00	3.93**	3.40	3.56	0.00	3.63**	3.53**	3.57**
Risk position	3.00	3.80**	3.70**	3.33**	0.00	4.13**	3.65**	3.57
Environmental factors	2.00	3.73**	3.45	3.00**	0.00	4.13**	3.59**	3.79
Competitive advantage	5.00	3.93**	3.60	2.78**	0.00	4.13**	3.59**	3.93

**Table 5.18 (c)-Accept/Reject Decisions vs. Management Experience**

Accept/reject decisions (ADR)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
The accept/reject decision is an important phase	4.64**	4.57**	4.82**	4.11	4.50	4.70**	4.52**	4.34**
Quantitative analysis judgment	3.91**	4.36**	4.09**	4.11	4.00	4.50**	4.55**	4.25**
Consistency with corporate strategy	4.09**	4.29**	4.09**	3.89	3.50	4.20**	4.48**	4.19
Improved market image for the firm	4.64**	4.07**	4.18**	3.56	4.50	4.20**	3.76**	3.88
Improved competitive position	4.45**	4.14**	3.82**	3.78	4.00	4.10**	3.72**	3.91
The ability to expand in the future	4.27**	3.93**	4.27**	4.00	5.00	3.80**	3.72**	3.91
Increased market share	4.09**	3.79**	3.91**	2.89	3.00	4.40**	3.66**	3.75**
Business expansion/development	4.27**	3.93**	3.45	3.67	3.50	4.10**	3.55**	3.72**
Increased saving from disposable expenses	4.09**	3.79**	3.27	3.11	3.00	3.50**	3.52**	3.63**
Risk position	4.00**	3.50**	3.45	3.67	4.50	4.00**	3.66**	3.56**
Environmental factors	3.82**	3.29**	3.45	3.11	4.00	4.00**	3.48**	3.75**
Competitive advantage	4.27**	3.86**	2.82	3.22	4.50	4.70**	4.52**	4.34**

**Table 5.18 (d)-Accept/Reject Decisions vs. Industry Sectors**

Accept/reject decisions (ADR)	Australia: Industry Sectors									
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion	
The accept/reject decision is an important phase	4.80**	4.50	4.75**	5.00	4.17**	4.60**	4.33**	4.33**	4.67**	
Quantitative analysis judgment	4.20**	4.00	4.25**	4.67	4.33**	4.10**	3.83**	4.00	4.00**	
Consistency with corporate strategy	4.20**	4.00	4.00	4.67	4.17**	4.00**	4.33**	3.67**	4.00**	
Improved market image for the firm	4.60**	4.00	4.00	4.33	3.83	4.60**	3.83**	4.00	3.67**	
Improved competitive position	4.40**	4.00	3.75	4.67	3.83**	4.50**	3.83**	3.67**	3.67**	
The ability to expand in the future	4.40**	3.50	3.75	4.67	3.83**	4.30**	4.33**	4.00	3.83**	
Increased market share	3.80**	3.00	3.25	3.67	4.00**	4.30**	3.17**	3.67**	3.50**	
Business expansion/development	4.00**	3.00	3.25	5.00	3.83**	3.60**	3.83**	3.67**	4.33**	
Increased saving from disposable expenses	3.20**	3.50	3.00	4.67	3.33**	3.90**	3.33**	4.00**	3.67**	
Risk position	3.60**	4.00	3.50	3.00	3.50**	3.50**	4.17**	3.67**	3.83**	
Environmental factors	3.60**	3.00	3.00	3.33	3.17**	3.40**	3.67**	3.33**	3.83**	
Competitive advantage	3.80**	3.50	3.50	4.33	3.67**	3.80**	2.50**	3.00	4.00**	

Accept/reject decisions (ADR)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The accept/reject decision is an important phase	4.00	4.50	4.75**	4.33	4.70**	4.21**	4.25**	4.50**	4.46**
Quantitative analysis judgment	5.00	5.00	4.50**	4.67	4.60**	4.21**	4.25**	4.50**	4.08**
Consistency with corporate strategy	5.00	5.00	4.25	4.67	4.45**	4.07**	4.25**	4.50**	3.92**
Improved market image for the firm	4.00	4.00	3.50	3.67	4.30**	3.93**	3.75**	3.63**	3.62**
Improved competitive position	4.00	4.00	3.25	3.67	4.20**	3.86**	3.63**	3.63**	3.85**
The ability to expand in the future	4.00	4.00	3.25	3.67	3.95**	3.86**	4.00**	4.00**	3.69**
Increased market share	4.00	4.00	3.25	3.67	3.95**	3.71**	3.75**	3.75**	3.77**
Business expansion/development	4.00	4.00	3.75	3.67	3.65**	3.64**	3.63**	3.75**	3.77**
Increased saving from disposable expenses	4.00	4.00	3.25	3.00	3.55**	3.71**	3.63**	3.50**	3.46**
Risk position	3.00	4.00	4.00	3.67	3.75**	3.64**	3.75**	3.88**	3.38**
Environmental factors	3.00	4.00	4.00	3.00	3.45**	3.86**	3.88**	3.75**	3.77**
Competitive advantage	4.00	4.00	3.75	3.00	3.50**	3.86**	3.75**	3.75**	3.92**

**Table 5.18 (e)-Accept/Reject Decisions vs. Number of Employees**

Accept/reject decisions (ADR)	Australian Number of Employees				Sri Lanka Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
The accept/reject decision is an important phase	4.50	5.00	4.00	4.58**	0.00	4.71**	4.58**	4.38**
Quantitative analysis judgment	4.00	4.00	4.00	4.15**	0.00	4.43**	4.58**	4.32**
Consistency with corporate strategy	4.00	3.00	4.00	4.15	0.00	4.43**	4.53**	4.17
Improved market image for the firm	5.00	4.00	3.50	4.13	0.00	3.71**	3.95**	3.89
Improved competitive position	4.00	5.00	4.00	4.05	0.00	3.71**	3.89**	3.87
The ability to expand in the future	2.50	5.00	4.00	4.18	0.00	4.29**	3.79**	3.81**
Increased market share	2.50	5.00	4.00	3.73	0.00	3.71**	3.95**	3.72**
Business expansion/development	2.00	4.00	4.00	3.93	0.00	3.14**	3.79**	3.74**
Increased saving from disposable expenses	2.50	4.00	4.00	3.63**	0.00	3.57**	3.68**	3.49**
Risk position	4.00	4.00	4.00	3.60	0.00	3.71**	3.79**	3.64**
Environmental factors	3.00	4.00	4.00	3.40**	0.00	4.00**	3.42**	3.74**
Competitive advantage	2.50	4.00	4.00	3.60	0.00	4.14**	3.58**	3.70**



**Table 5.18 (f)-Accept/Reject Decisions vs. Domestic Income**

Accept/reject decisions (ADR)	Australian Domestic Income				Sri Lankan Domestic Income			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
The accept/reject decision is an important phase	4.00	4.25**	4.70**	4.61**	4.00	4.50	4.55**	4.45**
Quantitative analysis judgment	3.67**	4.00	4.00**	4.25**	4.00	4.50	4.50**	4.36**
Consistency with corporate strategy	4.00	3.75**	4.20**	4.14	4.00	4.50	4.36**	4.26**
Improved market image for the firm	4.00**	3.75	4.20**	4.18	4.00	4.50	3.82**	3.89
Improved competitive position	4.33**	4.50**	4.00**	4.00	3.50	4.50	3.73**	3.91
The ability to expand in the future	4.00	4.75**	4.20**	4.00	4.00	4.50	3.91**	3.79**
Increased market share	3.00	4.25**	3.80	3.68	4.00	4.50	3.64**	3.81**
Business expansion/development	3.33**	4.50**	4.10**	3.71	4.00	3.50	3.64**	3.72**
Increased saving from disposable expenses	3.00	3.75**	3.70	3.61**	3.50	3.50	3.68**	3.49**
Risk position	4.33**	3.75**	3.50	3.61**	3.50	4.00	3.82**	3.62**
Environmental factors	3.33**	3.25	3.30	3.50**	4.50	3.50	3.59**	3.70**
Competitive advantage	2.67	4.25**	3.40	3.64**	4.00	4.00	3.77**	3.66**

**Table 5.18 (g)-Accept/Reject Decisions vs. Ownership**

Accept/reject decisions (ADR)	Australian Ownership		Sri Lankan Ownership	
	Domestic	Foreign	Domestic	Foreign
The accept/reject decision is an important phase	4.60**	4.50	4.49**	4.20**
Quantitative analysis judgment	4.15**	4.00	4.40**	4.40**
Consistency with corporate strategy	4.13**	3.50	4.31**	4.00**
Improved market image for the firm	4.20**	4.50	3.87**	4.00**
Improved competitive position	4.13**	3.50	3.85**	3.80**
The ability to expand in the future	4.20**	2.00	3.81**	4.20**
Increased market share	3.88**	2.50	3.76**	3.80**
Business expansion/development	3.90**	2.00	3.66**	4.00**
Increased saving from disposable expenses	3.70**	2.50	3.54**	3.60**
Risk position	3.60**	4.00	3.66**	3.80**
Environmental factors	3.45**	3.00	3.64**	4.00**
Competitive advantage	3.70**	3.00	3.66**	4.20**

**Table 5.18 (h)-Accept/Reject Decisions vs. Overall Risk Situation**

Accept/reject decisions (ADR)	Australian Overall Risk Situation					Sri Lankan Overall Risk Situation				
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
The accept/reject decision is an important phase	4.75	4.68**	4.32	5.00	0.00	0.00	4.33	4.49**	4.45**	4.00
Quantitative analysis judgment	4.25	4.16	4.05**	4.33**	0.00	0.00	4.33	4.36**	4.50**	4.00
Consistency with corporate strategy	3.75**	4.11	4.16**	4.33**	0.00	0.00	4.33	4.28**	4.32**	4.00
Improved market image for the firm	4.50	4.11	3.95**	5.00	0.00	0.00	4.33	3.85**	3.91**	4.00
Improved competitive position	4.00	4.05	4.00**	4.67**	0.00	0.00	4.00	3.85**	3.86**	4.00
The ability to expand in the future	3.75	4.00	4.26**	4.33**	0.00	0.00	3.33	3.89**	3.77**	5.00
Increased market share	3.25	3.89	3.47	4.67**	0.00	0.00	4.00	3.72**	3.86**	4.00
Business expansion/development	2.75**	3.79	4.05**	4.33**	0.00	0.00	3.33	3.74**	3.68**	3.00
Increased saving from disposable expenses	3.00	3.63	3.63**	4.00	0.00	0.00	3.00	3.57**	3.59**	3.00
Risk position	3.00**	3.53**	3.79**	4.33**	0.00	0.00	3.33	3.66**	3.73**	5.00
Environmental factors	3.50**	3.21**	3.53**	4.00	0.00	0.00	3.33	3.66**	3.77**	4.00
Competitive advantage	3.50**	3.74	3.26	4.67	0.00	0.00	3.33	3.74**	3.68**	4.00

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.5 Capital Budgeting Techniques

The results in Table 5.19(a) also illustrate that DCF and NDCF techniques are employed by respondents with Bachelors degrees in both countries. The ARR and NPV are significantly used by respondents with a PhD in Sri Lanka, whereas, respondents with a Masters degree are more likely to use DPP in Australia. As shown in Table 5.19(b), respondents aged between 25-55 are significantly more likely to use PBP, NPV and IRR in both countries while most mature respondents (>55) in Sri Lanka are likely to use DPP, ARR and NPV than PBP and IRR. Table 5.19(c) illustrates NPV and IRR methods are significantly employed by more experienced (>16) respondents in both countries. Whereas less experienced Australian respondents (1-5) are more likely to use DCF and NDCF techniques than Sri Lankan respondents. Table 5.19(d) shows that DCF and NDCF techniques are extensively utilised among consumer staples, materials and consumer discretionary sectors in both countries, although discounted and non-discounted cash flow techniques are also very popular amongst Sri Lankan health care and industrial sectors.

The results also reveal that Australian utilities employ NPV and IRR significantly more often than Sri Lankan utilities. Table 5.19(e) reveals that Australian large firms (more than 500 employees) use NPV and IRR techniques significantly more than Sri Lankan large firms, though PBP and DPP techniques seem to be significantly popular among Sri Lankan firms (250 to 500 employees). Table 5.19(f) shows that, among highest domestic earned firms, 80 percent are more likely to use NPV and IRR in Australia. In contrast to the Australian case, however, the highest domestic-earned Sri Lankan respondents are more inclined to use DPP and ARR techniques. Table 5.19(g) indicates that domestic owned firms in both countries are much more likely to use the discounted and non-discounted cash flow techniques than foreign owned firms. Sri Lankan foreign-owned firms are more

inclined to use the IRR method. Accordingly, Table 5.19(h) shows that high-risk firms in Australia are significantly stating that they use NPV, IRR and DPP compared to Sri Lankan high-risk firms. These results note that there seems to be quite some differences with respect to the use of CB techniques between Sri Lankan low-risk and high-risk firms.

**Table 5.19-Capital Budgeting Techniques vs. Firm and Its Respondent's Attributes**

**Table 5.19 (a)-Capital Budgeting Techniques vs. Education Background (\*\* is significance level of 5 %)**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Education Background					Frequently/ Mostly	Mean	Education Background				
			Diploma	Bachelor	Honours	Master	PhD			Diploma	Bachelor	Honours	Master	PhD
PBP	83	4.16	0.00	4.00**	4.08**	4.40	4.00	85	4.01	3.00	2.00**	2.67	3.00	3.00
DPP	36	2.87	0.00	3.25**	3.08	2.67**	3.00	30	2.81	4.22	3.11**	3.00**	3.83**	3.72
ARR	51	3.24	0.00	3.63**	3.34	2.93	2.00	24	2.77	3.64	2.21**	2.21**	3.57**	3.93**
NPV	98	4.62	0.00	4.75**	4.42**	4.80**	3.50	56	3.64	4.16	2.74**	2.77	3.55**	3.80**
IRR	98	4.62	0.00	4.88**	4.42**	4.47	5.00	67	3.78	3.80	3.80**	3.00**	3.80	3.80

**Table 5.19 (b)-Capital Budgeting Techniques vs. Age**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Age group				Frequently/ Mostly	Mean	Age group					
			<25	25-35	35-55	>55			<25	25-35	35-55	>55		
PBP	83	4.16	3.00	4.13**	4.30**	4.00	85	4.01	0.00	4.38**	4.00**	3.86		
DPP	36	2.87	3.00	3.00	2.70	3.00	30	2.81	0.00	3.63**	2.73	2.64**		
ARR	51	3.24	3.00	3.34**	3.20	3.22	24	2.77	0.00	3.25	2.76	2.50**		
NPV	98	4.62	5.00	4.74**	4.60**	4.44	56	3.64	0.00	3.75**	3.69**	3.43**		
IRR	98	4.62	5.00	4.74**	4.55**	4.56	67	3.78	0.00	4.00**	3.82**	3.50		

**Table 5.19 (c)-Capital Budgeting Techniques vs. Experience**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Management Experience				Frequently/ Mostly	Mean	Management Experience			
			1-5	6-10	11-15	>16			1-5	6-10	11-15	>16
PBP	83	4.16	4.27**	3.93**	4.00	4.56	85	4.01	4.50	4.10**	3.82**	4.13
DPP	36	2.87	3.27**	2.86	2.36	3.00	30	2.81	4.00	3.20**	2.41**	2.97
ARR	51	3.24	3.18**	3.43**	3.00	3.34	24	2.77	3.00	3.20**	2.59**	2.78**
NPV	98	4.62	4.91**	4.36**	4.45**	4.89**	56	3.64	3.00	4.00	3.90	3.34**
IRR	98	4.62	4.82**	4.50**	4.55**	4.67**	67	3.78	3.50	4.30**	3.83**	3.59**

**Table 5.19 (d)-Capital Budgeting Techniques vs. Industrial Sector**

Techniques	Frequently/ Mostly	Mean	Australia: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
PBP	83	4.16	3.20	4.50	5.00	3.67	4.34	4.30**	4.17**	4.67	3.83**
DPP	36	2.87	2.60	1.00	2.75	2.00	4.17	3.00**	2.00**	4.34	2.83**
ARR	51	3.24	2.80	3.50	3.00	2.34	4.34	3.80**	1.83**	4.34	3.00**
NPV	98	4.62	4.80**	4.00	4.25	4.34	5.00	4.60**	4.83**	4.67	4.50**
IRR	98	4.62	4.80**	5.00	4.75	4.34	4.84	4.60**	4.50**	4.34	4.50**

Techniques	Frequently/ Mostly	Mean	Sri Lanka: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
PBP	85	4.01	5.00	4.00	4.00	4.00	4.15**	3.71**	4.13**	3.86**	4.08**
DPP	30	2.81	4.00	2.00	2.50	2.00	2.70**	2.86**	3.00**	2.13**	3.54**
ARR	24	2.77	3.00	2.00	2.25	2.34	2.85**	2.64**	2.88**	2.38**	3.31**
NPV	56	3.64	4.00	4.00	4.00	3.67	3.75**	3.50**	3.50**	3.50**	3.62**
IRR	67	3.78	5.00	4.00	4.00	3.67	3.75**	3.93**	3.75**	3.75**	3.54**

**Table 5.19 (e)-Capital Budgeting Techniques vs. Number of Employees**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Number of Employees				Frequently/ Mostly	Mn	Number of Employees			
			<100	100-250	250-500	>500			<100	100-250	250-500	>500
PBP	83	4.16	5.00	4.00	5.00	4.08	85	4.01	0.00	3.43	4.05**	4.09
DPP	36	2.87	1.00	2.00	5.00	2.88**	30	2.81	0.00	2.71	2.26**	3.04**
ARR	51	3.24	1.00	2.00	4.50	3.34**	24	2.77	0.00	2.86	2.53	2.85**
NPV	98	4.62	5.00	4.00	5.00	4.60**	56	3.64	0.00	3.86**	3.32	3.74
IRR	98	4.62	4.50	5.00	4.50	4.63**	67	3.78	0.00	4.00**	3.63	3.81

**Table 5.19 (f)-Capital Budgeting Techniques vs. Domestic Income**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Domestic Income				Frequently/ Mostly	Mean	Domestic Income			
			<20	20-40	40-80	>80			<20	20-40	40-80	>80
PBP	83	4.16	4.00	4.25	4.10**	4.18	85	4.01	4.00	4.00	3.73**	4.15
DPP	36	2.87	2.00	3.75	2.10	3.11**	30	2.81	4.00	3.50	2.41**	2.91**
ARR	51	3.24	1.67	3.75	2.70	3.54	24	2.77	4.00	4.50	2.55	2.74**
NPV	98	4.62	4.67	4.75**	4.60**	4.61**	56	3.64	4.00	2.50	3.55**	3.72
IRR	98	4.62	4.34	5.00	4.50**	4.64**	67	3.78	4.00	4.00	3.81**	3.74

**Table 5.19 (g)-Capital Budgeting Techniques vs. Ownership**

Techniques	Australia				Sri Lanka			
	Frequently/ Mostly	Mean	Ownership		Frequently/ Mostly	Mean	Ownership	
			Domestic	Foreign			Domestic	Foreign
PBP	83	4.16	4.10**	5.00	85	4.01	4.00**	4.00
DPP	36	2.87	2.92**	2.00	30	2.81	2.81**	2.80
ARR	51	3.24	3.30**	3.00	24	2.77	2.76**	2.60
NPV	98	4.62	4.60**	5.00	56	3.64	3.66**	3.60
IRR	98	4.62	4.65**	4.00	67	3.78	3.78**	4.00**

**Table 5.19 (h)-Capital Budgeting Techniques vs. Overall Risk Situation**

Techniques	Australia							Frequently/ Mostly	Mean	Sri Lanka				
	Frequently/ Mostly	Mean	Overall Risk Situation							Overall Risk Situation				
			Very High	High	Moderate	Low	Very Low			Very High	High	Moderate	Low	Very Low
PBP	83	4.16	4.75	3.95	4.32**	3.67	0	85	4.01	0.00	3.67	4.13**	3.77**	5.00
DPP	36	2.87	2.00**	2.79**	2.95	4.00	0	30	2.81	0.00	2.34	2.79	2.86**	4.00
ARR	51	3.24	2.50	3.42	3.16	3.67	0	24	2.77	0.00	2.67	2.77	2.77**	3.00
NPV	98	4.62	4.25	4.63**	4.68**	4.67	0	56	3.64	0.00	4.00	3.66**	3.60**	3.00
IRR	98	4.62	5.00	4.63**	4.53**	4.67	0	67	3.78	0.00	4.34	3.77**	3.77**	3.00

\*\* denotes a significantly different from zero at the 5 % level



### 5.5.6 Risk Assessment Techniques

The results in Table 5.20(a) also provides evidence that sensitivity analyses and decision tree approach and both scenario and decision tree approaches are significantly preferred by respondents with Bachelors degree in both countries. Whereas, respondents with a Masters degree are most likely to use probabilistic (Monte Carlo) simulation and risk adjusted discount rate in both countries. Compared to the Australian respondents with a PhD degree, Sri Lankan respondents with PhD use probabilistic (Monte Carlo) simulation more often. Table 5.20(b) reports that the use of a scenario approach and sensitivity analyses are significantly more popular among 25-35 and 35-55 age groups in Australia while more mature respondents (>55) are more inclined to use sensitivity analysis, decision tree approach, probabilistic (Monte Carlo) simulation and risk adjusted discount rate in Sri Lanka than Australian mature respondents.

Table 5.20(c) noted that the use of a scenario approach, sensitivity analysis, decision tree approach, probabilistic (Monte Carlo) simulation and risk adjusted discount rate are quite significant among less experienced (1-5) Australian respondents than less experienced (1-5) Sri Lankan respondents in terms of their mean values. Whereas highest experience (>16) Sri Lankan respondents are significantly more likely to use all these risk assessment techniques. Table 5.20(d) shows that all of these five risk assessment tools are significantly employed by the consumables, materials and consumer discretionary sectors in both countries while the risk adjusted discount rate is significantly used by the health care sector in Australia. Although the scenario approach, the sensitivity analysis and risk adjusted discount rate are the most prevalent tools among utilities and industrial sectors in Australia. Table 5.20(e) illustrates that large firms (more than 500 employees) are more inclined to use a decision tree approach, probabilistic (Monte Carlo) simulation and risk adjusted

discount rate as compared to Sri Lankan large companies while the scenario approach seems to be significantly prevalent among Sri Lankan firms (250-500 employees). Table 5.20(f) reveals that the highest domestic earned firms (80 percent) are more likely to use decision tree approach, probabilistic (Monte Carlo) simulation and risk adjusted discount rate in both countries. Table 5.20(g) indicates that domestic owned firms in both countries are much more likely to use the all of these risk assessment tools, but Sri Lankan foreign owned firms are more inclined to use a scenario approach. As shown in Table 5.20(h), high-risk firms in Australia are significantly stating they use risk adjusted discount rate as compared to Sri Lankan high-risk firms.

**Table 5.20-Risk Assessment Techniques vs. Firm and Its Respondent's Attributes**

**Table 5.20 (a)-Risk Assessment Techniques vs. Education Background (\*\* is significance level of 5 %)**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Education Background					Frequently/ Mostly	Mean	Education Background				
			Diploma	Bachelor	Honours	Master	PhD			Diploma	Bachelor	Honours	Master	PhD
Scenario	76	4.04	3.81	4.25**	4.00**	5.00	4.04	79	4.25	3.00	4.34**	4.07	4.42	4.20
Sensitivity	76	3.94	3.94	3.75**	4.00	4.50	2.94	34	3.18	3.34	3.11**	3.07	3.10**	3.40
Decision tree	31	3.04	3.19	3.00**	2.80	4.00	3.04	12	2.92	2.34	2.78**	2.93	2.97**	3.20
Monte Carlo	13	2.87	2.69	3.17	2.67	4.00**	2.87	13	2.66	2.34	2.67	2.86	2.58**	2.40**
Risk adjusted	16	2.56	2.56	2.67	2.40	3.00**	2.56	29	3.04	2.67	2.94**	3.21	2.97**	3.60

**Table 5.20 (b)-Risk Assessment Techniques vs. Age**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Age group				Frequently/ Mostly	Mean	Age group					
			<25	25-35	35-55	>55			<25	25-35	35-55	>55		
Scenario	76	4.04	3.00	4.27**	4.05**	3.78	79	4.25	0.00	3.75	4.22**	4.64		
Sensitivity	76	3.94	5.00	4.00**	4.10**	3.34	34	3.18	0.00	3.88**	3.24	2.57**		
Decision tree	31	3.04	1.00	3.13**	2.95	3.34	12	2.92	0.00	3.00	2.88	3.00**		
Monte Carlo	13	2.87	1.00	2.93	2.75	3.23	13	2.66	0.00	3.38	2.49**	2.86**		
Risk adjusted	16	2.56	3.00	2.40	2.45	3.00	29	3.04	0.00	3.88**	2.90	3.07**		

**Table 5.20 (c)-Risk Assessment Techniques vs. Experience**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Management Experience				Frequently/ Mostly	Mean	Management Experience					
			1-5	6-10	11-15	>16			1-5	6-10	11-15	>16		
Scenario	76	4.04	4.18**	4.14**	3.82**	4.00	79	4.25	4.50	3.70**	4.17**	4.47**		
Sensitivity	76	3.94	4.09**	3.79**	4.09**	3.78	34	3.18	3.50	3.60**	3.24	2.97**		
Decision tree	31	3.04	2.73**	3.36**	2.82	3.23	12	2.92	3.50	2.90**	2.86	2.94**		
Monte Carlo	13	2.87	2.64**	3.00	3.09	2.67	13	2.66	3.50	3.00	2.41**	2.72**		
Risk adjusted	16	2.56	2.73**	2.89	2.90	2.34**	29	3.04	3.50	3.50**	2.97	2.94**		

**Table 5.20 (d)-Risk Assessment Techniques vs. Industrial Sectors**

Techniques	Frequently/ Mostly	Mean	Australia: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
Scenario	76	4.04	3.60**	4.50	4.75	4.00	3.67**	4.20**	3.67**	4.00	4.34**
Sensitivity	76	3.94	4.00**	4.00	4.00	3.67	3.83**	4.10**	4.00**	3.34	4.00**
Decision tree	31	3.04	2.60	3.50	3.50	3.67	3.67	2.70**	2.17**	3.34	3.34**
Monte Carlo	13	2.87	2.60	1.00	2.50	3.34	3.00	2.80**	2.50**	4.34	3.34**
Risk adjusted	16	2.56	3.20**	1.00	2.75	2.34	2.67**	2.40**	2.83**	2.67**	2.34**

Techniques	Frequently/ Mostly	Mean	Sri Lanka: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
Scenario	79	4.25	5.00	5.00	4.00	4.34	4.35	4.36**	4.25**	4.25**	3.85**
Sensitivity	34	3.18	2.00	2.00	2.75	3.34	3.25**	3.07**	2.50**	3.25**	3.92**
Decision tree	12	2.92	2.00	3.00	2.75	2.67	2.90**	3.14**	3.00**	2.50**	3.08**
Monte Carlo	13	2.66	3.00	2.50	2.50	2.00	2.60**	2.86**	2.50**	2.38**	3.00**
Risk adjusted	29	3.04	3.00	3.00	2.50	2.34	3.15**	3.36**	2.88**	2.75**	3.15**

**Table 5.20 (e)-Risk Assessment Techniques vs. Number of Employees**

Techniques	Frequently/ Mostly	Mean	Australia				Sri Lanka					
			Number of Employees				Frequently/ Mostly	Mean	Number of Employees			
			<100	100-250	250-500	>500			<100	100-250	250-500	>500
Scenario	76	4.04	5.00	5.00	3.50	4.00	79	4.25	0.00	3.86	4.53**	4.19
Sensitivity	76	3.94	4.50	5.00	3.50	3.90	34	3.18	0.00	4.00**	2.89	3.17**
Decision tree	31	3.04	1.50	3.00	3.00	3.13**	12	2.92	0.00	2.86	2.84	2.96**
Monte Carlo	13	2.87	1.50	3.00	1.00	3.03**	13	2.66	0.00	2.57	2.58	2.70**
Risk adjusted	16	2.56	2.50	3.00	2.00	2.58**	29	3.04	0.00	3.00	2.58	3.23**

**Table 5.20 (f)-Risk Assessment Techniques vs. Domestic Income**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Domestic Income				Frequently/ Mostly	Mean	Domestic Income			
			<20	20-40	40-80	>80			<20	20-40	40-80	>80
Scenario	76	4.04	4.67**	3.50	4.00**	4.07	79	4.25	3.00	5.00	4.23**	4.28
Sensitivity	76	3.94	4.34	4.50**	3.90**	3.82	34	3.18	3.00	3.50	3.00	3.26**
Decision tree	31	3.04	2.67	2.50	2.80	3.25**	12	2.92	3.00	3.50	2.95	2.88**
Monte Carlo	13	2.87	2.34	1.50	3.30	2.96**	13	2.66	3.00	3.00	2.59	2.66**
Risk adjusted	16	2.56	1.34	2.50	2.70	2.64**	29	3.04	3.00	2.00	2.91	3.15**

**Table 5.20 (g)-Risk Assessment Techniques vs. Ownership**

Techniques	Australia				Sri Lanka			
	Frequently/ Mostly	Mean	Ownership		Frequently/ Mostly	Mean	Ownership	
			Domestic	Foreign			Domestic	Foreign
Scenario	76	4.04	4.08**	4.50	79	4.25	4.24**	4.40**
Sensitivity	76	3.94	3.90**	4.50	34	3.18	3.19**	2.80
Decision tree	31	3.04	3.18**	1.50	12	2.92	2.91**	3.00
Monte Carlo	13	2.87	3.03**	1.50	13	2.66	2.64**	3.00
Risk adjusted	16	2.56	2.58**	2.50	29	3.04	3.01**	3.40

**Table 5.20 (h)-Risk Assessment Techniques vs. Overall Risk**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Overall Risk Situation					Frequently/ Mostly	Mean	Overall Risk Situation				
			Very High	High	Moderate	Low	Very Low			Very High	High	Moderate	Low	Very Low
Scenario	76	4.04	4.50	4.05	3.95**	4.00	0.00	79	4.25	0.00	3.67	4.28**	4.23**	5.00
Sensitivity	76	3.94	4.25	4.11	3.68**	4.00	0.00	34	3.18	0.00	2.67	3.32	2.95**	3.00
Decision tree	31	3.04	2.50	3.42	2.79	3.00	0.00	12	2.92	0.00	3.00	2.89	2.95**	3.00
Monte Carlo	13	2.87	2.25	3.26	2.58	3.00	0.00	13	2.66	0.00	3.00	2.68	2.55**	3.00
Risk adjusted	16	2.56	3.00	2.47**	2.47	3.00	0.00	29	3.04	0.00	3.67	3.06	2.91**	3.00

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.7 Cost of Capital

As seen in Table 5.21(a), in Australia, the WACC, CAPM, interest payable on debt capital and earnings yield on shares are significantly preferred by respondents with a Bachelors degree while the dividend yield on shares method is more likely to be used by respondents with a Masters degree. In Sri Lanka, the WACC is preferred by respondents with a Bachelors degree whilst respondents with a Masters or PhD degree prefer the CAPM. Table 5.21(b) shows young-adult respondents (25-35) prefer to use the WACC, CAPM, and interest payable on debt capital to estimate the cost of equity capital in Australia and Sri Lanka. In addition, older respondents (>55) use the earnings yield on shares more often than other age groups in Australia. In contrast, mature Sri Lankan respondents (>55) are more likely to use the CAPM, dividend yield on shares and earnings yield on share. Table 5.21(c) suggest that less experienced Australian respondents (1-5) seem to use all these tools quite often to estimate the cost of equity. Very experienced respondents (>16), in both countries, seem to prefer to use the dividend yield on shares and earnings yield on shares.

Table 5.21(d) illustrates that the WACC and CAPM are consistently more popular among firms in the consumables, materials and consumer discretionary markets in Australia and Sri Lanka—respondents in the health care market in Australia are more likely to use the earnings yield on shares. In Sri Lanka, all these methods are preferred in the industrials, consumables, materials, health care and consumer discretionary markets. Table 5.21(e) shows that the interest payable on debt capital, dividend yield on shares and earnings yield on share methods are preferred by Australian and Sri Lankan large firms (> 500 employees). Also, the CAPM and interest payable on debt capital are the methods of choice for large firms (> 500 employees) as well as for firms with 100-250 employees in Sri Lanka. Table 5.21(f) suggests that highly domestic focused firms prefer the interest payable on debt

capital, dividend yield on shares and earnings yield on share methods in both countries. The WACC and interest payable on debt capital methods are used predominantly by Australian companies with a 20-40 percent focus on domestic markets and by Sri Lankan firms with 40-80 focus on domestic markets. The results in table 5.21(g), show that domestic owed companies are more likely to use all these methods than the foreign-owned companies in both countries. In contrast to Australian firms, however, foreign owned firms in Sri Lanka are more motivated to use the WACC, dividend yield on shares and earnings yield on share techniques. As can be seen in Table 5.21(h), high-risk firms are more likely to use the dividend yield on shares and earnings yield on share methods in Australia than in Sri Lanka. However, lower-risk Sri Lankan firms are more likely to employ all the techniques than Australian low-risk firms.

**Table 5.21- Cost of Capital vs. Firm and Its Respondent's Attributes**

**Table 5.21 (a)-Cost of Capital vs. Education Background (\*\* is significance level of 5 %)**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Education Background					Frequently/ Mostly	Mean	Education Background				
			Diploma	Bachelor	Honours	Master	PhD			Diploma	Bachelor	Honours	Master	PhD
WACC	85	4.24	0.00	4.25**	4.08**	4.27	5.00	85	3.93	3.67	4.00**	3.64	4.10	3.60
CAPM	75	4.04	0.00	3.94**	3.84**	4.27	4.50	31	2.74	3.00	2.44	2.43	3.06**	2.60**
Interest payable	49	3.38	0.00	3.38**	3.17	3.47	4.00	64	3.63	3.67	3.56**	3.43	3.80	3.40
Dividend yield	24	2.82	0.00	2.81	2.84	2.73**	3.50	36	3.04	2.34	3.34**	2.93	3.06**	2.80**
Earnings yield	33	3.00	0.00	3.13**	2.58	3.20	3.00	37	3.12	2.00	3.39**	2.79	3.26**	3.20

**Table 5.21 (b)-Cost of Capital vs. Age**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Age group				Frequently/ Mostly	Mean	Age group					
			<25	25-35	35-55	>55			<25	25-35	35-55	>55		
WACC	85	4.24	4.00	4.34**	4.05**	4.56	85	3.93	0.00	3.88**	3.98**	3.79		
CAPM	75	4.04	4.00	4.13**	3.95**	4.11	31	2.74	0.00	3.75**	2.67	2.43**		
Interest payable	49	3.38	3.00	3.27**	3.35	3.67	64	3.63	0.00	3.38**	3.65**	3.71		
Dividend yield	24	2.82	3.00	2.87	2.75	2.87	36	3.04	0.00	3.00	2.90	3.57**		
Earnings yield	33	3.00	3.00	3.14**	3.05	2.67**	37	3.12	0.00	3.00	3.06	3.43**		

**Table 5.21 (c)-Cost of Capital vs. Experience**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Management Experience				Frequently/ Mostly	Mean	Management Experience					
			1-5	6-10	11-15	>16			1-5	6-10	11-15	>16		
WACC	85	4.24	4.64**	3.79**	4.18**	4.56	85	3.93	3.50	3.90**	3.97**	3.94		
CAPM	75	4.04	4.27**	3.64**	4.36**	4.00	31	2.74	3.50	3.70**	2.69	2.44**		
Interest payable	49	3.38	3.64**	3.07**	3.45	3.45	64	3.63	3.50	3.30**	3.59**	3.78		
Dividend yield	24	2.82	3.18**	2.71	2.91	2.45**	36	3.04	3.00	2.90	2.93	3.19**		
Earnings yield	33	3.00	3.09**	3.00**	2.91	3.00**	37	3.12	4.00	2.70	3.03	3.28**		



**Table 5.21 (d)-Cost of Capital vs. Industrial Sectors**

Techniques	Frequently/ Mostly	Mean	Australia: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
WACC	85	4.24	4.80**	3.50	5.00	3.67	4.34	4.10**	4.67**	4.00	3.67**
CAPM	75	4.04	4.60**	4.50	4.00	4.00	3.67**	4.10**	4.50**	3.67	3.50**
Interest payable	49	3.38	3.60**	1.50	4.00	3.34	3.50**	3.40**	4.00**	2.67	3.00**
Dividend yield	24	2.82	3.40**	2.00	2.75	3.34	3.00	2.70**	2.67**	2.67	2.67**
Earnings yield	33	3.00	3.00	2.00	2.50	4.00	3.34**	3.00**	3.17**	3.34**	2.50**

Techniques	Frequently/ Mostly	Mean	Sri Lanka: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
WACC	85	3.93	4.00	4.50	4.25	4.00	4.00**	3.93**	3.88**	3.63**	3.85**
CAPM	31	2.74	1.00	1.00	4.25	2.34	3.00**	2.21**	2.88**	2.63**	2.92**
Interest payable	64	3.63	4.00	3.50	3.50	3.00	3.60**	3.71**	3.75**	3.63**	3.69**
Dividend yield	36	3.04	4.00	3.50	2.50	3.34	3.05**	3.43**	3.13**	3.25**	2.38**
Earnings yield	37	3.12	4.00	3.50	3.25	3.34	3.10**	3.50**	3.50**	3.13**	2.31**

**Table 5.21 (e)-Cost of Capital vs. Number of Employees**

Techniques	Australia							Sri Lanka				
	Frequently/ Mostly	Mean	Number of Employees				Frequently/ Mostly	Mean	Number of Employees			
			<100	100-250	250-500	>500			<100	100-250	250-500	>500
WACC	85	4.24	4.00	4.00	5.00	4.23	85	3.93	0.00	4.00**	4.11**	3.85
CAPM	75	4.04	5.00	5.00	2.50	4.05	31	2.74	0.00	3.86**	2.21	2.79**
Interest payable	49	3.38	2.50	4.00	4.00	3.38**	64	3.63	0.00	3.57**	3.63**	3.64**
Dividend yield	24	2.82	2.50	3.00	1.50	2.90**	36	3.04	0.00	2.57	3.32	3.00**
Earnings yield	33	3.00	2.50	2.00	2.50	3.08**	37	3.12	0.00	2.57	3.32	3.13**

**Table 5.21 (f)-Cost of Capital vs. Domestic Income**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Domestic Income				Frequently/ Mostly	Mean	Domestic Income			
			<20	20-40	40-80	>80			<20	20-40	40-80	>80
WACC	85	4.24	3.34	4.50**	4.10	4.36	85	3.93	4.00	4.00	3.95**	3.91
CAPM	75	4.04	4.34	3.75	4.50**	3.89	31	2.74	3.00	2.00	2.59	2.83**
Interest payable	49	3.38	2.34	3.75**	3.90	3.25**	64	3.63	4.00	3.50	3.77**	3.55**
Dividend yield	24	2.82	2.34	2.25	3.40	2.75**	36	3.04	3.00	3.50	3.27	2.91**
Earnings yield	33	3.00	2.34	3.00	3.30	2.96**	37	3.12	4.00	3.50	3.36	2.96**

**Table 5.21 (g)-Cost of Capital vs. Ownership**

Techniques	Australia				Sri Lanka			
	Frequently/ Mostly	Mean	Ownership		Frequently/ Mostly	Mean	Ownership	
			Domestic	Foreign			Domestic	Foreign
WACC	85	4.24	4.33**	3.00	85	3.93	3.91**	4.20**
CAPM	75	4.04	4.03**	4.50	31	2.74	2.75**	2.40
Interest payable	49	3.38	3.40**	3.00	64	3.63	3.61**	4.00
Dividend yield	24	2.82	2.90**	2.00	36	3.04	2.99**	3.40**
Earnings yield	33	3.00	3.03**	2.00	37	3.12	3.04**	3.80**

**Table 5.21 (h)-Cost of Capital vs. Overall Risk Situation**

Techniques	Australia							Frequently/ Mostly	Mean	Sri Lanka				
	Frequently/ Mostly	Mean	Overall Risk Situation							Overall Risk Situation				
			Very High	High	Moderate	Low	Very Low			Very High	High	Moderate	Low	Very Low
WACC	85	4.24	4.75	3.95	4.42**	4.34	0.00	85	3.93	0.00	3.34	4.00**	3.91**	3.00
CAPM	75	4.04	4.50	4.11	3.89**	4.00	0.00	31	2.74	0.00	3.34	2.57	2.95**	4.00
Interest payable	49	3.38	3.75	3.16**	3.53	3.34	0.00	64	3.63	0.00	3.34	3.57**	3.77**	4.00
Dividend yield	24	2.82	3.25**	2.68**	2.79	3.34	0.00	36	3.04	0.00	3.00	2.94	3.32**	2.00
Earnings yield	33	3.00	3.25**	2.89**	3.00	3.34	0.00	37	3.12	0.00	2.67	2.98	3.45**	4.00

\*\* denotes a significantly different from zero at the 5 % level

### **5.5.8 Techniques Guide to Long-term-Investment Decision**

Table 5.22(a) shows that RO is preferred by respondents with a Bachelors degree in Australia and in Sri Lanka, all this techniques are preferred by respondents with Master's degree. Sri Lankan respondents with a Masters degree appear to prefer using RO analysis. As shown in Table 5.22(b), RO analysis, game theory and balanced scorecard are used significantly more often by younger respondents in Australia (25-35) but these techniques are relatively popular among mature respondents (>55) in Sri Lanka. Table 5.22(c) shows that RO analysis is more popular among experienced respondents in Australia, except those with high experience (>16 years). High experience respondents (> 16 years) appear to rely more on game theory, balanced score card and value chain in Australia. In Sri Lanka, respondents who have worked for 6-10 years relied significantly on RO analysis, as compared to the other respondents. Table 5.22(d) shows that RO, game theory, balanced score card and value chain are used more by firms in the utilities, consumables, materials and consumer discretionary markets than firms in other markets. In Sri Lanka, these methods are favoured by firms in the industrials, consumables, materials, health care and consumer discretionary markets. Table 5.22(e) shows that large firms in Australia (>500 employees) are more inclined to use the game theory, balanced score card and value chain than other companies. Also, small Sri Lankan firms (100-250 employees) use RO analysis more often than Australian small firms. Table 5.22(f) shows that 40-80 percent domestic-focused firms in Australia use RO analysis significantly more and in Sri Lanka the method is favoured by firms with over 80 percent domestic sales. Also, Table 5.22(g), domestic-owned firms are more likely to use all these methods than foreign-owned firms in both countries. As can be seen in Table 5.22(h), high-risk firms are more likely to use balanced score card and value chain in Australia than the equivalent firms in Sri Lankan. Low-risk Sri Lankan firms significantly employ RO analysis as compared to Australian low-risk firms.

**Table 5.22-Guide Long-term Investment Decision vs. Firm and Its Respondent's Attributes**

**Table 5.22 (a)-Guide Long-term Investment Decision vs. Education Background (\*\* is significance level of 5 %)**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Education Background					Frequently/ Mostly	Mean	Education Background				
			Diploma	Bachelor	Honours	Master	PhD			Diploma	Bachelor	Honours	Master	PhD
Real option	73	3.58	0.00	3.31**	3.67	3.74	4.00	30	2.79	3.34	2.78**	2.64	2.68**	3.40
Game theory	42	3.09	0.00	2.88	3.42	3.07**	3.00	4	2.29	2.34	2.34	2.29**	2.56**	2.40**
Balanced score	20	2.93	0.00	2.81**	2.92	3.00**	3.50	18	2.67	3.34	2.45	2.79	2.55**	3.00**
Value chain	13	2.69	0.00	2.44	2.75	2.87**	3.00	17	2.53	3.34	2.39	2.71	2.35**	2.80**

**Table 5.22 (b)-Guide Long-term Investment Decision vs. Age**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Age group				Frequently/ Mostly	Mean	Age group					
			<25	25-35	35-55	>55			<25	25-35	35-55	>55		
Real option	73	3.58	3.00	3.00**	3.00	3.00	30	2.79	0.00	3.13	2.86	2.36**		
Game theory	42	3.09	3.60	3.14**	2.94	2.60	4	2.29	0.00	3.00**	2.25**	2.00**		
Balanced score	20	2.93	3.50	3.00**	2.95	2.75**	18	2.67	0.00	3.50**	2.71	2.07**		
Value chain	13	2.69	3.78	3.23	2.89	2.67**	17	2.53	0.00	3.25	2.51**	2.21**		

**Table 5.22 (c)-Guide Long-term Investment Decision vs. Management Experience**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Management Experience				Frequently/ Mostly	Mean	Management Experience					
			1-5	6-10	11-15	>16			1-5	6-10	11-15	>16		
Real option	73	3.58	3.36**	3.64**	4.00**	3.22	30	2.79	3.00	3.50**	2.86	2.50		
Game theory	42	3.09	3.00**	3.57**	3.27	2.23**	4	2.29	3.00	2.70	2.17**	2.22		
Balanced score	20	2.93	2.82**	3.00**	3.18	2.67**	18	2.67	3.00	3.10	2.62	2.56		
Value chain	13	2.69	2.73**	2.86	2.82	2.23**	17	2.53	2.50	3.20	2.48**	2.38		

**Table 5.22 (d)-Guide Long-term Investment Decision vs. Industrial Sector**

Techniques	Frequently/ Mostly	Mean	Australia: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
Real option	73	3.58	3.80**	4.00	2.75	4.00	3.17	3.80**	3.50**	3.67	3.67**
Game theory	42	3.09	3.00**	4.50	2.50	3.67	2.84	3.50**	1.84**	4.00	2.67**
Balanced score	20	2.93	3.20**	4.00	2.75	3.34	2.67**	3.10**	2.50**	2.34	3.00**
Value chain	13	2.69	3.00**	2.50	2.50	3.67	2.34**	2.80**	2.34**	2.34	2.84**

Techniques	Frequently/ Mostly	Mean	Sri Lanka: Industry Sectors								
			Utilities	Information	Energy	Telecom	Industrials	Consumer staples	Materials	Health Care	Consumer Discretionary
Real option	30	2.79	2.00	2.00	4.00	3.34	2.55**	2.57**	2.75**	2.63**	3.23**
Game theory	4	2.29	2.00	2.00	2.00	2.34	2.40**	2.29**	2.63**	2.25**	2.08**
Balanced score	18	2.67	2.00	2.00	1.75	2.34	2.65**	2.86**	3.00**	2.50**	2.92**
Value chain	17	2.53	2.00	2.00	2.00	2.34	2.70**	2.86**	2.63**	2.38**	2.31**

**Table 5.22 (e) - Guide Long-term Investment Decision vs. Number of Employees**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Number of Employees				Frequently/ Mostly	Mean	Number of Employees			
			<100	100-250	250-500	>500			<100	100-250	250-500	>500
Real option	73	3.58	2.50	4.00	1.00	3.75	30	2.79	0.00	3.86**	2.37	2.81**
Game theory	42	3.09	1.50	3.00	1.00	3.28**	4	2.29	0.00	2.57	2.05**	2.34**
Balanced score	20	2.93	2.50	3.00	1.50	3.03**	18	2.67	0.00	3.43	2.37**	2.68**
Value chain	13	2.69	1.50	3.00	1.50	2.80**	17	2.53	0.00	3.29	2.21**	2.55**

**Table 5.22 (f)-Guide Long-term Investment Decision vs. Domestic Income**

Techniques	Australia						Sri Lanka					
	Frequently/ Mostly	Mean	Domestic Income				Frequently/ Mostly	Mean	Domestic Income			
			<20	20-40	40-80	>80			<20	20-40	40-80	>80
Real option	73	3.58	4.00	2.25	3.70**	3.68	30	2.79	3.50	3.50	4.50	3.50**
Game theory	42	3.09	2.00	2.00	3.10	3.36**	4	2.29	3.50	3.00	3.00**	3.00**
Balanced score	20	2.93	3.00	2.25	3.10	2.96**	18	2.67	2.59	2.36	2.77	2.73**
Value chain	13	2.69	2.34	2.00	3.10	2.68**	17	2.53	2.83	2.17	2.53	2.38**

**Table 5.22 (g)-Guide Long-term Investment Decision vs. Ownership**

Techniques	Australia				Sri Lanka			
	Frequently/ Mostly	Mean	Ownership		Frequently/ Mostly	Mean	Ownership	
			Domestic	Foreign			Domestic	Foreign
Real option	73	3.58	3.70**	2.00	30	2.79	2.82**	2.40
Game theory	42	3.09	3.25**	2.00	4	2.29	2.67**	2.40
Balanced score	20	2.93	2.95**	3.00	18	2.67	2.64**	3.00
Value chain	13	2.69	2.75**	2.00	17	2.53	2.49**	3.00

**Table 5.22 (h)-Guide Long-term Investment Decision vs. Overall Risk Situation**

Techniques	Australia							Sri Lanka						
	Frequently/ Mostly	Mean	Overall Risk Situation					Frequently/ Mostly	Mean	Overall Risk Situation				
			Very High	High	Moderate	Low	Very Low			Very High	High	Moderate	Low	Very Low
Real option	73	3.58	3.25	3.84	3.32	4.00	0.00	30	2.79	0.00	3.00	2.70	2.91**	4.00
Game theory	42	3.09	3.00	3.58	2.47	4.00	0.00	4	2.29	0.00	2.34	2.28**	2.27	3.00
Balanced score	20	2.93	3.50	3.11**	2.63	3.00	0.00	18	2.67	0.00	2.34	2.77	2.50	3.00
Value chain	13	2.69	2.50	2.89**	2.47	3.00	0.00	17	2.53	0.00	3.00	2.62	2.36	1.00

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.9 Implementation

The respondents were asked to express their opinion on implementation as a phase to the CB process when analysing investments. Table 5.23(a) shows that the implementation phase was preferred by Australian respondents with a Bachelors degree than those with other degrees. In Sri Lanka, respondents with all levels of education are more inclined to agree that *implementation is a significant phase* in the CB process. In Sri Lanka, all the implementation practices are more likely to be considered by respondents with a Bachelors/Honours degree whereas this is only true for respondents with a Bachelors degree in Australia. In Table 5.23(b) all these implementation practices are favoured by young adults (25-35) and middle age (35-55) respondents throughout Australia and Sri Lanka. Table 5.23(c) shows that implementation practices are favoured by respondents with 1-10 years of experienced, other respondents in Australia. In Sri Lanka, the respondents with 6-15 years of experienced are most favourable. The more experienced (>16) Australian respondents have a more favourable impression of their *firm's review implementation procedures and top management's involvement in all aspects of the implementation and evaluation process*. Table 5.23(d) reveals that all the implementation practices are well used by firms in the utilities, consumables, material and industrial markets in Australia and similar results were found in Sri Lanka for firms in the industrial, consumables, material, health care, consumer discretionary markets. Firms in the Australian energy market are significantly more likely to consider *the establishment of an implementation plan and the assignment of a project team when the investment decision is made*. As shown in Table 5.23(e), the small (100-250 employees) and medium size firms (250-500 employees) are more likely to agree with these implementation practices. In contrast to Sri Lankan firms, large Australian firms are more inclined to consider all of these practices except *the establishment of an implementation plan and the assignment of*

*a project team when the investment decision is made and when developing implementation strategies, consideration is given to the barriers to implementation activities.* In table 5.23(f), highest domestic-focused Sri Lankan firms (40-80 percent) are more likely to apply all these practices more often, than other firms, whereas, the highest domestic-focused Australian firms were neutral or against the notions that: 1) *the firm reviews implementation procedures each year, when developing implementation strategies;* 2) *consideration is given to the barriers to implementation activities;* 3) *implementation mechanisms heavily influence the corporate framework;* and 4) *the implementation phase is scrutinised by examining risk analysis and alternative cash estimations.* As shown in Table 5.23(g), Australian domestic-owned firms significantly agreed on implementation practices than foreign owned Australian firms. In Sri Lanka, domestic-owned and foreign-owned firms both significantly agreed. Table 5.23(h) illustrates that moderate risk firms from Australia and Sri Lanka are more motivated to consent to these implementation practices. In addition, the implementation practices of the lower-risk firms in Sri Lanka are higher than those for the lower-risk Australian firms.



**Table 5.23-Implementation vs. Firm and Its Respondent's Attributes**

**Table 5.23 (a)-Implementation vs. Education Background (\*\* is significance level of 5 %)**

Implementation (IMP)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
Implementation is a significant phase	0.00	4.25**	4.00	4.20	4.00	4.67**	4.50**	4.79**	4.35**	4.40**
The plan and the assignment of team when the decision is made	0.00	4.06**	4.08**	4.00	3.50	3.33	4.22**	4.07**	4.16	4.40
The implementation phase entire divisions are involved	0.00	3.56**	3.75**	3.53**	4.00	4.00**	3.94**	3.79**	3.77	4.20
The firm reviews implementation procedures each year.	0.00	3.69**	3.67**	3.53**	4.00	4.33**	4.22**	4.07**	4.00	4.00
Top level management are involved in all aspects	0.00	3.88**	3.50	3.73	3.50	4.00	4.00**	4.21**	4.32**	4.80
When developing implementation, consideration to the barriers	0.00	3.81**	4.00**	3.60	4.00	4.67**	3.89**	4.07**	4.26	4.40
The firm is adopt corrective steps if required	0.00	3.75**	3.75**	3.53**	3.50	4.33**	4.17**	4.07**	4.26	4.00
Top level constantly monitor the implementation process	0.00	3.63**	3.50	4.00	4.00	4.33**	4.22**	4.07**	4.19	4.40
Implementation heavily influence the corporate framework	0.00	3.19**	3.92**	3.40**	3.50	4.00	4.22**	4.14**	3.87	4.20
This phase is scrutinised by examining risk and estimations	0.00	3.13**	3.75**	3.53**	4.00	4.00	4.17**	4.14**	3.87	3.40**

**Table 5.23 (b)-Implementation vs. Age**

Implementation (IMP)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
Implementation is a significant phase	4.00	4.20**	4.10**	4.22	0.00	4.25**	4.45**	4.79**
The plan and the assignment of team when the decision is made	5.00	4.00**	3.90**	4.22	0.00	3.75**	4.04**	4.64**
The implementation phase entire divisions are involved	4.00	3.67**	3.50**	3.78	0.00	4.00**	3.78**	4.07
The firm reviews implementation procedures each year.	3.00	3.80**	3.50**	3.78	0.00	3.88**	4.02**	4.43
Top level management are involved in all aspects	4.00	3.93**	3.70**	3.33	0.00	4.00**	4.20**	4.43**
When developing implementation, consideration to the barriers	4.00	3.80**	3.70**	4.00	0.00	3.75**	4.10**	4.50**
The firm is adopt corrective steps if required	3.00	3.47**	3.90**	3.56	0.00	4.25**	4.12**	4.36
Top level constantly monitor the implementation process	4.00	3.67**	3.75**	3.78	0.00	3.50**	4.27**	4.29
Implementation heavily influence the corporate framework	2.00	3.60**	3.35**	3.67	0.00	3.88**	4.08**	3.86
This phase is scrutinised by examining risk and estimations	4.00	3.47**	3.50**	3.33	0.00	4.13**	4.04**	3.64

**Table 5.23 (c)-Implementation vs. Experience**

Implementation (IMP)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
Implementation is a significant phase	4.18**	4.14**	4.27**	4.00	3.50	4.50**	4.41**	4.63**
The plan and the assignment of team when the decision is made	4.00**	4.21**	4.00**	3.78	3.50	3.60**	4.00**	4.44**
The implementation phase entire divisions are involved	3.45**	3.79**	3.73**	3.44	4.00	3.80**	3.76**	3.97
The firm reviews implementation procedures each year.	3.55**	3.79**	3.82**	3.33**	4.00	3.90**	3.90**	4.31**
Top level management are involved in all aspects	4.00**	3.64**	3.91**	3.22**	3.50	4.10**	4.21**	4.31**
When developing implementation, consideration to the barriers	3.82**	3.71**	3.91**	3.78	3.50	4.10**	4.10**	4.22
The firm is adopt corrective steps if required	3.27**	3.86**	3.82**	3.67	4.00	4.40**	4.00**	4.28**
Top level constantly monitor the implementation process	3.55**	3.79**	3.73	3.89	2.50	4.00**	4.28**	4.28**
Implementation heavily influence the corporate framework	3.36**	3.64**	3.36	3.44	2.50	4.20**	4.10**	3.97
This phase is scrutinised by examining risk and estimations	3.27**	3.50**	3.45	3.67	4.00	4.20**	4.07**	3.81

**Table 5.23 (d)-Implementation vs. Industry Sectors**

Implementation (IMP)	Australia: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
Implementation is a significant phase	4.20**	4.50	3.75	4.33	4.17**	4.20**	4.33**	4.00	4.00
The plan and the assignment of team when the decision is made	4.40**	4.00	4.25**	4.33	3.83**	4.20**	3.17**	4.33**	4.00**
The implementation phase entire divisions are involved	3.60**	4.50	3.50	3.67	2.83**	3.70**	4.00**	3.33**	3.83**
The firm reviews implementation procedures each year.	3.60**	3.50	3.50	3.33	3.83**	4.00**	3.33**	3.67**	3.50**
Top level management are involved in all aspects	4.00**	4.50	3.25	3.33	3.50**	3.90**	4.17**	3.33**	3.33**
When developing implementation, consideration to the barriers	3.60**	4.50	3.50	2.67	4.00**	4.10**	4.00**	3.67**	3.67**
The firm is adopt corrective steps if required	3.40**	4.50	4.00	3.33	4.00**	3.80**	3.67**	3.00**	3.33**
Top level constantly monitor the implementation process	3.40**	4.50	4.25**	4.33	3.83**	3.50**	4.17**	3.33**	3.17**
Implementation heavily influence the corporate framework	3.00**	4.00	3.25	3.33	3.17**	3.60**	3.67**	4.00**	3.50**
This phase is scrutinised by examining risk and estimations	3.40**	4.50	3.50	3.00	3.00**	3.30**	3.67**	4.00**	3.67**

Implementation (IMP)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
Implementation is a significant phase	5.00	5.00	4.25	4.33	4.40**	4.71**	4.25**	4.75**	4.38**
The plan and the assignment of team when the decision is made	5.00	4.50	4.25	4.33	3.90**	4.43**	4.25**	4.00**	3.92**
The implementation phase entire divisions are involved	5.00	4.00	4.50	3.67	3.65**	3.86**	3.75**	3.75**	4.08**
The firm reviews implementation procedures each year.	4.00	4.50	4.00	3.67	3.80**	4.21**	4.38**	4.25**	4.15**
Top level management are involved in all aspects	5.00	4.50	4.00	4.67	4.25**	4.36**	4.13**	4.13**	4.00**
When developing implementation, consideration to the barriers	5.00	5.00	3.75	4.33	4.25**	4.14**	3.88**	4.25**	3.92**
The firm is adopt corrective steps if required	5.00	5.00	4.50	4.33	4.05**	4.36**	4.13**	4.25**	3.85**
Top level constantly monitor the implementation process	5.00	4.50	4.25	4.33	4.10**	4.21**	3.88**	4.25**	4.31**
Implementation heavily influence the corporate framework	4.00	5.00	4.25	4.33	4.10**	4.00**	3.38**	4.13**	3.92**
This phase is scrutinised by examining risk and estimations	4.00	4.50	4.00	4.33	4.05**	3.86**	4.00**	4.00**	3.77**

**Table 5.23 (e)-Implementation vs. Number of Employees**

Implementation (IMP)	Australian Number of Employees				Sri Lankan Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
Implementation is a significant phase	4.33	4.00	4.10	4.18**	0.00	4.71**	4.68**	4.38**
The plan and the assignment of team when the decision is made	3.33	4.25	4.00	4.07	0.00	4.00**	4.21**	4.11
The implementation phase entire divisions are involved	3.67	2.75	3.50	3.79**	0.00	3.86**	3.89**	3.85
The firm reviews implementation procedures each year.	3.00	3.75	3.60	3.71**	0.00	3.86**	4.16**	4.09
Top level management are involved in all aspects	3.67	3.75	3.80	3.68**	0.00	3.71**	4.42**	4.21
When developing implementation, consideration to the barriers	4.00	4.00	3.70	3.79	0.00	3.86**	4.53**	4.02
The firm is adopt corrective steps if required	3.33	4.00	3.70	3.64**	0.00	3.57**	4.42**	4.17
Top level constantly monitor the implementation process	3.33	4.00	3.70	3.75**	0.00	4.14**	4.47**	4.09
Implementation heavily influence the corporate framework	3.33	2.75	3.50	3.57**	0.00	3.71**	4.42**	3.89
This phase is scrutinised by examining risk and estimations	3.33	2.75	3.50	3.57**	0.00	4.29**	4.21**	3.83

**Table 5.23 (f)-Implementation vs. Domestic Income**

Implementation (IMP)	Australian Domestic Income				Sri Lankan Domestic Income			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
Implementation is a significant phase	4.33**	4.00**	4.10**	4.18	4.00	4.50	4.59**	4.47**
The plan and the assignment of team when the decision is made	3.33	4.25**	4.00**	4.07	4.00	4.00	4.32**	4.04
The implementation phase entire divisions are involved	3.67**	2.75	3.50**	3.79	3.00	3.50	3.95**	3.87
The firm reviews implementation procedures each year.	3.00	3.75**	3.60	3.71**	4.00	3.50	4.41**	3.96
Top level management are involved in all aspects	3.67	3.75**	3.80**	3.68**	3.50	4.00	4.27**	4.23**
When developing implementation, consideration to the barriers	4.00	4.00	3.70	3.79	3.00	4.00	4.18**	4.17
The firm is adopt corrective steps if required	3.33	4.00**	3.70**	3.64	4.00	4.00	4.36**	4.11
Top level constantly monitor the implementation process	3.33	4.00	3.70**	3.75	4.00	4.00	4.64**	4.00
Implementation heavily influence the corporate framework	3.33	2.75	3.50	3.57**	3.00	4.00	4.36**	3.89
This phase is scrutinised by examining risk and estimations	3.33	2.75	3.50	3.57**	4.00	4.00	4.05**	3.94

**Table 5.23 (g)-Implementation vs. Ownership**

Implementation (IMP)	Australia Firm Ownership		Sri Lankan Firm Ownership	
	Domestic	Foreign	Domestic	Foreign
Implementation is a significant phase	4.20**	4.00	4.49**	4.60**
The plan and the assignment of team when the decision is made	4.03**	4.50	4.09**	4.60**
The implementation phase entire divisions are involved	3.68**	3.50	3.85**	4.00**
The firm reviews implementation procedures each year.	3.73**	3.50	4.04**	4.60**
Top level management are involved in all aspects	3.78**	3.50	4.19**	4.40**
When developing implementation, consideration to the barriers	3.78**	4.00	4.13**	4.20**
The firm is adopt corrective steps if required	3.63**	4.00	4.15**	4.60**
Top level constantly monitor the implementation process	3.75**	4.00	4.16**	4.60**
Implementation heavily influence the corporate framework	3.50**	4.00	4.01**	4.00**
This phase is scrutinised by examining risk and estimations	3.43**	4.50	3.99**	3.80**

**Table 5.23 (h)-Implementation vs. Overall Risk Situation**

Implementation (IMP)	Australian Overall Risk Situation					Sri Lankan Overall Risk Situation				
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
Implementation is a significant phase	4.00	4.11**	4.11**	5.00	0.00	0.00	4.67	4.53**	4.45**	3.00
The plan and the assignment of team when the decision is made	4.25	4.26	3.74**	4.00	0.00	0.00	3.33	4.21**	4.09**	3.00
The implementation phase entire divisions are involved	3.25**	3.79	3.47**	4.00	0.00	0.00	3.33	3.85**	3.95**	4.00
The firm reviews implementation procedures each year.	4.00	3.68**	3.42**	4.33**	0.00	0.00	4.00	4.09**	4.09**	4.00
Top level management are involved in all aspects	3.75	3.58**	3.79**	4.00	0.00	0.00	4.00	4.26**	4.18**	4.00
When developing implementation, consideration to the barriers	4.25	3.63	3.89**	3.67**	0.00	0.00	4.67	4.15**	4.05**	4.00
The firm is adopt corrective steps if required	3.50	3.68	3.74**	3.33	0.00	0.00	4.67	4.17**	4.18**	3.00
Top level constantly monitor the implementation process	3.50	3.63	3.95**	3.33	0.00	0.00	4.67	4.26**	4.14**	1.00
Implementation heavily influence the corporate framework	3.25**	3.42**	3.63**	3.00	0.00	0.00	4.00	4.04**	4.09**	1.00
This phase is scrutinised by examining risk and estimations	3.00	3.42**	3.53**	4.00	0.00	0.00	3.67	4.00**	3.95**	4.00

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.10 Expenditure Control and Monitoring

The respondents were asked to score how far they agree regarding assertions on the expenditure control and monitoring phase of CB processes. Table 5.24(a), indicates that expenditure control and monitoring as a phase received a more favourable ranking among respondents with a Bachelors/Honours degree in Australia. In Sri Lanka, expenditure control and monitoring seems to be more popular among respondents with Diploma/Bachelors/Honours. In addition, all the practices of expenditure control and monitoring were significantly agreed on by respondents with a Bachelors degree while this result is consistent with those for the respondents with Diploma, Bachelors, Honours degree in Sri Lanka. Compared to the respondents with PhD in Australia, respondents with a PhD in Sri Lanka are more likely to agree that *top management usually provides support for the expenditure control and monitoring process and the firm has an established effective operational internal control system*. Table 5.24(b) shows that all the practices of expenditure control and monitoring are favourably considered by young adults (25-35) and middle age (35-55) respondents in Australia and Sri Lanka. Mature aged (>55) respondents in Australia rely on the fact that *the firm's accounting system provides sufficiently detailed breakdowns of accounts to enable analysis of variances* than other practices. As shown in Table 5.24(c), less (1-5 years) and middle (6-10 years) experienced respondents deeply trust the expenditure control and monitoring practices in Australia—that level of trust is consistent with the attitudes of middle (6-10) and high (11-15) experienced Sri Lankan respondents. Table 5.24(d) shows that practices on expenditure control and monitoring are applied more by firms in utilities, consumables and consumer discretionary markets in Australia. This usage is similar to that of Sri Lankan firms in the industrial, consumables, material, health care, and consumer discretionary markets. Sri Lankan energy firms significantly agree that *firms have the ability to assess the effect of inflation factors on*

*financial decisions*. Table 5.24(e) indicates that large firms (>500) are more likely to apply all the practices of expenditure control and monitoring, excluding 1) *expenditure control is an important phase in the CB practice of firms* and 2) *there is constant monitoring of progress of investments with the strategic planning of firms*—in Sri Lanka, medium level firms (100-500 employees) strongly agreed. Table 5.24(f) shows that expenditure control and monitoring practices, in Sri Lanka, are consistently more popular among 40-80 percent domestic-focused firms. In Australia, 40-80 percent domestic-focused firms significantly agreed to all of these practices except for: 1) *respondents can receive progress reports at regular intervals concerning the project monitoring*; 2) *the firm updates its monitoring procedures on a timely basis, particularly when new investments are accepted*; and 3) *the firm's accounting system provides sufficiently detailed breakdowns of accounts to enable analysis of variances*. The moderately domestic-focused firms (20-40 percent) are likely to agree on practices in line with expenditure control and monitoring except for *deviations from the estimated cash flows are monitored on a regular basis with a view to taking corrective actions when needed*. As shown in Table 5.24(g) domestic-owned Australian companies significantly considered all expenditure control and monitoring practices. This result is consistent with those for Sri Lankan firms. Foreign-owned Sri Lankan firms also significantly agreed to all of these practices. In contrast to the Sri Lankan firms, foreign-owned Australian firms are more inclined to agree that the firm has the ability to assess *the effect of inflationary factors on financial decisions and that the accounting system of the firm provides sufficiently detailed breakdowns of accounts to enable analysis of variances*. Table 5.24(h) suggests that moderate-and-lower risk firms are significantly more likely to agree to all this practices in Sri Lanka. This result is consistent with those for the moderate risk firms in Australia.

**Table 5.24-Expenditure Control and Monitoring vs. Firm and Respondent's Attributes****Table 5.24 (a)-Expenditure Control and Monitoring vs. Education Background (\*\* is significance level of 5 %)**

Expenditure control and monitoring (ECM)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
Expenditure control is an important phase	0.00	4.00**	4.20**	4.00	3.88	4.33**	3.94**	4.29**	4.10	4.40
There is constant monitoring of progress with the planning	0.00	4.00**	4.13**	4.50	3.81	4.33**	4.06**	4.21**	4.00	4.40
Deviations from the cash flows are monitored on a regular basis	0.00	3.67**	3.93**	4.00	3.63	4.67**	4.11**	4.21**	4.03	4.40
Top management usually support for expenditure control	0.00	3.67**	3.67**	4.00	3.63	4.67**	4.00**	3.93**	4.13	4.20**
CFOs can receive progress reports at regular intervals	0.00	3.67**	3.60**	3.50	3.69	4.67**	4.06**	4.21**	4.13	4.40
The ability to assess the effect of inflation factors on decisions	0.00	3.33**	3.73	4.00	3.50	4.33**	3.72**	3.93**	4.06	4.00
The firm has an established effective internal control system	0.00	3.42**	3.73	4.50**	3.63	4.67**	3.78**	4.07**	3.97	3.80**
The firm updates its monitoring procedures on a timely basis	0.00	3.00**	3.60	4.00	3.69	4.33**	4.00**	4.21**	3.87	4.20
Accounting system provides detailed breakdowns of accounts	0.00	3.08**	3.67	3.50	3.50	4.33**	4.00**	4.36**	3.90	4.60
Variations in cash flows it should be reported to management	0.00	3.75**	3.87**	4.00	3.50	4.67**	4.06**	4.36**	3.90	4.60

**Table 5.24 (b)-Expenditure Control and Monitoring vs. Age**

Expenditure control and monitoring (ECM)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
Expenditure control is an important phase	3.88	4.00**	4.20**	4.00	0	4.63**	4.14**	3.86
There is constant monitoring of progress with the planning	3.81	4.00**	4.13**	4.50	0	4.63**	4.06**	3.86
Deviations from the cash flows are monitored on a regular basis	3.63	3.67**	3.93**	4.00	0	4.50**	4.12**	3.93
Top management usually support for expenditure control	3.63	3.67**	3.67**	4.00	0	4.13**	4.12**	3.93
CFOs can receive progress reports at regular intervals	3.69	3.67**	3.60**	3.50	0	4.38**	4.18**	4.00
The ability to assess the effect of inflation factors on decisions	3.50	3.33**	3.73**	4.00	0	4.13**	4.00**	3.71
The firm has an established effective internal control system	3.63	3.42**	3.73**	4.50	0	4.13**	4.04**	3.64
The firm updates its monitoring procedures on a timely basis	3.69	3.00**	3.60**	4.00	0	4.13**	4.04**	3.93
Accounting system provides detailed breakdowns of accounts	3.50	3.08**	3.67**	3.50**	0	4.38**	4.06**	4.00
Variations in cash flows it should be reported to management	3.50	3.75**	3.87**	4.00	0	4.13**	4.10**	4.07



**Table 5.24 (c)-Expenditure Control and Monitoring vs. Management Experience**

Expenditure control and monitoring (ECM)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
Expenditure control is an important phase	4.00**	4.00**	3.91**	4.22	4.00	4.50**	4.10**	4.06
There is constant monitoring of progress with the planning	4.09**	4.21**	3.91**	3.67	4.50	4.50**	3.97**	4.03
Deviations from the cash flows are monitored on a regular basis	3.73**	3.57**	3.73**	4.11	4.50	4.40**	3.97**	4.16
Top management usually support for expenditure control	3.45**	3.71**	3.73**	3.78	4.50	4.10**	4.17**	3.97
CFOs can receive progress reports at regular intervals	3.73**	3.43**	3.36	4.22	4.50	4.20**	4.10**	4.19
The ability to assess the effect of inflation factors on decisions	3.73**	3.64**	3.36	3.44	4.00	4.30**	3.97**	3.84
The firm has an established effective internal control system	3.64**	3.64**	3.55	3.78	4.00	4.00**	3.86**	4.06
The firm updates its monitoring procedures on a timely basis	3.45**	3.36**	3.55	3.67	3.50	4.10**	4.07**	4.00
Accounting system provides detailed breakdowns of accounts	3.27**	3.21**	3.45	4.00	3.50	4.30**	4.10**	4.03
Variations in cash flows it should be reported to management	3.64**	3.64**	3.64**	4.00	3.50	4.10**	4.07**	4.16

**Table 5.24 (d)-Expenditure Control and Monitoring vs. Industry Sectors**

Expenditure control and monitoring (ECM)	Australia: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
Expenditure control is an important phase	4.00**	4.00	4.50	4.00	4.00	3.90**	4.00	4.00	4.00**
There is constant monitoring of progress with the planning	3.80**	4.50	4.25	4.67	4.00	3.90**	4.17**	3.00	4.00**
Deviations from the cash flows are monitored on a regular basis	3.60**	3.50	4.25	3.67	3.67**	3.70**	4.00	3.67	3.67**
Top management usually support for expenditure control	3.60**	4.00	4.00	4.00	3.50**	3.50**	3.83**	3.33	3.67**
CFOs can receive progress reports at regular intervals	3.60**	3.50	4.00	3.00	3.83**	3.10**	4.33**	4.00	3.67**
The ability to assess the effect of inflation factors on decisions	2.80**	4.00	4.00	4.00	3.33**	3.40**	4.17**	2.67	3.83**
The firm has an established effective internal control system	3.60**	4.50	4.25	4.00	3.33**	3.60**	3.83**	2.67	3.50**
The firm updates its monitoring procedures on a timely basis	3.00**	4.50	4.00	3.00	3.67	3.10**	4.00	3.67	3.33**
Accounting system provides detailed breakdowns of accounts	3.00**	3.50	4.00	3.33	3.50**	3.20**	4.17**	2.67	3.50**
Variations in cash flows it should be reported to management	3.60**	3.00	4.50	4.00	3.67**	3.60**	4.00	4.00	3.17**

Expenditure control and monitoring (ECM)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
Expenditure control is an important phase	4.00	4.00	3.50	4.33	4.35**	4.07**	3.63**	4.25**	4.31**
There is constant monitoring of progress with the planning	4.00	4.00	4.00	4.67	4.10**	3.93**	4.00**	4.38**	4.00**
Deviations from the cash flows are monitored on a regular basis	4.00	4.00	3.75	4.33	4.10**	4.00**	4.00**	4.25**	4.38**
Top management usually support for expenditure control	4.00	4.00	4.00	4.00	4.20**	4.21**	3.63**	4.13**	4.08**
CFOs can receive progress reports at regular intervals	4.00	4.00	4.00	4.67	4.10**	4.29**	4.13**	4.13**	4.15**
The ability to assess the effect of inflation factors on decisions	4.00	4.50	4.25**	3.67	4.10**	3.93**	3.63**	3.75**	4.00**
The firm has an established effective internal control system	3.00	4.50	3.75	4.33	3.85**	3.86**	4.00**	4.00**	4.23**
The firm updates its monitoring procedures on a timely basis	4.00	4.50	3.75	4.00	4.05**	3.86**	4.00**	4.13**	4.15**
Accounting system provides detailed breakdowns of accounts	4.00	4.50	3.75	4.00	4.10**	4.14**	3.75**	4.38**	4.08**
Variations in cash flows it should be reported to management	4.00	4.50	3.75	4.33	4.05**	4.14**	3.75**	4.25**	4.23**

**Table 5.24 (e)-Expenditure Control and Monitoring vs. Number of Employees**

Expenditure control and monitoring (ECM)	Australian Number of Employees				Sri Lankan Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
Expenditure control is an important phase	4.50	4.00	4.00	4.00	0.00	4.00**	4.21**	4.13
There is constant monitoring of progress with the planning	4.50	4.00	4.00	3.98	0.00	4.14**	4.21**	4.02
Deviations from the cash flows are monitored on a regular basis	4.50	4.00	4.00	3.70**	0.00	4.14**	4.16**	4.11
Top management usually support for expenditure control	4.00	4.00	4.00	3.63**	0.00	4.14**	4.11**	4.06
CFOs can receive progress reports at regular intervals	4.50	5.00	4.00	3.55**	0.00	4.43**	4.11**	4.15
The ability to assess the effect of inflation factors on decisions	5.00	4.00	4.00	3.45**	0.00	4.43**	4.00**	3.87
The firm has an established effective internal control system	3.50	5.00	4.00	3.60**	0.00	3.57**	4.11**	3.98
The firm updates its monitoring procedures on a timely basis	4.50	5.00	4.00	3.38**	0.00	4.14**	4.00**	4.02
Accounting system provides detailed breakdowns of accounts	4.00	4.00	4.00	3.38**	0.00	4.29**	4.16**	4.02
Variations in cash flows it should be reported to management	4.50	4.00	4.00	3.65**	0.00	4.29**	4.11**	4.06

**Table 5.24 (f)-Expenditure Control and Monitoring vs. Domestic Income**

Expenditure control and monitoring (ECM)	Australian Domestic Focus				Sri Lanka Domestic Focus			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
Expenditure control is an important phase	4.00	3.75**	4.10**	4.04	3.00	4.00	4.14**	4.19
There is constant monitoring of progress with the planning	4.33**	3.75**	4.30**	3.89	4.00	4.00	4.23**	4.02
Deviations from the cash flows are monitored on a regular basis	4.00	4.00	3.60**	3.75**	4.00	4.00	4.18**	4.11
Top management usually support for expenditure control	3.33**	4.00**	3.70**	3.64**	3.00	4.00	4.23**	4.06
CFOs can receive progress reports at regular intervals	4.00	4.50**	3.30	3.61**	4.00	4.00	4.18**	4.17
The ability to assess the effect of inflation factors on decisions	4.00**	3.50**	3.60**	3.50**	3.00	4.00	3.95**	4.00
The firm has an established effective internal control system	3.67**	4.50**	3.60**	3.54**	4.00	4.00	3.91**	4.00
The firm updates its monitoring procedures on a timely basis	3.33**	3.75**	2.90	3.68**	4.00	3.50	4.18**	3.98
Accounting system provides detailed breakdowns of accounts	3.67**	3.75**	3.40	3.39**	3.00	4.00	4.27**	4.04
Variations in cash flows it should be reported to management	3.33**	3.50**	3.60**	3.82	4.00	4.00	4.18**	4.06

**Table 5.24 (g)-Expenditure Control and Monitoring vs. Ownership**

Expenditure control and monitoring (ECM)	Australia Firm Ownership		Sri Lankan Firm Ownership	
	Domestic	Foreign	Domestic	Foreign
Expenditure control is an important phase	4.00**	4.50	4.13**	4.00**
There is constant monitoring of progress with the planning	4.00**	4.00	4.06**	4.20**
Deviations from the cash flows are monitored on a regular basis	3.73**	4.00	4.10**	4.20**
Top management usually support for expenditure control	3.60**	4.50	4.07**	4.20**
CFOs can receive progress reports at regular intervals	3.58**	3.50**	4.13**	4.40**
The ability to assess the effect of inflation factors on decisions	3.50**	4.50	3.96**	4.00**
The firm has an established effective internal control system	3.58**	4.00	3.94**	4.40**
The firm updates its monitoring procedures on a timely basis	3.50**	3.50	4.01**	4.20**
Accounting system provides detailed breakdowns of accounts	3.30**	4.50**	4.09**	3.80**
Variations in cash flows it should be reported to management	3.75**	3.50	4.09**	4.20**

**Table 5.24 (h)-Expenditure Control and Monitoring vs. Overall Risk Situation**

Expenditure control and monitoring (ECM)	Australian Overall Risk Situation					Sri Lankan Overall Risk Situation				
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
Expenditure control is an important phase	4.00	3.95	4.05**	4.33**	0.00	0.00	4.33	4.21**	3.95**	4.00
There is constant monitoring of progress with the planning	3.75	3.95	4.11**	4.00**	0.00	0.00	4.33	4.06**	4.09**	4.00
Deviations from the cash flows are monitored on a regular basis	4.00	3.63**	3.84**	3.67**	0.00	0.00	4.33	4.15**	4.05**	4.00
Top management usually support for expenditure control	3.75	3.53**	3.84**	3.33	0.00	0.00	4.33	4.06**	4.09**	4.00
CFOs can receive progress reports at regular intervals	3.00	3.58**	3.84**	3.67**	0.00	0.00	4.00	4.19**	4.09**	5.00
The ability to assess the effect of inflation factors on decisions	3.50	3.53**	3.63**	3.33	0.00	0.00	4.67	3.91**	3.91**	5.00
The firm has an established effective internal control system	3.75	3.68**	3.63**	3.33	0.00	0.00	3.33	4.02**	3.91**	5.00
The firm updates its monitoring procedures on a timely basis	4.00	3.32**	3.47**	4.00**	0.00	0.00	3.67	4.11**	3.95**	3.00
Accounting system provides detailed breakdowns of accounts	3.75	3.26**	3.58**	3.33	0.00	0.00	3.67	4.19**	3.95**	3.00
Variations in cash flows it should be reported to management	4.00	3.63	3.74**	3.67**	0.00	0.00	3.33	4.21**	4.00**	3.00

\*\* denotes a significantly different from zero at the 5 % level

### 5.5.11 Post-audit

The respondents were asked to express their opinion on post-audit as a phase in CB process. As shown in Table 5.25(a), post-audit practices as a phase received a higher level of agreement among respondents with Bachelors/Honours degree in Australia and Sri Lanka. Despite the fact that, the value of the post-audit phase is well recognised by respondents with Bachelors/Honours degree in Australia—Sri Lankan respondents at all education levels significantly agreed. In Sri Lanka, respondents with a PhD agreed that 1) *post-audit is an important phase in the CB practice*, 2) *the auditor discusses key results with CFO during the process of review of investment decisions*, 3) *overall, firms are satisfied with the purpose, scope, objectives, conduct, and results of the post completion audit*, 4) *the firm has regular and pre-agreed on procedures for post-audits that is in accordance with the firm's investment goals* and 5) *the results of post-audits assists in evaluating projects and to improve future forecasts*. The results in Table 5.25(b), young adults (25-35 years) and middle age (35-55 years) respondents are more likely to agree all of these post-audit practices in Australia and Sri Lanka. Conversely Mature respondents (>55 years) are more inclined to agree that *post-audit is an important phase in the CB practice and post-audits relate to the current long-term decisions support process of the investment implementation*. Table 5.25(c) shows that respondents with less (1-5 years) and middle (6-10 years) experience significantly agreed to the entire post-audit practices in Australia. This result is consistent with those for the middle (6-10) and higher (11-15) experienced respondents in Sri Lanka. Table 5.25(d) illustrates that post-audit practices are applied more by consumables, materials, health care and consumer discretionary sectors in Australia. In Sri Lanka, firms in the industrial, consumables, material, health care and consumer discretionary are significantly more likely to agree to post-audit practices. Table 5.25(e) shows small (100-250 employees) and medium (250-500 employees) size firms heavily

rely on post-audit practices in Sri Lanka compared to Australian companies. Whereas large firms (>500 employees) most widely agreed that post-audit practices except *the auditor discusses key results with CFO during the progress of the review of investment decisions*. Overall, firms in both countries are satisfied with *the purpose, scope, objectives, conduct, and results of the post completion audit and post-audit conclusions and opinion are logical and well documented*. Table 5.25(f) shows that higher domestic income earning (40-80 percent) companies significantly agreed to the entire post-audit practices. However, large domestic income earned (80 percent) firms rely on *post-audit as an important phase in CB practices and the firm has regular and pre-agreed on procedures for post-audits that is in accordance with the firm's investment goals*. In contrast to the Sri Lankan companies, however, domestic focused firms (80 percent) significantly agreed that 1) *post-audit is an important phase in the CB practice*, 2) *the results of post-audits help evaluate projects and to improve future forecasts*, 3) *a post implementation audit provides useful feedback to investment appraisal* and 4) *post-audits relate to the current long-term decision support process during investment implementation*. Table 5.25(h) illustrates that, domestic-owned firms from Australia and Sri Lanka are more motivated to consent the post-audit practices. Also Sri Lankan foreign-owned companies significantly agree with post-audit practices, excluding: 1) *the auditor discusses key results with CFO during the progress of the review of investment decisions* and 2) *firm are satisfied with the purpose, scope, objectives, conduct, and results of the post completion audit*. Tables 5.25 shows that there seems to be differences with respect to agreeing with post-audit as a significant phase between moderate and lower risk companies and other companies in both countries.

**Table 5.25-Post-audit vs. Firm and Its Respondent's Attributes**

**Table 5.25 (a)-Post-audit vs. Education Background (\*\* is significance level of 5 %)**

Post-audit (PA)	Australian Education Background					Sri Lankan Education Background				
	Diploma	Bachelor	Honours	Master	PhD	Diploma	Bachelor	Honours	Master	PhD
The post-audit is an important.	0.00	3.88**	4.00**	4.20	4.00	4.33**	4.39**	4.71**	4.16	4.60**
The auditor discusses key results with CFO during the progress	0.00	3.81**	4.00**	4.13	4.50	4.67**	4.22**	4.29**	4.03	4.00**
Firm satisfies with the purpose, scope, results of the post-audit	0.00	3.63**	3.67**	3.93	4.00	4.33**	4.00**	4.14**	3.94	4.20**
The firm has regular and pre-agreed on procedures	0.00	3.63**	3.67**	3.67	4.00	3.67**	4.00**	3.86**	3.74	4.20**
The results of post-audits assist to evaluate projects	0.00	3.69**	3.67**	3.60	3.50	4.33**	4.06**	3.93**	3.87	4.40**
A post implementation audit provides useful feedback	0.00	3.50**	3.33**	3.73	4.00	3.67**	4.00**	3.79**	3.97	4.60
Audit information prompts management	0.00	3.63**	3.42**	3.73	4.50	3.33	3.94**	3.86**	4.06	4.60
Post-audits support process of the investment implementation	0.00	3.69**	3.00**	3.60	4.00	3.33	4.11**	4.07**	3.90	4.40
Audits contribute to improvement of investment decision	0.00	3.50**	3.08**	3.67	3.50	4.00	3.94**	3.93**	3.94	4.00
Post-audit opinion are logical and well documented	0.00	3.50**	3.75**	3.87	4.00	4.00	4.00**	4.07**	4.00	4.00

**Table 5.25 (b)-Post-audit vs. Age**

Post-audit (PA)	Australian Age group				Sri Lankan Age group			
	<25	25-35	35-55	>55	<25	25-35	35-55	>55
The post-audit is an important.	4.00	4.47**	4.15**	4.44**	0.00	4.50**	4.31**	4.43
The auditor discusses key results with CFO during the progress	4.00	4.07**	4.00**	4.11	0.00	4.38**	4.10**	4.21
Firm satisfies with the purpose, scope, results of the post-audit	3.00	3.87**	3.90**	3.78	0.00	4.00**	4.02**	4.07
The firm has regular and pre-agreed on procedures	4.00	3.73**	3.65**	3.67	0.00	3.88**	3.84**	3.86
The results of post-audits assist to evaluate projects	3.00	3.60**	3.60**	3.67	0.00	4.13**	3.96**	4.00
A post implementation audit provides useful feedback	4.00	3.60**	3.90**	3.33	0.00	3.50**	4.08**	3.93
Audit information prompts management	3.00	3.53**	3.70**	3.78	0.00	3.63**	4.10**	3.86
Post-audits support process of the investment implementation	4.00	3.67**	3.60**	2.89**	0.00	3.50**	4.10**	3.93
Audits contribute to improvement of investment decision	4.00	3.67**	3.65**	3.33	0.00	3.38**	4.00**	4.07
Post-audit opinion are logical and well documented	4.00	3.73**	3.80**	4.22	0.00	3.50**	4.08**	4.07

**Table 5.25 (c)-Post-audit vs. Experience**

Post-audit (PA)	Australian Management Experience				Sri Lankan Management Experience			
	1-5	6-10	11-15	>16	1-5	6-10	11-15	>16
The post-audit is an important.	4.45**	4.36**	4.45**	3.89	4.00	4.60**	4.24**	4.41
The auditor discusses key results with CFO during the progress	4.18**	3.93**	4.18**	3.89	4.00	4.30**	4.03**	4.22
Firm satisfies with the purpose, scope, results of the post-audit	3.64**	4.21**	3.82**	3.56	4.50	3.90**	3.90**	4.16
The firm has regular and pre-agreed on procedures	4.09**	3.57**	3.55	3.56	4.50	3.50**	3.86**	3.91
The results of post-audits assist to evaluate projects	3.73**	3.64**	3.64	3.33**	4.50	3.80**	3.97**	4.03
A post implementation audit provides useful feedback	4.00**	3.71**	3.45	3.56	3.50	3.80**	4.03**	4.03
Audit information prompts management	3.45**	3.79**	3.91**	3.33	3.00	4.00**	3.97**	4.09
Post-audits support process of the investment implementation	3.82**	3.64**	3.27	3.11**	2.00	3.90**	4.00**	4.16
Audits contribute to improvement of investment decision	3.45**	4.00**	3.27	3.56	2.50	3.80**	3.93**	4.09
Post-audit opinion are logical and well documented	3.91**	3.86**	3.91**	3.78	3.00	3.90**	4.07**	4.06

**Table 5.25 (d)-Post-audit vs. Industry Sectors**

Post-audit (PA)	Australia: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The post-audit is an important.	4.20**	4.50	3.75	4.33	4.67	4.60**	4.33**	4.33**	3.83**
The auditor discusses key results with CFO during the progress	4.00	4.50	4.00	4.00	4.33**	4.10**	4.17**	3.67**	3.67**
Firm satisfies with the purpose, scope, results of the post-audit	3.20**	5.00	3.75	4.00	4.17**	4.10**	4.00**	3.33**	3.33**
The firm has regular and pre-agreed on procedures	3.80**	4.50	3.75	3.00	4.00**	3.60**	3.67**	3.67**	3.50**
The results of post-audits assist to evaluate projects	3.40**	4.00	3.50	2.67	3.83	3.80**	4.00**	3.33**	3.33**
A post implementation audit provides useful feedback	4.00	4.00	3.50	3.67	3.67**	3.40**	4.50**	2.67**	3.67**
Audit information prompts management	3.20**	4.00	4.00	3.67	3.50**	3.90**	4.00**	3.00**	3.33**
Post-audits support process of the investment implementation	3.40**	3.50	3.50	3.33	3.33**	3.50**	3.83**	2.33**	4.00**
Audits contribute to improvement of investment decision	3.40**	4.50	3.75	3.33	3.50**	3.60**	3.67**	3.00**	3.83**
Post-audit opinion are logical and well documented	4.00	4.00	4.00	4.00	4.00**	4.00**	3.83**	4.00**	3.17**



Post-audit (PA)	Sri Lanka: Industry Sectors								
	Utilities	Inform	Energy	Telecom	Industrial	Consumer staples	Material	Health care	Consumer Discretion
The post-audit is an important.	5.00	4.50	3.75	4.67	4.35**	4.57**	4.38**	4.75**	3.92**
The auditor discusses key results with CFO during the progress	4.00	4.50	3.50	4.00	4.10**	4.14**	4.00**	4.75**	4.15**
Firm satisfies with the purpose, scope, results of the post-audit	4.00	4.00	3.50	4.00	3.80**	4.36**	4.25**	4.25**	3.92**
The firm has regular and pre-agreed on procedures	4.00	4.00	3.25	4.67	3.70**	3.79**	3.75**	4.50**	3.77**
The results of post-audits assist to evaluate projects	4.00	4.00	3.75	4.67	3.75**	4.00**	4.13**	4.13**	4.08**
A post implementation audit provides useful feedback	4.00	4.00	3.75	4.67	3.85**	3.71**	4.13**	4.13**	4.23**
Audit information prompts management	4.00	4.00	4.00	4.00	3.90**	4.07**	4.13**	3.88**	4.08**
Post-audits support process of the investment implementation	4.00	4.00	3.75	4.00	3.70**	4.07**	4.00**	4.25**	4.31**
Audits contribute to improvement of investment decision	4.00	4.00	4.00	4.00	3.70**	4.00**	4.00**	4.25**	4.00**
Post-audit opinion are logical and well documented	5.00	4.00	4.00	4.33	3.85**	4.00**	4.00**	4.38**	3.92**

**Table 5.25 (e)-Post-audit vs. Number of Employees**

Post-audit (PA)	Australian Number of Employees				Sri Lankan Number of Employees			
	<100	100-250	250-500	>500	<100	100-250	250-500	>500
The post-audit is an important.	4.00	5.00	4.50	4.30**	0.00	4.29**	4.58**	4.28**
The auditor discusses key results with CFO during the progress	3.50	5.00	4.50	4.03	0.00	4.00**	4.37**	4.09
Firm satisfies with the purpose, scope, results of the post-audit	3.00	4.00	5.00	3.83	0.00	3.86**	4.16**	4.00
The firm has regular and pre-agreed on procedures	4.00	5.00	4.50	3.60**	0.00	3.43**	4.21**	3.77**
The results of post-audits assist to evaluate projects	3.50	4.00	4.50	3.55**	0.00	3.71**	4.16**	3.96
A post implementation audit provides useful feedback	4.00	5.00	4.00	3.63**	0.00	3.86**	4.16**	3.94
Audit information prompts management	4.00	5.00	3.50	3.60**	0.00	3.86**	4.21**	3.94
Post-audits support process of the investment implementation	3.50	4.00	3.50	3.48**	0.00	3.86**	4.26**	3.91
Audits contribute to improvement of investment decision	2.00	5.00	4.50	3.60**	0.00	3.86**	4.16**	3.87
Post-audit opinion are logical and well documented	4.00	4.00	4.00	3.85	0.00	3.86**	4.26**	3.94

**Table 5.25 (f)-Post-audit vs. Domestic Income**

Post-audit (PA)	Australian Domestic Focus				Sri Lankan Domestic Focus			
	<20	20-40	40-80	>80	<20	20-40	40-80	>80
The post-audit is an important.	3.67	4.50**	4.50**	4.29**	4.00	5.00	4.73**	4.17
The auditor discusses key results with CFO during the progress	3.33	4.50**	4.10**	4.04	4.00	4.50	4.36**	4.04
Firm satisfies with the purpose, scope, results of the post-audit	3.00	4.00**	4.10**	3.82	4.00	5.00	4.14**	3.94
The firm has regular and pre-agreed on procedures	3.67	4.50**	3.30	3.71	3.00	4.00	4.00**	3.81**
The results of post-audits assist to evaluate projects	3.33	4.00**	3.50	3.61**	4.00	3.50	4.09**	3.96
A post implementation audit provides useful feedback	4.33**	4.25**	3.70**	3.54**	4.00	4.00	4.09**	3.94
Audit information prompts management	3.67	3.50**	3.40	3.75	4.00	4.00	4.32**	3.85
Post-audits support process of the investment implementation	4.00	3.50**	3.40	3.46**	4.00	4.00	4.32**	3.85
Audits contribute to improvement of investment decision	3.00	4.50**	3.30	3.64	4.00	4.00	4.18**	3.83
Post-audit opinion are logical and well documented	4.00**	4.00**	3.70**	3.89	4.00	4.50	4.23**	3.89

**Table 5.25 (g)-Post-Audit vs. Ownership**

Post-audit (PA)	Australian Firm Ownership		Sri Lankan Firm Ownership	
	Domestic	Foreign	Domestic	Foreign
The post-audit is an important.	4.40**	4.00	4.33**	4.80**
The auditor discusses key results with CFO during the progress	4.13**	3.50	4.16**	4.00
Firm satisfies with the purpose, scope, results of the post-audit	3.90**	3.50	4.04**	4.00
The firm has regular and pre-agreed on procedures	3.75**	3.50	3.85**	4.00**
The results of post-audits assist to evaluate projects	3.60**	4.00	3.97**	4.40**
A post implementation audit provides useful feedback	3.65**	3.50	3.99**	4.00**
Audit information prompts management	3.75**	2.50	3.97**	4.40**
Post-audits support process of the investment implementation	3.53**	2.50	3.99**	4.20**
Audits contribute to improvement of investment decision	3.63**	2.50	3.93**	4.20**
Post-audit opinion are logical and well documented	3.93**	3.50	4.00**	4.20**

**Table 5.25 (h)-Post-audit vs. Overall Risk Situation**

Post-audit (PA)	Australian Overall Risk Situation					Sri Lankan Overall Risk Situation				
	Very High	High	Moderate	Low	Very Low	Very High	High	Moderate	Low	Very Low
The post-audit is an important.	4.00	4.42**	4.32**	4.00	0.00	0.00	4.67	4.32**	4.41**	4.00
The auditor discusses key results with CFO during the progress	4.00	3.95	4.16**	4.00	0.00	0.00	4.33	4.11**	4.23**	4.00
Firm satisfies with the purpose, scope, results of the post-audit	3.50**	3.84	4.00**	3.33	0.00	0.00	4.00	3.96**	4.14**	5.00
The firm has regular and pre-agreed on procedures	4.00	3.42**	3.89**	3.67**	0.00	0.00	3.67	3.87**	3.77**	5.00
The results of post-audits assist to evaluate projects	3.75**	3.42**	3.79**	3.33	0.00	0.00	4.00	3.96**	4.00**	5.00
A post implementation audit provides useful feedback	3.00**	3.63	3.89**	3.67**	0.00	0.00	4.00	4.06**	3.86**	3.00
Audit information prompts management	4.00	3.68	3.58**	3.33	0.00	0.00	4.00	3.96**	4.14**	3.00
Post-audits support process of the investment implementation	3.25**	3.42**	3.63**	3.33	0.00	0.00	3.67	4.06**	4.05**	1.00
Audits contribute to improvement of investment decision	2.75**	3.79	3.63**	3.33	0.00	0.00	4.00	4.00**	3.91**	2.00
Post-audit opinion are logical and well documented	4.25	3.79**	3.95**	3.33	0.00	0.00	4.00	4.06**	4.00**	2.00

\*\* denotes a significantly different from zero at the 5 % level

## 5.6 Inferential Analysis

### 5.6.1 Independent Samples t-Test

#### 5.6.1.1 Capital Budgeting Process

Table 5.26 indicates that there are significant differences between Australia and Sri Lanka in the CB process except for the search for investment opportunities, review and screening, and accept/reject decisions (i.e. the t values for long-term strategic planning ( $t = -2.698$ ,  $p < 0.05$ ), implementation ( $t = -4.931$ ,  $p < 0.05$ ), expenditure control and monitoring ( $t = -4.347$ ,  $p < 0.05$ ) and post-audit ( $t = -2.860$ ,  $p < 0.05$ ). In Sri Lanka, there are no significant gender differences in the use of CB processes. In Australia, there are generally no significant gender differences in the use of CB processes, except for the review and screening phase ( $t = 2.098$ ,  $p < 0.05$ ). In Sri Lanka, there are no significant differences between domestic- and foreign-owned firms. In Australia, there are generally no significant differences between domestic and foreign-owned firms in the use of CB practices, except for accept/reject decisions ( $t = 2.296$ ,  $p < 0.05$ ) and implementation ( $t = -2.817$ ,  $p < 0.05$ ).

**Table 5.26- Capital Budgeting Process vs. Country, Gender and Ownership**

Capital budgeting process	Country	Australia		Sri Lanka	
		Gender	Ownership	Gender	Ownership
Long-term strategic planning	-2.698**	-0.671	-0.653	1.380	0.055
Search for investment opportunities	-0.838	0.449	-0.339	-0.880	0.802
Review and screening	0.803	2.098**	-1.498	-1.166	-0.696
Accept/reject decisions	0.053	-1.521	2.296**	-0.518	-0.828
Implementation	-4.931**	-0.484	-2.817**	-0.124	-0.899
Expenditure control and monitoring	-4.347**	-0.604	-1.200	1.748	-0.475
Post-audit	-2.860**	-1.211	1.646	1.311	-0.894

\*\* denotes a significantly different from zero at the 5 % level

### 5.6.1.2 Capital Budgeting Techniques

Table 5.27 explains that there are significant differences between Australia and Sri Lanka in the choice of CB techniques (i.e. ARR ( $t= 2.205$ ;  $p< 0.05$ ), NPV ( $t= 6.987$ ;  $p< 0.05$ ) and IRR ( $t= 6.221$ ;  $p< 0.05$ ). In Australia, there are no significant gender differences in the choice of CB techniques. In Sri Lanka, the gender differences in the choice of CB techniques, except for PBP ( $t= -2.337$ ;  $p< 0.05$ ) and DPP ( $t= -2.045$ ;  $p< 0.05$ ). In Australia and in Sri Lanka, there are no significant differences between domestic and foreign-owned firms on the choice of CB techniques.

**Table 5.27- Capital Budgeting Techniques vs. Country, Gender and Ownership**

Capital budgeting techniques	Country	Australia		Sri Lanka	
		Gender	Ownership	Gender	Ownership
Payback period (PBP)	0.885	1.866	-1.355	-2.337**	0.000
Discounted payback period (DPP)	0.259	-0.314	0.921	-2.045**	0.012
Accounting rate of return (ARR)	2.205**	1.382	0.296	-1.562	0.371
Net present value (NPV)	6.987**	-0.847	-0.884	-0.393	0.150
Internal rate of return (IRR)	6.221**	1.118	1.703	-1.290	-0.598

\*\* denotes a significantly different from zero at the 5 % level

Table 5.28 illustrates that there are no significant differences between Australia and Sri Lanka on the choice of risk assessment techniques, other than for sensitivity analysis ( $t= 4.219$ ;  $p< 0.05$ ) and risk adjusted discount rate ( $t= -2.607$ ;  $p< 0.05$ ). In Australia and Sri Lanka, there are no significant gender differences on the choice of risk assessment techniques. In Sri Lanka, there are no significant differences between domestic and foreign-owned firms on choice of risk assessment techniques. In Australia, there are no significant differences between domestic and foreign-owned firms on the choice of risk assessment techniques, except with the decision tree approach ( $t= -2.304$ ;  $p< 0.05$ ).

**Table 5.28- Risk Assessment Techniques vs. Country, Gender and Ownership**

Risk assessment techniques	Country	Australia		Sri Lanka	
		Gender	Ownership	Gender	Ownership
Scenario approach	-1.152	-0.806	-0.804	-0.374	-0.335
Sensitivity analysis	4.219**	0.721	-1.114	0.149	0.799
Decision tree approach	0.829	0.486	2.304**	-1.044	-0.320
Probabilistic (Monte Carlo) simulation	1.044	-0.339	1.671	-1.184	-0.885
Risk adjusted discount rate	-2.607**	-0.749	0.106	-0.638	-0.842

\*\* Denotes a significantly different from zero at the 5 % level

Table 5.29 indicates that there are no significant differences between Australia and Sri Lanka in estimating the cost of capital excluding the weighted average cost of capital ( $t=2.082$ ;  $p<0.05$ ) and the capital asset pricing model ( $t=6.137$ ;  $p<0.05$ ). In Australia and Sri Lanka there are no significant gender differences in the choice of how to estimate the cost of capital. In Australia, there are no significant differences between domestic and foreign-owned firms in how to estimate the cost of capital, except for the weighted average cost of capital ( $t=2.085$ ;  $p<0.05$ ), whereas, there are no obvious differences between domestic and foreign-owned Sri Lankan firms in how they estimate the cost of capital.

**Table 5.29- Cost of Capital vs. Country, Gender and Ownership**

Cost of capital	Country	Australia		Sri Lanka	
		Gender	Ownership	Gender	Ownership
Weighted average cost of capital	2.082**	-0.697	2.085**	-0.303	-0.920
Capital asset pricing model	6.137**	-0.745	-0.821	-0.024	0.580
Interest payable on debt capital	-1.607	0.135	0.496	1.893	-1.376
Dividend yield on shares	-1.168	-1.345	1.218	-1.024	-0.935
Earnings yield on shares	-0.651	0.000	1.471	-0.005	-1.657

\*\* denotes a significantly different from zero at the 5 % level

Table 5.30 illustrates that there are no significant differences between Australia and Sri Lanka firms on techniques to guide long-term investment decisions excluding the RO approach ( $t=3.804$ ;  $p<0.05$ ) and the game theory approach ( $t=4.950$ ;  $p<0.05$ ). In Australia and Sri Lanka, there are no significant gender differences on the use of techniques to guide

long-term investment decisions. Also, in Australia, there are no significant differences between domestic and foreign-owned firms on the use of cost of capital techniques, except for the RO approach ( $t= 2.395$ ;  $p < 0.05$ ), whereas, there are no significant differences between domestic and foreign-owned Sri Lankan firms and their use of techniques to guide long-term investment decisions.

**Table 5.30- Guide Investment vs. Country, Gender and Ownership**

Investment Guide	Country	Australia		Sri Lanka	
		Gender	Ownership	Gender	Ownership
Real option approach	3.804**	-0.969	2.395**	-0.561	0.824
Game theory approach	4.950**	-0.068	1.694	-0.940	-0.417
Balanced scorecard	1.498	0.182	-0.089	0.517	-0.776
Value chain analysis	0.831	0.080	1.131	0.468	-1.074

\*\* denotes a significantly different from zero at the 5 % level

## 5.6.2 One – Way Analysis of Variance (ANOVA)

### 5.6.2.1 Capital Budgeting Process

Analysis of variance (ANOVA) was conducted to find the interaction between the choice of CB process and the firm and respondent features, in Australia and Sri Lanka. Table 5.31 shows no significant differences in the use of CB processes, based on the respondent's highest-education level in Australia except for both accept/reject decisions ( $F= 2.914$ ,  $p < 0.05$ ) and implementation ( $F= 3.237$ ,  $p < 0.05$ ), whereas, the Sri Lanka results did not show any significant differences in the choice of CB processes, based on the respondent's highest-education level, except for the search for investment opportunities ( $F= 3.663$ ,  $p < 0.05$ ), review and screening ( $F= 4.642$ ,  $p < 0.05$ ), and post-audit ( $F= 3.484$ ,  $p < 0.05$ ). The results, also, reveal that the choice of CB processes in Australia varies with the respondent's age (except for the search for investment opportunities, review and screening and expenditure control and monitoring) as indicated by the F-values. In contrast, in Sri Lanka, there are no significant differences in the choice of CB processes based on the respondent's age, other than long-term strategic planning ( $F= 3.420$ ,  $p < 0.05$ ), accept/reject decisions

( $F= 3.519, p< 0.05$ ) and expenditure control and monitoring ( $F= 3.519, p< 0.05$ ).  $F$ -statistics also show that there are no significant differences with the choice of CB processes based on respondent's experience, except for review and screening ( $F= 5.659, p< 0.05$ ), accept/reject decisions ( $F= 4.090, p< 0.05$ ), and expenditure control and monitoring ( $F= 3.672, p< 0.05$ ) in Australia. In Sri Lanka, there are no significant differences with the choice of CB processes based on respondent experience, except for long-term strategic planning ( $F= 2.989, p< 0.05$ ), review and screening ( $F= 3.469, p< 0.05$ ), and implementation ( $F= 3.324, p< 0.05$ ). ANOVA also reveals an interaction between CB practices and industrial sector; the results showing significant differences for long-term strategic planning ( $F= 3.997, p< 0.05$ ), accept/reject decisions ( $F= 2.871, p< 0.05$ ), implementation ( $F= 4.288, p<0.05$ ) and expenditure control and monitoring ( $F= 3.865, p< 0.05$ ) in Australia; while for Sri Lankan firms, the results show significant differences for long-term strategic planning ( $F= 3.558, p<0.05$ ), review and screening ( $F= 3.675, p<0.05$ ), implementation ( $F= 4.565, p< 0.05$ ), and expenditure control and monitoring ( $F= 3.866, p< 0.05$ ). In addition, the results did not find any significant differences with CB processes based on the number of employees in Australia. In Sri Lanka, there are no significant differences with CB processes except for the post-audit ( $F= 3.129, p< 0.05$ ). Also, the results did not find any significant differences with CB practices for domestic-focused firms in Australia. This result is consistent with Sri Lankan firms. The results, also revealed that there are significant differences with CB processes based on risk position as indicated by the  $F$  values—e.g., accept/reject decisions ( $F= 3.130, p< 0.05$ ), Implementation ( $F= 3.196, p< 0.05$ ) and post-audit ( $F= 2.948, p< 0.05$ ) in Australia. In Sri Lankan firms, there are significant differences with the choice of CB processes, based on the risk position as indicated by the  $F$  values such as long-term strategic planning ( $F= 3.648, p< 0.05$ ), review and screening ( $F= 4.300, p< 0.05$ ), and accept/reject decisions ( $F= 3.323, p< 0.05$ ).



**Table 5.31- Capital Budgeting Processes vs. Firm and Its Respondent's Attributes**

Capital budgeting process	Australia						
	Education	Age	Respondent experience	Industry	No of employees	Domestic income	Risk position
Long-term strategic planning	1.245	3.519**	2.138	3.997**	0.381	0.467	0.234
Search for investment opportunities	0.810	2.116	1.123	1.822	0.851	0.321	1.098
Review and screening	0.875	1.761	5.659**	1.642	0591	0.453	1.295
Accept/reject decisions	2.914**	3.285**	4.090**	2.871**	1.158	0.498	3.130**
Implementation	3.237**	4.163**	1.945	4.288**	1.382	0.709	3.196**
Expenditure control & monitoring	1.021	2.396	3.672**	3.865**	1.715	0.380	1.421
Post-audit	1.335	3.063**	1.053	1.148	2.112	0.986	2.948**

Capital budgeting processes	Sri Lanka						
	Education	Age	Respondent experience	Industry	No of employees	Domestic income	Risk position
Long-term strategic planning	2.083	3.420**	2.989**	3.866**	0.201	0.263	3.648**
Search for investment opportunities	3.663**	2.336	1.397	2.578	0.140	0.833	1.223
Review and screening	4.642**	1.820	3.469**	3.675**	1.396	0.052	4.300**
Accept/reject decisions	1.599	3.397**	2.081	2.905	0.679	0.536	3.323**
Implementation	1.188	1.234	3.324**	4.565**	2.169	1.686	1.255
Expenditure control and monitoring	1.274	4.332**	1.588	3.558**	0.307	0.972	1.337
Post-audit	3.484**	0.752	1.170	1.048	3.129**	2.594	1.593

\*\* Denotes a significantly different from zero at the 5 % level

### 5.6.2.2 Capital Budgeting Techniques

The results of the ANOVA (conducted to find the interaction between CB-appraisal techniques and firm and respondent's attributes; Table 5.32) shows that there are no differences at the significance level  $p=0.05$  in the responses to the use of PBP in selecting investments due to firm and its respondent's attributes in Australia. In Sri Lankan firms there are significant differences in the use of PBP, based on educational background with  $F$ -statistics 2.412 ( $p < 0.05$ ).  $F$  statistics show that use of DPP is significantly related to industry sectors ( $F=2.472$ ;  $p < 0.05$ ) and the number of employees ( $F=3.267$ ;  $p < 0.05$ ) in Australia. In Sri Lankan firms, the use of DPP reports on DPP, performed significantly different with educational background ( $F=3.620$ ;  $p < 0.05$ ), Respondent's experience ( $F=3.304$ ;  $p < 0.05$ ), industry ( $F=2.136$ ;  $p < 0.05$ ), number of employees ( $F=4.202$ ;  $p < 0.05$ ) and domestic income level ( $F=2.594$ ;  $p < 0.05$ ). Based on the ARR there are significant

differences among industry sectors in Australia whereas the ARR is significantly interrelated with both educational background ( $F= 2.116; p< 0.05$ ) and the domestic income level ( $F= 4.414; p< 0.05$ ). The results also revealed that the  $p$  value which is less than 0.05 and the value of F statistics is 4.011 and 2.862, respectively, for NPV and IRR which means there are significant differences between educational backgrounds in Australia. In Sri Lankan firms, based on the NPV, there are significant differences between Respondent's experience ( $F= 3.937; p< 0.05$ ) whereas for the IRR there are no significant differences based on firm and Respondent attributes.

Relative to the scenario approach there are no significant differences at the significance level  $p = 0.05$  with respect to firm and Respondent attributes in Australia and Sri Lanka. In Australian firms, sensitivity analysis differs significantly with respect to the respondent's age ( $F= 3.839; p< 0.05$ ). In Sri Lanka, F statistics indicate that sensitivity analysis differs significantly with respect to Respondent age ( $F= 4.507; p< 0.05$ ), and the number of employees ( $F= 2.942; p< 0.05$ ). The results also show that in Australia and Sri Lanka there are no significant differences due the firm and respondent attributes in the use of decision-tree approach. The use of probabilistic (Monte Carlo) simulation and the risk adjusted discount rate is independent of the respondent's attributes in Australia. In Sri Lankan firms, educational background does have significant influence on the use of probabilistic (Monte Carlo) simulation ( $F= 4.420; p< 0.05$ ) and, based on risk-adjusted discount rate, there are significant differences between educational background ( $F= 3.686; p< 0.05$ ) and the number of employees ( $F= 3.230; p< 3.230$ ).

In Australian firms, the WACC is independent of the respondent's attributes. This result is consistent with those for Sri Lankan firms. Concerning CAPM in Australia, there are significant differences based on the respondent's age groups ( $F= 5.032; p< 0.05$ ) and, in

Sri Lanka, Respondent's age ( $F= 3.166$ ;  $p< 0.05$ ), respondent's experience ( $F= 2.938$ ;  $p< 0.05$ ), industrial sector ( $F= 2.107$ ;  $p< 0.05$ ) and the number of employees ( $F= 4.773$ ;  $p< 0.05$ ). Based on the use of interest payable on debt capital, there are no significant differences between firm and respondent attributes in Australia and Sri Lanka. The results show that in relation to dividend yield on shares and earnings yield on shares in Australia, there are also no significant differences based on firm and respondent attributes.

Table 5.35 indicates that, in Australia, there are significant differences based on the number of employees ( $F= 6.824$ ;  $p< 0.05$ ) with respect to RO analysis, whereas, in Sri Lankan firms, the significant differences are based on age ( $F= 6.665$ ;  $p< 0.05$ ) and domestic income ( $F= 3.854$ ;  $p< 0.05$ ). There are significant differences in the use of game theory, based on the firm and respondent attributes ( $p< 0.05$ ) except education background and age, while in Sri Lankan firms, the significant differences in the use of game theory are based on age ( $F= 6.665$ ;  $p< 0.05$ ), respondent's experience ( $F= 2.518$ ;  $p< 0.05$ ), and domestic income ( $F= 3.854$ ;  $p< 0.05$ ). There are significant differences in the use of balanced scorecard based on the number of employees ( $F= 2.750$ ;  $p<0.05$ ) in Australia, whereas, in Sri Lanka those differences are based on age ( $F= 2.981$ ;  $p< 0.05$ ), the number of employees ( $F= 2.981$ ;  $p< 0.05$ ), and domestic focus ( $F= 6.229$ ;  $p< 0.05$ ). In regards to the use of value chain analysis in Australia, there are significant differences based on the number of employees ( $F= 2.718$ ;  $p< 0.05$ ), while in Sri Lanka those differences are based on age ( $F= 2.838$ ;  $p< 0.05$ ) and the number of employees ( $F= 3.059$ ;  $p< 0.05$ ).

**Table 5.32- Capital Budgeting Techniques vs. Firm and Respondent Attributes**

CBT	Australia						
	Education	Age	Respondent's experience	Industry	No of employees	Domestic income	Risk position
PBP	0.552	0.797	1.057	1.780	1.308	0.059	1.449
DPP	1.447	0.159	0.789	2.472**	3.267**	2.367	1.210
ARR	1.169	0.034	0.196	2.305**	2.804	2.538	0.562
NPV	4.011**	0.533	2.823	0.979	0.857	0.068	0.544
IRR	2.862**	0.533	0.823	0.591	0.224	1.158	0.871
CBT	Sri Lanka						
PBP	2.412**	1.073	0.995	0.527	2.105	1.383	1.693
DPP	3.620**	2.981	3.304**	2.136**	4.202**	2.594**	0.669
ARR	2.116**	1.666	1.124	1.220	0.847	4.414**	0.031
NPV	1.197	0.633	3.937**	0.310	2.265	1.793	0.435
IRR	0.702	1.232	2.187	0.536	0.609	0.141	0.787

**Table 5.33- Risk Assessment Techniques vs. Firm and Respondent Attributes**

RAT	Australia						
	Education	Age	Respondent experience	Industry	No of employees	Domestic income	Risk position
Scenario	2.130	1.576	0.549	1.461	2.274	1.516	0.607
Sensitivity	0.701	3.839**	0.672	0.370	1.460	1.406	1.427
Decision	0.897	1.599	0.975	1.468	1.534	0.997	1.563
Monte	0.924	0.965	0.325	1.338	2.524	2.210	1.214
R adjusted	0.294	0.863	1.082	1.077	0.270	1.759	0.540
RAT	Sri Lanka						
Scenario	1.216	2.070	1.579	0.499	1.293	1.386	0.506
Sensitivity	1.354	4.507**	1.045	2.005	2.942**	0.362	0.842
Decision	1.477	0.294	0.729	1.337	0.288	0.762	0.076
Monte	0.729	4.420**	2.040	0.729	0.170	0.242	0.330
R adjusted	0.555	3.686**	1.061	0.678	3.230**	1.084	0.541

**Table 5.34- Cost of Capital vs. Firm and Respondent Attributes**

CC	Australia						
	Education	Age	Respondent experience	Industry	No of employees	Domestic income	Risk position
WACC	0.514	0.641	2.182	1.377	0.469	1.225	1.225
CAPM	0.983	0.168	2.266	1.315	5.032**	1.843	0.685
IPOD	0.381	0.291	0.584	1.577	0.741	2.103	0.512
Dividend	0.327	0.063	0.970	0.509	1.339	1.928	0.608
Earnings	1.026	0.442	0.059	1.170	0.765	0.781	0.263
CC	Sri Lanka						
WACC	1.290	0.484	0.297	0.532	1.004	0.031	1.639
CAPM	0.795	3.166**	2.938**	2.107**	4.773**	0.416	1.005
IPOD	1.034	0.842	1.750	0.541	0.035	0.915	0.879
Dividend	0.850	2.703	0.422	1.501	1.626	0.814	1.156
Earnings	1.632	0.794	1.441	1.713	1.397	1.451	1.595

**Table 5.35- Investment Guide vs. Firm and Respondent Attributes**

IG	Australia						
	Education	Age	Respondent experience	Industry	No of employees	Domestic income	Risk position
RO	0.541	0.224	1.058	0.544	6.824**	2.552	1.037
GT	0.563	0.095	3.479**	3.551**	5.684**	3.411**	5.221**
BS	0.464	0.013	0.765	1.230	2.750**	1.122	1.946
VC	0.656	0.108	0.996	0.805	2.718**	1.611	0.815
IG	Sri Lanka						
RO	0.732	1.615	2.352**	1.451	5.334**	0.821	0.624
GT	0.123	6.665**	2.518**	0.611	1.956	3.854**	0.372
BS	1.478	6.229**	0.853	0.959	3.134**	2.981**	0.509
VC	1.172	2.838**	1.778	0.586	3.059**	1.379	1.300

\*\* Denotes a significantly different from zero at the 5 % level

### 5.6.3 Correlation Analysis

Table 5.36 shows the correlation matrix for all the variables in the study. It examines the association between CB practices including both the process and evaluation approaches, firm and respondent attributes, and firm performance variables. Overall, the correlations are low between the variables in Australian and Sri Lankan firms, although there are some statistically significant relationships. The results show that there is a negative correlation between CB process (CBP) and ROE in Australian firms. With Sri Lankan firms, there is a positive relationship between CBP, ROA, and ROE, but CBP is not significantly correlated with firm performance based on accounting-based measures. In Australian firms, there is a positive relationship between CBP and EPS, while with Sri Lankan firms, there is a positive relationship between CBP and EPS and TQ. This indicates that firm performance based on marketing-based measures tends to increase with an increase in the level of CB process. In Australia, the results show a positive relationship between choice of CB techniques (CBT) and firm performance proxies, except for TQ. This indicates that firm performance measures tend to increase with an increase in the sophistication level of the CB practices. In Sri Lanka, there is a negative relationship between CBT and firm performance based on accounting (ROA and ROE) and marketing-based measures (TQ) which indicates that less

sophisticated level of choice of CBTs lead to less firm performance. The results of the correlation matrix show the extent of correlation between firm and respondent attributes used in this study. In Australia, respondents' educational background (ED) is negatively correlated with ROA, ROE while ED is positively related with firm performance based on market measures (EPS and TQ) and also observed ED has significant relation on EPS at a 1% level. In contrast, there is a positive association between ED and firm performance measures except for the ROE in Sri Lanka. Respondent's maturity (experience) is positively correlated with ROA and TQ in Australia, while, it is negatively correlated with ROE and EPS. In addition, Respondent's maturity is significantly correlated with respondents management experience at a 5% level in Australia and Sri Lanka. Whereas, respondent's maturity is negatively associated with firm performance, except for ROA. In Australia, respondent's maturity has a positive relationship with ROA and EPS, but is negatively related to ROE and TQ. Respondent's management experience (ME) is positively correlated with ROA and TQ, but negatively correlated with ROE and EPS in Australia and has a significant effect on TQ, but only at a 5% level. In Sri Lanka, there is a positive association between ME and ROA, ROE and EPS while it is a positive relationship with TQ. A firm's number of employees (NE) is negatively correlated with its performance, based on accounting (ROA and ROE) and market-measures (EPS and TQ) in Australia and in Sri Lanka NE is significantly correlated with ROA at a 5% level. Domestic income (DI) earned capacity is negatively associated with ROA, EPS and TQ while it is positively associated with ROE in Australia but is significantly correlated with EPS at a 1% level. In Sri Lanka, there is a negative relationship between DI earned capacity and firm performance measures (ROA, ROE, EPS and TQ). Moreover, there is a positive relationship between firms' ownership and firm performance measures except for EPS. In Sri Lankan firms, ownership is positively associated with ROA and ROE, but is negatively

correlated with market measures. Additionally, a firm's risk position (level) is positively correlated with firm performance measures in Australia, but it is significantly related to TQ at a 5% level. In Sri Lanka, a firm's risk position (level) is negatively correlated to its performance measures, except for ROA.

**Table 5.36- Correlation Analysis**

<b>Australia</b>													
	CBP	CBT	ED	Age	ME	NE	DI	OW	Risk	ROA	ROE	EPS	TQ
CBP	1.000	-	-	-	-	-	-	-	-	-	-	-	-
CBT	0.042	1.000	-	-	-	-	-	-	-	-	-	-	-
ED	0.219	-0.171	1.000	-	-	-	-	-	-	-	-	-	-
Age	0.088	0.065	0.196	1.000	-	-	-	-	-	-	-	-	-
ME	0.005	0.014	0.041	0.571**	1.000	-	-	-	-	-	-	-	-
NE	-0.053	-0.115	-0.159	-0.012	-0.120	1.000	-	-	-	-	-	-	-
DI	-0.105	0.082	0.135	-0.050	-0.048	0.143	1.000	-	-	-	-	-	-
OW	0.056	-0.152	-0.016	-0.263	-0.395**	0.189	-0.151	1.000	-	-	-	-	-
Risk	-0.142	-0.174	0.120	-0.076	-0.109	-0.083	-0.119	0.079	1.000	-	-	-	-
ROA	0.191	0.068	-0.119	0.115	0.170	-0.566**	-0.080	0.051	0.146	1.000	-	-	-
ROE	-0.231	0.080	-0.069	-0.243	-0.175	-0.073	0.003	0.275	0.199	0.357	1.000	-	-
EPS	0.009	0.022	0.362*	-0.104	-0.077	-0.156	-0.311*	0.200	0.263	0.008	0.197	1.000	-
TQ	-0.200	-0.125	0.090	-0.179	0.325**	-0.173	-0.085	-0.261	0.524**	0.077	0.166	0.230	1.000

<b>Sri Lanka</b>													
	CBP	CBT	ED	Age	ME	NE	DI	OW	Risk	ROA	ROE	EPS	TQ
CBP	1.000	-	-	-	-	-	-	-	-	-	-	-	-
CBT	0.140	1.000	-	-	-	-	-	-	-	-	-	-	-
ED	0.044	-0.028	1.000	-	-	-	-	-	-	-	-	-	-
Age	0.114	0.000	0.083	1.000	-	-	-	-	-	-	-	-	-
ME	0.090	-0.075	-0.006	0.791**	1.000	-	-	-	-	-	-	-	-
NE	0.074	0.047	0.042	0.035	0.107	1.000	-	-	-	-	-	-	-
DI	-0.060	-0.243*	-0.124	-0.084	0.056	0.126	1.000	-	-	-	-	-	-
OW	-0.065	0.101	-0.204	0.214	0.136	0.072	0.147	1.000	-	-	-	-	-
Risk	-0.091	-0.070	0.072	0.073	-0.281*	0.067	0.050	0.062	1.000	-	-	-	-
ROA	0.101	-0.143	0.139	0.068	0.084	-0.076	-0.005	0.144	0.191	1.000	-	-	-
ROE	0.080	-0.146	-0.114	-0.018	0.056	-0.097	-0.019	0.225	-0.125	0.588	1.000	-	-
EPS	0.099	0.051	0.073	0.111	0.132	-0.078	-0.212	-0.190	-0.059	-0.006	0.529**	1.000	-
TQ	0.128	-0.021	0.019	-0.169	-0.043	-0.030	-0.175	-0.054	-0.095	-0.400	-0.274*	-0.100	1.000

Note: This statistic measures the correlation of CB, firm performance, and ordered groups of attributes: CBP (Capital budgeting process), CBT (Capital budgeting techniques), ED (Education background; a dummy variable, that is 1 for a Master's degree, zero otherwise), ME (Management experience; a dummy variable, that is 1 for a position held more than 10 years, zero otherwise), NE (Number of employees; a dummy variable that is 1 for a company with over 500 employees, zero otherwise), DI (Domestic income; a dummy variable that is 1 for a company with over 80% of its revenue from domestic sales, zero otherwise); OW (Ownership; a dummy variable that is 1 for domestic owned firms, zero otherwise), ROA (Return on assets), ROE (Return on equity), EPS (Earning per share), TQ (Tobin's Q), and "\*", "\*\*", "\*\*\*" represents significance levels of, 10, 5 and 1 percent, respectively.

## 5.6.4 Multiple Regression Analysis

### 5.6.4.1 Capital Budgeting Practices

Multiple regression analysis was performed to investigate the impact of CB practices and its respondents attributes on firm performance measures (ROA, ROE, EPS and TQ) for which the models used for the study are given below.

The case of Australia: Table 5.37 shows that models using the drivers in Tables 4.2 have good-to-strong predictive powers *vis-a-vis* all of the firm performance proxies except for ROE. This poor predictive power is sensible, given that the use of leverage is often more important to ROE outcomes than business performance. The predictions of the three other proxies for firm performance are strong. Specifically, the R<sup>2</sup> values in Table 5.37 indicate that 53.1, 38.4, and 42.8 percent of the variability in, respectively, ROA, EPS and TQ of Australian firms can be explained by the CB practices of the firm and the respondent's attributes. The F-statistics and significance levels (sig) in Table 5.37 show that these three models generate statistically significant outcomes.

**Table 5.37- Predictors of ROA, ROE, EPS and TQ – Model summary (Australia)**

	ROA	ROE	EPS	TQ
R	0.729	0.467	0.620	0.654
R <sup>2</sup>	0.531	0.218	0.384	0.428
F-Statistics	4.399	1.087	2.425	2.910
Sig.	0.001	0.397	0.029	0.011

Table 5.38 shows that the variables do not have a significant impact on ROA, except CBP ( $\beta = 79.497$  and  $p = 0.047$ ), educational background ( $\beta = -221.487$  and  $p = 0.009$ ), number of employees ( $\beta = -770.762$  and  $p = 0.000$ ). Except for CBT, education background, and the number of employees all variable have positive signs. CBP is statistically significant



at a 5% level, and educational background and the number of employees are statistically significant at a 1% level. Although educational background and the number of employees have negative signs, neither of them are statistically significant at a 1% level. The results also indicate that all variables do not significantly impact ROE, but all have positive signs except CBP, educational background, age, and the number of employees.

Also, the results show that the variables do not significantly impact EPS, except educational background ( $\beta = -2.207$  and  $p = 0.011$ ) and risk level ( $\beta = 1.773$  and  $p = 0.022$ ) where educational back-ground and domestic income have positive signs. Table 5.38 shows that

**Table 5.38- Coefficients for predictors of ROA, ROE, EPS and TQ (Australia)**

Models	ROA	ROE	EPS	TQ	Collinearity Statistics	
					Tolerance	VIF
Constant	106.046 (0.707)	44.208 (0.205)	2.679 (0.358)	86.836 (0.000)		
CBP	79.497 (0.047)	-6.523 (0.177)	.292 (0.469)	-3.339 (0.214)	0.887	1.127
CBT	27.729 (0.784)	12.079 (0.332)	0.408 (0.695)	-1.589 (0.818)	0.879	1.137
Respondent_ <i>Education</i>	-221.487 (0.009)	-.052 (0.996)	-2.207 (0.011)	1.516 (0.781)	0.782	1.279
Respondent_ <i>Age</i>	103.393 (0.262)	-9.744 (0.386)	0.968 (0.307)	2.257 (0.717)	0.617	1.622
Respondent_ <i>Experience</i>	84.391 (0.352)	2.431 (0.826)	0.632 (0.498)	-9.716 (0.120)	0.587	1.704
Firm_ <i>Size of employees</i>	-770.762 (0.000)	-12.621 (0.489)	1.427 (0.354)	-15.137 (0.141)	0.858	1.165
Firm_ <i>Domestic income</i>	120.109 (0.184)	2.798 (0.798)	-1.170 (0.208)	-0.307 (0.960)	0.854	1.171
Firm_ <i>Ownership</i>	243.907 (0.057)	26.598 (0.088)	1.760 (0.176)	10.462 (0.224)	0.766	1.305
Firm_ <i>Risk level</i>	113.799 (0.124)	8.922 (0.319)	1.773 (0.022)	15.723 (0.003)	0.893	1.119

the variables do not have a significant impact on TQ except for risk level ( $\beta = 15.723$  and  $p = 0.003$ ).

Collinearity does not appear to be an issue, as all of the tolerance statistics are under 1.0 and all the VIF values are below 10. In the case of Sri Lanka: Table 5.39 shows that models

using the drivers in Tables 4.2 have fair-to-poor predictive powers. Specifically, CB practices and the firm and Respondent attributes generate  $R^2$  of 0.186, 0.151, 0.117, and 0.138 for, respectively, ROA, ROE, EPS, and TQ. These levels of correlation are not statistically significant as indicated by the corresponding F-values and significance levels of, respectively,  $F= 1.546$  and  $p= 0.152$ ,  $F= 1.203$  and  $p= 0.310$ ,  $F= 0.897$  and  $p= 0.534$ , and  $F= 1.086$  and  $p= 0.387$ .

**Table 5.39- Predictors of ROA, ROE, EPS and TQ – Model summary (Sri Lanka)**

Goodness of Fit	ROA	ROE	EPS	TQ
R	0.431	0.388	0.342	0.372
$R^2$	0.186	0.151	0.117	0.138
F-Statistics	1.546	1.203	0.897	1.086
Sig.	0.152	0.310	0.534	0.387

Table 5.40 reveals that all variables do not have a significant impact on ROA excluding management experience ( $\beta= 28.104$  and  $p= 0.049$ ) and risk level ( $\beta= 38.471$  and  $p= 0.016$ ) and except for CBT, age, the number of employees and domestic income all have positive signs. Management experience and risk level are statistically significant at the 5 percent level. The only variables that significantly affects ROE is ownership ( $\beta= -27.693$  and  $p= 0.026$ ), but all have positive signs except CBT, educational background, management experience, ownership and risk level. Also, the variables do not significantly affect EPS, other than age, domestic income and ownership (each having a positive sign).

**Table 5.40 - Coefficients for predictors of ROA, ROE, EPS and TQ (Sri Lanka)**

Models	ROA	ROE	EPS	TQ	Collinearity Statistics	
					Tolerance	VIF
Constant	18.735 (0.346)	35.936 (0.129)	17.690 (0.212)	86.965 (0.000)		
CBP	3.416 (0.129)	1.544 (0.559)	0.762 (0.631)	2.529 (0.178)	0.938	1.066
CBT	-6.401 (0.230)	-8.317 (0.188)	0.408 (0.914)	-3.054 (0.492)	0.881	1.136
Respondent _ <i>Education</i>	7.483 (0.153)	-8.247 (0.183)	0.183 (0.961)	0.817 (0.851)	0.918	1.089
Respondent _ <i>Age</i>	-30.910 (0.063)	4.037 (0.835)	-0.812 (0.944)	-29.564 (0.034)	0.260	3.843
Respondent _ <i>Experience</i>	28.104 (0.049)	-4.039 (0.808)	5.801 (0.562)	16.876 (0.155)	0.239	4.181
Firm_ <i>Size of employees</i>	-11.115 (0.205)	12.294 (0.236)	4.849 (0.435)	1.502 (0.837)	0.918	1.089
Firm_ <i>Domestic income</i>	-9.788 (0.411)	0.836 (0.953)	-12.304 (0.149)	-19.766 (0.050)	0.826	1.210
Firm_ <i>Ownership</i>	16.480 (0.112)	-27.693 (0.026)	-11.408 (0.122)	2.541 (0.768)	0.896	1.116
Firm_ <i>Risk level</i>	38.471 (0.016)	-16.477 (0.375)	0.384 (0.973)	5.416 (0.679)	0.625	1.600

Note:  $p < 0.01$ ,  $p < 0.05$ ,  $p < 0.10$  are statistically significant confidence levels

Table 40 indicates that all variables have a significant impact on TQ, except the Respondent's age ( $\beta = -9.564$  and  $p = 0.034$ ), CBT, age and domestic income (which have positive signs). Collinearity does not appear to be an issue as all of the tolerance statistics are under 1.0 and all the VIF values are below 10.

## 5.7 Chapter Summary

This chapter discusses the findings of the study on the CB practices and firm performance among 150 ASX-listed Australian and 150 CSE listed Sri Lankan companies. Results of the descriptive statistics, t-test, analysis of variance, correlation and multiple regression have been used to analyse and compare the results for Australian and Sri Lankan firms. The implications and the importance of the above findings are discussed in the following chapter.

# Chapter Six: Findings and Discussion

## 6.1 Chapter Introduction

This research aspirations and intent of this study are summarised in the following hypotheses and sub-hypotheses that are first presented in Chapter 4 (Research Approach and Methods):

**H<sub>1</sub>:** Capital budgeting practices are applied more extensively in developed countries than in emerging countries.

**H<sub>1a</sub>:** There are significant differences in the application of CB practices between industrial sectors.

**H<sub>1b</sub>:** There is a significant difference in CB practices between high risk and low risk firms.

**H<sub>1c</sub>:** Firms and respondents attributes have an effect on the choice of CB practices employed.

**H<sub>2</sub>:** The use of more sophisticated CB practices leads to higher performance than that of firms using less sophisticated CB practices.

**H<sub>2a</sub>:** Capital budgeting processes significantly affect firm performance.

**H<sub>2b</sub>:** A firm's CB techniques are expected to have a positive influence on a firm's performance.

The outcomes of the test used to validate/refute the above set of hypotheses are detailed in Chapter 5 (Analysis and Results). This chapter discusses those outcomes, their consequence for the above set of hypotheses, and their significance to *CB Practices*.

In the rest of the Chapter: Section 6.1 considers *CB Practices in Australia and Sri Lanka*; and Section 6.2 Summarise the Chapter.

## **6.2 Capital Budgeting Practices in Australia and Sri Lanka**

### **6.2.1 The H<sub>1</sub>- Hypothesis**

*H<sub>1</sub>: Capital budgeting practices are applied more extensively in developed countries than in emerging countries.*

The results of the analysis of the CB practices are given in Chapter 5. The t-test results listed in Tables 5.26, 5.27, 5.28, 5.29, and 5.30 show that (at a 5% confidence level) Australian and Sri Lankan firms have:

- **Statistically-significant differences in their CB choices in their:**
  - *Long-term strategic planning, implementation, expenditure control and monitoring, and post-audit steps;*
  - Use of the ARR, NPV and IRR methods;
  - Use of sensitivity analysis and the risk adjusted discount rate (as methods of risk analysis in CB);
  - Use of WACC and CAPM (as methods of estimating the cost of capital);
  - Frequency of use of RO and GT,
- **No statistically-significant differences in how they:**
  - *Search for investment opportunities, do review and screening, and accept/reject decisions.*

These findings are consistent with studies conducted by Hermes et al. (2007), George (2011), Shields, Chow, Kato, and Nakagawa (1991), McMahon (1981), Lilleyman (1984), Freeman and Hobbes (1991), and Truong et al. (2008). However, the findings diverge from Banda, Koralalage, Ratnayake, and Mudiyansele (2014) who observed that Sri Lankan firms rely heavily on NPV, IRR and DPP while the current evidence reveals that Sri Lankan firms tend to use PBP more than other CB techniques. Taken together, these results suggest

that Australian respondents on average use more sophisticated CB practices than those used by Sri Lankan respondents. These results support the H<sub>1</sub> assertion that: *Capital budgeting practices are applied more extensively in developed countries than in emerging countries.*

### **6.2.2 The H<sub>1a</sub>- Sub-Hypothesis**

*H<sub>1a</sub>: There are significant differences in the application of CB practices between industrial sectors.*

This has been evaluated by ANOVA tests which reveal significant differences (at a 5% confidence level) between Australian firms, by industrial sector, for their CB process use of: *long-term strategic planning; accept/reject decisions; implementation and expenditure control and monitoring phases.* The equivalent tests for Sri Lankan firms, showed significant differences (at a 5% confidence level), by industrial sector, for their use of: *long-term strategic planning; review and screening; implementation and expenditure control and monitoring.*

In *CB appraisal techniques and investment analysis*, Australian results show statistically significant results (at a 5% confidence level) between industries for DPP and ARR. In the use of risk analysis techniques, firms show no significant differences by industry sector, in both Australia and Sri Lanka.

In Australia, the use of the *cost of capital* by firms does not differ significantly by industrial sector. In Sri Lanka, use of the CAPM (to estimate the cost of capital) differs significantly by industrial sector. However, using GT (as a CB guide) differs significantly by industrial sector, in Australia, but there are no significant differences in Sri Lanka, by industry sector, for the use of CB guide.

These findings are consistent with studies by: Batra and Verma (2014); Block (2005); De Andrés et al. (2015); Hassan et al. (2011); Sandahal and Sjogren (2003); Schall and Sundem (1980); and Verbeeten (2006), but contrary to a study by Farah et al. (2008). On balance, this study confirms the sub-hypothesis H<sub>1a</sub> assertion of: *there are significant differences in the application of CB practices between industrial sectors.*

### 6.2.3 The H<sub>1b</sub>- Sub-Hypothesis

*H<sub>1b</sub>: There is a significant difference in CB practices between high-risk and low-risk firms.*

This is evaluated with ANOVA tests, which for:

- **Australia, show for firms of difference risk levels:**
  - Significant differences in *accept/reject decisions* and *implementation and post-audit*, and
  - Insignificant difference for other proxies of the CB process.
  - Insignificant difference in the use of *appraisal techniques*, *risk analysis techniques*, and *estimation of the cost of capital*.
- **Sri Lanka, show for firms of difference risk levels:**
  - Significant differences in *long-term strategic planning*, *review and screening and accept/reject decision*,
  - Insignificant difference in the use of *appraisal techniques*, *risk analysis techniques*, and *estimation of the cost of capital*,
  - Significant differences in the use of GT as a method of CB guide,

These findings confirm studies by: Chen (1995); Daunfeldt and Hartwig (2014); Graham and Harvey (2001); Hassan et al. (2011); and Verbeeten (2006). However, Farah et al. (2008) found no significant differences between the CB practises of high- and low-risk firms. Overall, these results affirm the H<sub>1b</sub> assertion that: *there is a significant difference in CB practices between high-risk and low-risk firms.* Specifically, this affirmation covers only some, but not all, CB practices.

## 6.2.4 The H<sub>1c</sub>- Sub-Hypothesis

*H<sub>1c</sub>: Firms and respondents attributes have an effect on the choice of CB practices employed.*

The evaluated with *t*-test/ANOVA results which found that the following attributes have significant influence on the choice of CB practices employed:

**Table 6.1- The CB Processes and Techniques Affected by Respondent and Firm Attributes**

Attribute		Australia	Sri Lanka
Respondent Gender	CB Processes	Review and screening	None
	CB Techniques	None	PBP, DPP (Capital appraisal method)
Respondent Education	CB Processes	Accept/reject decision Implementation phase	Search for investment opportunities Review and screening Post-audit
	CB Techniques	NPV, IRR (capital appraisal method)	PBP, DPP, ARR (Capital appraisal method)
Respondent Age	CB Processes	Long-term strategic planning Accept/reject decision Implementation phase Post-audit	Long-term strategic planning Accept/reject decision Expenditure control and monitoring
	CB Techniques	Sensitive (Risk analysis method)	Sensitive, Monte Carlo, Risk adjusted (Risk analysis method) CAPM (Cost of capital) GT,BS, VC (CB guide)
Respondent Experience	CB Processes	Review and screening phase Accept/reject decision Expenditure control and monitoring	Long-term strategic planning Review and screening phase Implementation phase
	CB Techniques	GT (CB guide)	DPP,NPV (Capital appraisal method) CAPM (Cost of capital) RO,GT (CB guide)
Firm Size of employees	CB Processes	None	Post-audit
	CB Techniques	DPP (Capital appraisal method) CAPM (Cost of capital) RO, GT, BS, and VC (CB guide)	DPP (Capital appraisal method) Sensitive, risk adjusted (Risk analysis method) CAPM (Cost of capital) RO, BS, VC (CB guide)
Firm Domestic focus	CB Processes	None	None
	CB Techniques	GT (CB guide)	DPP, ARR (capital appraisal method) GT, BS (CB guide)
Firm Ownership	CB Processes	Accept/reject decision Implementation phase	None
	CB Techniques	Decision tree (Risk analysis method) WACC (Cost of capital) RO (CB guide)	None
Firm Risk level	CB Processes	Accept/reject decision Implementation phase Post-audit	Long-term strategic planning Review and screening phase Accept/reject decision
	CB Techniques	GT (CB guide)	None



The results in Table 6.1 are similar to those of Brounen et al. (2004), Brijlal (2009), Brunzell, Liljeblom, and Vaihekoski (2013), Daunfeldt and Hartwig (2014), De Andrés et al. (2015), Hassan et al. (2011), Hanaeda and Serita (2014), Hermes et al. (2007), Sandahal and Sjogren (2003) and Verma, Gupta, and Batra (2009). Moreover these results are, also, consistent with a study by Al-Ajmi et al. (2011) which reported that firm attributes such as ownership, sources of revenue etc., have some impact on decisions to adopt CB and their method of estimating the cost of capital and risk. However, these outcomes sharply contrast with Farah et al. (2008) who found that there is no statistically significant relation between firm attributes and CB techniques. Also, research by Bennouna et al. (2010) is marginally inconsistent in that they found that some large Canadian firms did not use DCF (a developed country). On balance, these results affirm the H<sub>1c</sub> assertion that: *Firms and respondents attributes have an effect on the choice of CB practices employed.*

### **6.2.5 The H<sub>2</sub>- Hypothesis**

*H<sub>2</sub>: The use of more sophisticated CB practices leads to higher performance than that of firms using less sophisticated CB practices.*

This is evaluated via correlation analysis which found (Table 5.36) that CB processes in:

- Australia are positively correlated to ROA and EPS, and
- Sri Lanka have a positive relationship with ROA and ROE, EPS and TQ, but that relationship is not significantly correlated if accounting/market-based values are applied.

These results show that firm performance, when based on accounting and market- measures, tend to rise with the sophistication of CB processes. Also, a negative relationship between CB techniques (CBT) and ROA, ROE and TQ appears in Sri Lanka, but is a positive relationship in Australia between CBT and ROA ROE, and EPS. With respect to Sri Lankan firms, there is a negative relationship between CBT and firm performance based on

accounting (ROA and ROE) and marketing (TQ) based measures which suggest that less use of sophisticated CB techniques may reduce firm performance.

Traditional financial theory asserts that use of sophisticated CB practices will improve firm performance (Copeland, 1992). The mixed results in this study are comparable to studies by: Christy (1966); Farragher et al. (2001); Klammer (1973) and Pike (1984) who found that adopting refined CB practices may not, in-itself, improve firm performance. However, other studies (Kim, 1981; Vadei et al., 2012) found an association between CB practices and firm performance. While the results from this study are mixed, on balance they, affirm the H<sub>2</sub> assertion that: *the use of more sophisticated CB practices lead to higher performance than that of firms using less sophisticated CB practices.*

#### **6.2.6 The H<sub>2a</sub>- Sub-Hypothesis**

*H<sub>2a</sub>: Capital budgeting processes significantly affect firm performance.*

This is evaluated with multiple regression analysis; Tables 5.37 and 5.38 show that, in Australia, the CB process (independent) variables in Eqs (8-11) are (at a 5% confidence level) are:

- Significantly and positively correlated to ROA,
- Positively related (but not at a statistically significant level) to EPS, and
- Negatively related (but not at a statistically significant level) to ROE and TQ.

Tables 5.39 and 5.40 show that, in Sri Lanka, the CB process (independent) variables in Eqs (8-11) are (at a 5% confidence level):

- Positively related (but not at a statistically significant level) to both accounting (ROA and ROE) and market (EPA and TQ) performance measures.

The results are supportive (but not conclusively so) of the H<sub>2a</sub> assertion that: CB processes significantly affect firm performance. Specifically, while the Australian findings are further buttressed by Pike (1984), the causal direction may be suspect (see Kim & Farragher, 1982)

—e.g., firms may favour a well-structured CB process only when they expect significant returns). The Sri Lankan supportive but not conclusive findings are generally consistent with existing studies, including Kim (1981). While the study findings are not statistically conclusive, they support the H<sub>2a</sub> assertion and the assertion is socio-economically logical. Future research should explore the direction of causality between CB processes and firm performance.

### **6.2.7 The H<sub>2b</sub>- Sub-Hypothesis**

*H<sub>2b</sub>: A firm's CB techniques are expected to have a positive influence on a firm's performance.*

This is evaluated with multiple-regression analysis; Tables 5.37 and 5.38 show that, in Australia, the CB techniques (independent) variables in Eqs (8-11) are (at a 5% confidence level) have:

- A positive but statistically not significant effect on ROA, ROE and EPS.

Tables 5.37 and 5.38 show that, in Sri Lanka, the CB techniques (independent) variables in Eqs (8-11) are (at a 5% confidence level) have:

- A positive, but not statistically significant, effect on EPS, and
- A negative, but not statistically significant, effect on ROA, ROE and TQ

On the basis of this study's findings and the mixed findings of other researchers, the assertion of H<sub>2b</sub> (that: A firm's CB techniques are expected to have a positive influence on a firm's performance) is not affirmed. This lack of affirmation does not mean there is no correlation/causation between CB techniques and firm performance, only that future research needs to expand its scale (e.g., more firms in the sample), reduce its scope (e.g., fewer industry classifications in the sample) or change its approach (e.g., add indirect effects in the equation being regressed). The weak, mixed findings in this study are

consistent with those of earlier studies (Al Mutairi et al., 2011; Gilbert, 2005; Klammer, 1973; Mooi & Mustapha, 2001; Olawale, Olumuyiwa, & George, 2011).

### **6.3 Chapter Summary**

This part of the study investigates the effect on *Australian and Sri Lankan firm performance* of CB practices and techniques, firm attributes, and respondent attributes. The hypotheses which were tested for statistical significance were discussed in relation to theory, extant literature and the study context. The statistical results suggest that Australian respondents, on average, use more sophisticated CB practices than their Sri Lankan colleagues. However, the results also suggest that the differences between Australian and Sri Lankan firms are less than might be expected, given the differences in the socio-economic progress in the two countries. A summary of the findings and conclusions will be discussed in the next chapter.

# **Chapter Seven: Conclusions, Implications and Future Research Directions**

## **7.1 Chapter Introduction**

This chapter discusses how the results of this thesis address the research gap identified in the Chapter 2 literature review. The discussion builds on prior discussions of results, highlights key contributions, proposes applications for the findings, and suggests areas for future research. This study seeks to resolve research questions by examining and testing how CB processes and techniques influence firm performance. The study performs this analysis on 150 firms in a developed country and 150 firms in an emerging country. Further study is done to identify and adjust for the often potentially confounding effects of firm attributes and respondent attributes on firm performance and choices of CB processes and CB techniques. This study should interest academics, researchers, policy-makers, and practitioners.

This chapter concludes this thesis with: Section 7.1 giving an overview of the research questions and findings; Section 7.2 summarising implications of the study's findings; Section 7.3 discussing the contribution of the study; Section 7.4 listing limitations of the study; Section 7.5 suggesting avenues for future research; and Section 7.6 providing final thoughts and conclusions.

## 7.2 Findings related to Research Questions

The following sub-sections organise the research findings so as to provide insight into each research question.

### 7.2.1 Research Question 1

*What are the significant differences between Australian and Sri Lankan firms relating to their CB practices?*

This research question seeks to provide insight into differences between the CB practices of Australian and Sri Lankan firms. This question is addressed in Chapter 5, by a review of the CB practices and firm performance of a sample of Australian and Sri Lankan firms (150 firms from each country). The CB practices examined are: CB processes; and CB techniques (e.g., investment analysis techniques, risk analysis techniques, cost of capital and investment guide). The empirical findings (presented in chapter 5) show that the use of *long-term strategic planning, implementation, expenditure control and monitoring and post-audit* phases differs significantly in Australian firms from Sri Lankan firms. The *search for investment opportunities and implementation* appears to be the most vital stages of CB for Australian firms, but are less important for Sri Lankan firms. The results suggest that Australian firms tend to use DCF as their most frequently used CB technique and its usage appears to be more common and important than what is noted in many earlier studies. Sri Lankan firms tend to consider PBP as the most important CB evaluation technique and IRR as the next in importance. Scenario approach and sensitivity analysis are the most widely used techniques for assessing capital-investments risk in Australia, but for Sri Lankan firms a scenario approach is more often utilised. The results also indicate that most Australian and Sri Lankan firms rely to some extent on the WACC when estimating the cost of capital. However, Australian firms appear to use the WACC and CAPM more often

than Sri Lankan firms. Australian respondents prefer RO analysis over other capital investment techniques, whereas, Sri Lankan firms have little interest in RO analysis. Variations with respect to CB practices in a developed country (Australia) and an emerging country (Sri Lanka) are confirmed by the above findings. There are multiple variations between Australia and Sri Lanka. Australia (as a developed nation) has: a) Extensive human capital that makes it easier and more cost-effective to use of sophisticated evaluation methods easier and more cost-effective; and b) Relatively intense domestic and international competition. In contrast, Sri Lanka (as an emerging nation) has: a) Lower access to human capital, which makes using sophisticated evaluation methods less cost-effective; and b) much less intensive domestic and international competition. However, the choice to use relatively sophisticated techniques, instead of simpler alternatives, tends to vary (in both countries) with firm attributes (size, available human capital, etc.) and the relative benefits to large Sri Lankan firms may be even greater than those to large Australian firms. Specifically, if Australian firms (large and small) are more likely to use more sophisticated techniques than small Sri Lankan firms, then large Sri Lankan firms tend to operate in less aggressive markets than what large Australian firms face. However, differences in institutional systems, corporate governance mechanisms and corporate culture may, also, account for differences between Australian and Sri Lankan small-firm CB practices—e.g., the results of this study suggest that Australian firms see profit maximisation as a higher priority than other corporate objectives, but Sri Lanka firms tend to consider sustainable growth as a top priority within corporate objectives. While Australian respondents consider shareholders as the top stakeholder priority, Sri Lankan firms consider their customers and employees to be more important than other stakeholders.

### **7.2.1.1 Research Question 1(i)**

*What are the CB applications and techniques currently being practiced in Australian and Sri Lankan listed firms?*

A main goal of this research question is to update the current CB decisions and practices including CB-processes and CB-appraisal techniques (e.g., investment-analysis techniques, risk-analysis techniques, cost of capital and investment guide) among Australian and Sri Lankan firms. The results note that the *accept/reject decisions* is the most important stage for the majority of Australian and Sri Lankan respondents followed by *implementation, post-audit and expenditure control and monitoring*. The results also show that most Australian respondents consider the *search for investment opportunities* as a more important phase than their Sri Lankan counterparts. The *long-term strategic planning* is considered to be most important stage by Australian and Sri Lankan respondents. Among CB appraisal techniques, NPV and IRR are the most popular CB planning and evaluation techniques with 98 percent of Australian firms reporting they use these techniques. However PBP is also prevalent. Most Sri Lankan respondents see PBP and IRR as their most regularly used approaches. The NPV method is less prevalent in Sri Lanka. The ongoing heavy reliance of Australian and Sri Lankan respondents on PBP for input into investment decisions is surprising, given that financial textbooks have long listed the shortcomings of PBP (i.e. it ignores time value of money and cash flows beyond the completion date). As explained in chapter 2 of this thesis, a large number of developed and emerging countries still use PBP as a CB method. This implies that simplicity and power may outweigh the supposed power of more sophisticated techniques. Concurrently, both the scenario approach and sensitivity analysis are extensively used techniques in Australia with the scenario approach being now widely utilised among Sri Lankan respondents. The



WACC is the most popular method of estimating the cost of equity capital in Australia and Sri Lanka. The second and third most popular methods for obtaining and estimating the cost of capital in Australia is, respectively, the use of the CAPM and interest payable on debt capital. RO analysis is now commonly in use. Compared to prior research, with this study revealing a substantial increase in use of the RO method among Australian firms. When making CB decisions, along with quantitative appraisals, most Australian and Sri Lankan firms are likely to also consider its consistency with corporate strategy and its effects on the market image of the firm, and its capacity to improve their competitive position. Also, most Australian and Sri Lankan firms rely on quantitative analysis judgment when prioritising their capital investment decisions. However, the CB practices of Australian firms tend to involve more sophisticated appraisal methods than those used by Sri Lankan firms.

#### **7.2.1.2 Research Question 1(ii)**

*What similarities and differences exist in CB practices across industries?*

This research question looks at the similarities and differences that in CB practices among the industrial sectors in Australia and Sri Lanka. In this study of nine industrial sectors covering ASX and CSE listed firms, two key areas of CB practices (i.e. CB processes and CB techniques) are covered. For Australian firms *long-term strategic planning, accept/reject decision, implementation and expenditure control stages* are significantly different across Industry sectors, but there are no significant differences in *search for investment opportunities, review and screening and post-audit stages* across industry sectors. In Sri Lanka, there are statistically significant differences between the different industry types as regards to *long-term strategic planning, review and screening, implementation and expenditure control and monitoring stages* of CB while for other stages the differences are

insignificant. This study found that: the *expenditure control and monitoring* stage is significantly employed by utility, consumables and consumer discretionary firms in Australia, and *post-audit* stage is significantly used by consumables, material, health care and consumer discretionary firms. Among Sri Lankan firms, *expenditure control and monitoring and post-audit* stages are significantly used by the industry, consumables, materials, health care and consumer discretionary sectors. At same time, results also demonstrate that the use of the DPP and ARR seem to differ significantly between industry types in Australia while the use of CB techniques does not seem to differ significantly between industry types in Sri Lanka, except DPP—e.g., this study observed that DPP and ARR methods are extensively used among the consumables, materials and consumer discretionary sectors in Australia, but DPP is popular among the industrial, consumables, materials, health care and consumer discretionary sectors in Sri Lanka. The results indicate that there is no significant difference in the use of risk analysis techniques between industry sectors in Australia and Sri Lanka. The use of cost of capital does not seem to differ significantly between Australian industrial sectors, whereas, the use of the CAPM as a method of setting the cost of capital seems to differ significantly between industrial sectors in Sri Lanka. Moreover, GT as a means of CB guide differs significantly between industrial sectors in Australia at a 5% significance level, while this nature of industry does not affect the significantly different investment guides in Sri Lanka. Based on the differences on CB practices between industry sectors, this may be explained, by their industry attributes, regulations and mode of operations. Accordingly this study partly confirms that there are some differences based on industrial sectors in Australian and Sri Lankan CB practices.

### **7.2.1.3 Research Question 1(iii)**

*Do the firm and CFO attributes influence the choice of CB practice?*

This research question claims that the firm and the respondent attributes determine CB and, therefore, are a source of variation in CB practices. As discussed in Chapter 5, this study on the key influences of CB practices had to disentangle the effects of two key drivers of CB sophistication: 1) the socio-economic environment in which the firm is embedded (i.e. developed country vs, emerging country firms); and 2) the attributes of the firm and those of the respondent. While the Australian CB model was statistically clearer with generally more significant variables, it was found that firm attributes matter in both countries; with larger firms in both countries tending to use more sophisticated CB methods than smaller firms—implying that larger firms tend to have more processes to support their long-term capital investment decisions, whereas, small firms tend to use more rules-of-thumb. For e.g., the highest-domestic-focused Australian firms are more likely to use NPV, IRR and DPP; while, the highest-domestic-focused Sri Lankan firms are more likely to use DPP and ARR. When the underlying respondents attributes are considered, well-grounded respondents frequently use more sophisticated methods in Australia and Sri Lanka—e.g., DCF and NDCF tend to be favoured by respondents with a Bachelors degree in both countries; ARR and NPV are significantly favoured by respondents with a PhD in Sri Lanka and Australian respondents with a Masters degree tend to favour DPP. This indicates that the sophistication of CB practices appears to be significantly (if not mostly) influenced by attributes of the firm and the respondent. This finding supports *contingency theory*—i.e. the CB practices/investment approach of a firm should fit with that firm's attributes and those of its principals.

### 7.2.2 Research Question 2

*What is the empirical association between CB practices employed and firm performance within Australian- and Sri Lankan-listed firms?*

This research identifies the direction of individual CB practices (i.e. CB process and CB appraisal techniques) on firm performance (i.e. maximising shareholder wealth) by investigating the influence of CB practices on firm performance as measured by accounting-and market-measures. The CB process of Australian firms has a positive correlation with ROA and EPS and a negative correlation with ROE and TQ—however, none of the relationships are statistically significant. In Sri Lanka, the CB process of firms is positively, but not statistically significantly correlated with any of the performance measures, other than TQ. This suggests, but does not statistically prove, that the sophistication level of the CB process is correlated with firm performance. The results suggest that Australian firms are likely improving their performance by using sophisticated CB techniques. In Sri Lanka, firms applying sophisticated CB techniques tend to adversely affect their firm performance measures, except for EPS. The adverse effects of using sophisticated CB techniques on TQ may merely reflect the dramatic increase in intangible assets over the last few decades—when intangible assets are a high proportion of total assets, TQ is more subject to errors and (as a result) is less effective as a measure of firm performance. In Sri Lanka, the causal relationship, instead of flowing from sophisticated CB practises to firm performance, may be flowing in the opposite direction. Specifically, firms having poor performance may be more likely to reach out to more sophisticated CB practises in an effort to improve their fortunes. It may, also, be that firm performances in Sri Lanka rely on factors not normally considered in sophisticated CB practises (e.g., family and/or political connections).

### ***7.2.2.1 Research Question 2 (i)***

*What is the impact of CB practices on these firms' performance?*

This question explores the statistical significance of the models described in chapter 5 and of magnitude of the individual variables (i.e. the CB practices and firm and respondent attributes) on the performance of Australian and Sri Lankan-listed firms, using multiple-linear regression. The regression outcomes show that the independent variables in the Australian model jointly explain 53.1, 21.8, 38.4, and 42.8 percent of the variation in, respectively, ROA, ROE, EPS and TQ. The ANOVA (F-value) tests verify that ROA, EPS, and TQ models generate statistically significant outcomes. In the Sri Lankan regression model, the independent variables jointly explain 18.6, 15.1, 11.7, and 13.8 percent of the variation in, respectively, ROA, ROE, EPS and TQ. The ANOVA (F-value) tests were not statistically significant for any of the four models.

These results may imply that the Australian and Sri Lankan economies are very different. These differences likely involve the Sri Lankan economy: being dominated by small-to-medium firms that face severe capital constraints; having limited technical expertise; having a rules-based rather than principles-based governance mechanism; and saddled with relatively high corruption (e.g., influence and connections may be more important determinants of success than competitive competence). The coefficient findings given in Chapter 5, show that CB process has a significantly positive impact on ROA among Australian-listed firms which validates the assertion that a high level of sophisticated CB process leads to higher ROA. The positive correlation of CB process has a positive effect on EPS is a reasonable outcome. The negative correlation found between the Australian CB process and ROE and TQ can be explained by other factors (e.g., ROE is dependent on

the amount of leverage by debt—a management choice variable and TQ may not handle the high levels of intangible assets present in rising knowledge economy of Australia).

In Sri Lankan firms, CB process is positively correlated (but not statistically significantly) with accounting -and market-measures of performance.

The CB techniques of Australian firms are positively (but not statistically significantly) correlated with ROA, ROE and EPS and negatively (but not statistically significantly) correlated with TQ. The CB techniques of Sri Lankan firms are negatively (but not statistically significantly) correlated with ROA, ROE and TQ. It is irrational to presume that Sri Lankan firms are using CB techniques to negatively impact their firm performance and even more irrational to presume that they would continue to use CB techniques in such a way. As noted previously, the causal relationship, instead of flowing from sophisticated CB techniques to firm performance, may flow in the opposite direction. Specifically, firms with poor performance may reach out to more sophisticated CB techniques in an effort to improve their fortunes. It may, also, be that firm performances in Sri Lanka rely on factors not normally considered in sophisticated CB techniques (e.g., family and/or political connections).

### **7.3 Implications of the Study**

This study tests whether Australian and Sri Lankan firms have different CB practices and, also, sought to fill an identified research gap by exploring the impact of CB practices on firm performance. CB practices are vital, in that if not properly planned, capital investment can have disastrous financial and performance implications (Du Toit & Pienaar, 2005; Johnson, 1999).

Firms apply CB process and techniques assist to prioritise potential investments. In highly competitive environments, it is expected that firms will engage in a race to apply ever more sophisticated CB processes. The cross-national differences that this study observed in the supplication of CB practices suggest that significant differences in the Australian and Sri Lankan economies and cultures are driving the differences in CB practices.

The Australian business environment being much more competitive than that of Sri Lanka is suggested in the greater concern of the Australian respondents for the risks faced by their firms than what was expressed by their Sri Lankan counterparts (Tables 5.2-5.5). The Australian respondents appear to be much less procedures and rules bound (at all levels of the CB process) than their Sri Lankan counterparts (see Tables 5.7 - 5.14). Another bit of evidence that Australia is more competitive than Sri Lanka is in the relatively high sophistication of Australian CB techniques (Table 5.10).

The differences in the cultures of the Australian and Sri Lankan business environments is found in their prioritisation of corporate objectives (Table 5.4; the Australians are more profit focused) and in their prioritisation of corporate stakeholders (Table 5.5; the Sri Lankans more closely adhere to the Ethical branch of Stakeholder Theory and Australians to the Managerial branch of Stakeholder Theory).

It is interesting to note that the PBP preference is consistently stronger in Sri Lanka, but use of PBP is not significantly lower in Australian firms. This suggests that, despite the many weaknesses and failings noted about PBP by academics, PBP still provides great comfort and value in the CB process—possibly as a rough-and-ready measure of relative risk that ensures that the decision makers do not get *led up the garden path* by the more sophisticated CB techniques.

Also of great interest is that Australian firms are more likely to use multiple modes of CB appraisal techniques than Sri Lankan firms—perhaps because their appetite for risky investments appears to be significantly greater than that of their Sri Lankan counterparts (Tables 5.2 and 5.9). In complex real-world situations, reconciling the outputs of a multifaceted approach to CB methods is more likely to give the depth and width of input needed to achieve an optimal capital investment plan.

Concurrently as Sri Lanka passes through its post-war-recovery phase, reform of its financial and capital market is essential to sustain economic growth and development. While a wider diffusion of better investment appraisal methods in Sri Lankan firms could improve the cost-effectiveness of investment decisions and generally increase efficiency, this is unlikely to occur until competition is more of a spur.

#### **7.4 Contribution of the Study**

This thesis will add insight to the corporate sectors of Australia and Sri Lanka and be of value to countries in comparable situations. It will also benefit decision makers, investors, regulators and scholars as well as assist the policy makers to set new and improved standards for best practices.

This study found that the cultural and business environment of firms is a major determinant of the effectiveness of CB processes along with: ever shortening life cycles of products, the need for quick recovery of investments, and the need for quick decision making (Shinoda, 2010).

This study develops insights on how CB practices are applied by Australian and Sri Lankan firms and documents the impact of CB practices on firm performance. The study revealed that although there are some notable differences of CB practices between a developed and



an emerging country there are also many similarities. This study also contributes to the accounting/finance literature by adding to a small cohort of comparative studies in CB practices. Although the empirical results of this research support a number of prior studies, it also contradicts a number of earlier studies in the developed and emerging countries. Based on both the theoretical and empirical investigations it is apparent that Australian firms rely heavily on the sophisticated CB practices when selecting their long-term investments but continue to use PBP. While RO analysis has established a threshold in the practice of CB, they have not yet achieved mainstream status.

In evaluating the association between CB practices and the attributes of the firm and its managers with firm performance in a developed country (Australia) and an emerging country (Sri Lanka), this research sought to disentangle the firm nature from the nurture effects of the country in which the firm is embedded (i.e. the development level of the nation was taken as a proxy for such things as human capital availability, regulatory systems, market sophistications, etc.). It was found that the nature of a firm tends to trump the nurture of the development level of the country in which the firm is embedded. While the Australian CB model was statistically clearer with generally more significant variables, it was also found that firm size matters in both countries. Larger firms in both countries tend to use more sophisticated CB methods than those of smaller firms in Sri Lanka.

The results of this study can provide rich information for stakeholders about new findings in CB practices and their contributions to firm performance in comparative perspective. Also, the study adds to the general knowledge on CB practices by showing that the nature of the firm appears to swamp the nurture of the environment in which it is embedded. Therefore, this study contributes to understanding the role CB play in business decision

making by demonstrating the need for more sophistication in firms' analysis of long-term investment decision making and underinvestment can be minimised.

## **7.5 Limitations of the Study**

Although the research seeks to be one of the most comprehensive studies that explore CB practices and performance in a comparative manner, there are still several limitations.

The key limitations inherent in the use of any questionnaire survey were mitigated to a degree by using official and third-party sources of data where possible for the analysis. Precisely, inherent in study undertaken using questionnaire is the concern of the sufficiency of the response level whether the anticipated recipient responds to the questionnaire, whether the questions/statements are interpreted in the way anticipated and whether there are sufficient questions to gather the information sought.

The study addressed 150 listed firms on the ASX as per S&P/ASX200 and 150 listed firms on the CSE as at February 2013. While the findings may have been more statistically significant if a larger sample was used, that benefit is outweighed by the cost and the lack of availability of a larger sample. Limitations also included being confined to two different countries and one-shot survey. The study could be extended to include other countries and to have a time-series element.

An added limitation is the difficulties inherent in discovering and adjusting for variations in the CB mechanisms, business scope, and/or financing portfolio across firms. Specially, the frequency of CB process/techniques may actually be influenced by variables other than those considered in this study.

Like most previous studies this study has examined only selected proxies for firm performance. The difficulties from accounting standards and principles differing between

countries have been greatly mitigated over the past decade by the increasing adoption and use of International Financial Reporting Standards (IFRS).

## **7.6 Recommendations for Future Research**

There are a number of possibilities for future research results from this research. The study has provided some interesting insights on CB practices including process and appraisal techniques and its influence on firm performance using accounting-and market- measures in Australia and Sri Lanka. This study provided a wider scope to conducting CB practices research in the context of developed and emerging economies. This study will identify the areas for further research in this context.

Future research should consider including many countries across the emerging to developed continuum, so as to support more generalised conclusions. Instead of relying mainly on questionnaire mail survey, an alternative/supplement method of interviewing may provide more insights about CB practices and their impact on firm performance. In addition to this, a longitudinal study might be more able to validate findings. Also, future research should expand consideration of the influence of firm size and sophistication on the CB process.

Future researches on CB in Australia and Sri Lanka should also investigate whether the use of more than one method in CB has any impact on the financing of CB expenditures and to what extent it affects their long-term decisions. This point has not yet been deeply investigated, and it needs further consideration.

A final suggestion for future research relates to gaining a better understanding of factors that influence differences in the levels of adoption of recently developed CB techniques between countries. It will be interesting to see how firms across the globe use CB methods and how in the future firms figure out ways to raise the efficiency of decision making.

Future studies of CB sophistication should examine the utilisation of these techniques and analyse the effect of their usage on firm performance.

## **7.7 Chapter Summary**

This concluding chapter has discussed CB practices and firm performance in Australia and Sri Lanka which leads to the central argument of the study. This research reviewed findings related to the research questions and research objectives as explained through this thesis. It shows that the research has made a significant contribution in filling the research gap on CB practices and firm performance in a developed and emerging country perspective. Finally, the recommendations for future research should consider including many countries across the emerging to developed range in order to engender more generalised conclusions.

## References

- Abdel-Kader, M., & Luther, R. (2008). The impact of firm characteristics on management accounting practices: A UK-based empirical analysis. *The British Accounting Review*, 40(1), 2-27.
- ABS. (2015, June 06). *Australian Bureau of Statistics*, Government of Australia. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/Web+Pages/Population+Clock?opendocument>.
- Adler, R. (2006). Why DCF capital budgeting is bad for business and why schools should stop teaching it. *Accounting Education: An International Journal*, 15(1), 3-10.
- Aggarwal, R., & Chandra, G. (1990). Stakeholder management: Opportunities and challenges. *Business*, 40(1), 48-51.
- Agrawal, A., & Mandelker, G. (1987). Managerial incentives and corporate investment and financing decisions. *The Journal of Finance*, 42(4), 823-837.
- Aharoni, Y. (1966). *The foreign investment decision process*. Boston, US: Harvard Business School.
- Al Mutairi, M., Hasan, H., & Risik, E. (2011). The impact of corporate financing decision on corporate performance in the absence of taxes: Panel data from Kuwait stock market. *World Finance Conference*, (pp. 1-27). Greece.
- Al-Ajmi, J., Al-Saleh, N., & Hussain, H. (2011). Investment appraisal practices: A comparative study of conventional and Islamic financial institutions. *Advances in Accounting*, 27(1), 111-124.
- Alexander, L., Hope, P., Collins, D., Lynch, A., & Nicholls, N. (2007). Trends in Australia's climate means and extremes: A global context. *Australian Meteorological Magazine*, 56(1), 1-18.
- Alkaraan, F., & Northcott, D. (2006). Capital investment decision making: A role for strategic management accounting. *British Accounting Review*, 38(2), 49-73.
- Amram, M., & Howe, K. (2002). Capturing the value of flexibility. *Strategic Finance*, 84(6), 10-13.
- Anand, M. (2002). Corporate finance practices in India: A survey. *Vikalpa*, 27(4), 29-56.
- Anderson, L., & Sollenberger, H. (1992). *Managerial accounting* (8ed.). Ohio, US: South-Western Publishing Co.

- Anderson, R. (1982). Capital budgeting practices of Australian companies. *Professional Administrator*, 159-161.
- Anderson, R., & Reeb, D. (2003). Founding-family ownership and firm performance: Evidence from the S&P 500. *The Journal of Finance*, 58(3), 1301-1327.
- Andor, G., Mohanty, S., & Toth, T. (2015). Capital budgeting practices: A survey of Central and Eastern European firms. *Emerging Markets Review*, 23, 148-172.
- Andrews, G., & Butler, F. (1986). Criteria for major investment decisions. *The Investment Analysts Journal*, 15(27), 31-37.
- Anthony, J., & Ramesh, K. (1992). Association between accounting performance measures and stock prices: A test of the life cycle hypothesis. *Journal of Accounting and Economics*, 15(2), 203-227.
- Antle, R., & Eppen, G. (1985). Capital rationing and organisational slack in capital budgeting. *Management Science*, 31(2), 163-174.
- Antle, R., Bogetoft, P., & Stark, A. (2007). Incentive problems and investment timing options. New York, US: Springer.
- Anwar, A., Tieu, K., Gibson, P., Win, K., & Berryman, M. (2014). Analysing the heterogeneity of traveller mode choice preference using a random parameter logit model from the perspective of principal-agent theory. *International Journal of Logistics Systems and Management*, 17(4), 447-471.
- Archer, H., Choate, M., & Racette, G. (1979). *Financial management: An introduction* (1 ed.). New York, US: John Wiley & Sons Inc.
- Arnold, B., & De Lange, P. (2004). Enron: An examination of agency problems. *Critical perspectives on Accounting*, 15(6), 751-765.
- Arnold, G., and Hatzopoulos, P. (2000). The theory-practice gap in capital budgeting: Evidence from the United Kingdom. *Journal of Business Finance & Accounting*, 27(6), 603-625.
- Arora, M. (2010). *Accounting and financial management* (3 ed.). Meerut, India: Krishna Prakashan Media Limited.
- Arrow, K., & Lind, R. (2014). Uncertainty and the evaluation of public investment decisions. *Journal of Natural Resources Policy Research*, 6(1), 29-44.
- ASX. (2016). *Corporate Overview: History*. Australian Security Exchange. Retrieved May 2, 2016, from <http://www.asx.com.au/about/history.htm>

- ATC. (2015). *Why Australia: Bench mark report 2015*. Australian Trade Commission, Australian Government. Retrieved February 1, 2016, from file:///C:/Users/ppratheepkanth/Downloads/Australia-Benchmark-Report.pdf
- Atrill, P. (2012). *Financial management for decision making* (6 ed.). Essex, England: Pearson Education Limited.
- Australian Stock Exchange. (1996). *ASX Submission Financial System Inquiry*. Sydney, Australia: Australian Stock Exchange.
- Azhagaiah, R., & Sabari, P. (2008). The impact of dividend policy on shareholders' wealth. *International Research Journal of Finance and Economics*, 20(1), 180-187.
- Baker, K., & Powell, G. (2005). *Understanding financial management: A practical guide* (1 ed.). Victoria, Australia: Blackwell Publishing.
- Baker, K., Dutta, S., and Saadi, S. (2011). Management views on real options in capital budgeting. *Journal of Applied Finance*, 21(1), 18-29
- Baldenius, T. (2003). Delegated investment decisions and private benefits of control. *The Accounting Review*, 78(4), 909-930.
- Baldenius, T., Dutta, S., & Reichelstein, S. (2007). Cost allocation for capital budgeting decisions. *The Accounting Review*, 82(4), 837-867.
- Ballantine, J., Galliers, R., & Stray, S. (1995). The use and importance of financial appraisal techniques in the IS/IT investment decision making process-recent UK evidence. *Project Appraisal*, 10(4), 233-241.
- Banda, W., Koralalage, Y., Ratnayake, C., & Mudiyansele, R. (2014). The use of capital budgeting techniques in large businesses: Evidence from Sri Lanka. *International Journal of Arts and Commerce*, 3(9), 77-84.
- Basu, A., & Drew, M. (2010). The appropriateness of default investment options in defined contribution plans: Australian evidence. *Pacific-Basin Finance Journal*, 18(3), 290-305.
- Batra, R., & Verma, S. (2014). An empirical insight into different stages of capital budgeting. *Global Business Review*, 15(2), 339-362.
- Baule, R. (2014). Allocation of risk capital on an internal market. *European Journal of Operational Research*, 234(1), 186-196.
- Beattie, V., Goodacre, A., & Thomson, S. (2006). Corporate financing decisions: UK survey evidence. *Journal of Business Finance & Accounting*, 33(9-10), 1402-1434.
- Beck, M. (2015). Australia's infrastructure. *Ecodate*, 29(2), 2-4.

- Bennouna, K., Meredith, G., and Marchant, T. (2010). Improved capital budgeting decision making: Evidence from Canada, *Management Decision*, 48( 2), 225-247.
- Beranek, W. (1975). The cost of capital, capital budgeting, and the maximization of shareholder wealth. *Journal of Financial and Quantitative Analysis*, 10(1), 1-20.
- Berenson, M., Levine, D., Krehbiel, T., Stephan, D., O'Brien, M., Jayne, N., & Watson, J. (2013). *Business statistics: Concepts and application* (2 ed.). NSW, Australia: Pearson Australia.
- Bergstressera, D., and Philippon, T. (2006). CEO incentives and earnings management. *Journal of Financial Economics*, 80(3), 511-529.
- Bernadette, M., Muralidhar, K., Robert, B., Jay, J., and Karen, P. (2001). An Empirical Investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective. *Journal of Business Ethics*, 32(2), 143-156.
- Bernardo, A., Cai, H., & Luo, J. (2004). Capital budgeting in multidivision firms: Information, agency, and incentives. *Review of Financial Studies*, 17(3), 739-767.
- Bhat, S. (2008). *Financial management: Principles and practice* (2 ed.). New Delhi, India: Anurag Jain for Excel Books.
- Bierman, H. (2010). *An introduction to accounting and managerial finance: A merger of equals* (1 ed.). Singapore: World Scientific Publishing.
- Bierman, H., & Smidt, S. (1993). *The capital budgeting decision: Economic analysis of investment project* (8 ed.). New York, US: Macmillan.
- Bierman, H., & Smidt, S. (2007). *The capital budgeting decision: Economic analysis of investment projects* (9 ed.). New York, US: Routledge.
- Black, C., Parry, J., Anderson, H., & Bennett, A. (2002). Are New Zealand chief financial officers the country cousins of their American counterparts? *Business Review*, 4(1), 1-10.
- Block, S. (1997). Capital budgeting techniques used by small business firms in the 1990s. *The Engineering Economist*, 42(4), 289-302.
- Block, S. (2005). Are there differences in capital budgeting procedures between industries? An empirical study. *The Engineering Economist*, 50(1), 55-67.
- Bonn, I., Yoshikawa, T., and Phan, P. (2004). Effects of board structure and firm performance: A comparison between Japan and Australia. *Asian Business & Management*, 3(1), 105-125.



- Boquist, J., Todd, M., & Anjan, T. (1998). How do you win the capital allocation game? *Sloan Management Review*, 39(1), 59-75.
- Bosch-Badia, M., Montllor-Serrats, J., & Tarrazon-Rondon, M. (2014). Capital budgeting and shareholders' value: investment projects versus courses of action. *The Engineering Economist*, 59(3), 207-230
- Boudreaux, D., Rao, S., & Das, P. (2014). Sugar cane refining and processing company: A comprehensive case in measuring a firm's cost of capital. *Journal of Business Case Studies*, 10(3), 335-342.
- Bowen, H. (1953). *Social responsibility of the businessman*. New York, US: Harper and Row.
- Bower, J.L (1986). *Managing the resource allocation process: A study of corporate planning and investment* (3 ed.). Boston, US: Harvard Business Press.
- Bower, J.L. (1970). *Managing the resource allocation process: A study of corporate planning and investment*. Boston, US: Harvard Business School Press.
- Bower, J.L., & Gilbert, C. (2005). *From resource allocation to strategy*. Oxford UK: Oxford University Press.
- Brealey, R., & Myers, S. (2003). *Principles of corporate finance* (1 ed.). Boston,US: McGraw-Hill.
- Brennan, M., & Suhwartz, E. (1988). The case for convertibles. *Journal of Applied Corporate Finance*, 1(2), 55-64.
- Brigham, E. (1992). *Fundamentals of financial management* (6 ed.). Eort Wbrth,Texas: Dryden Press.
- Brigham, E., & Ehrhardt, M. (2011). *Financial management: Theory and practice* (13 ed.). Mason,US: South-Western Cengage Learning.
- Brigham, E., & Gapenski, L. (1997). *Financial management: Theory and practice* (8 ed.). Fort Worth, US: The Dryden Press.
- Brijlal, P. (2009). The use of capital budgeting techniques in businesses: A perspective from the Western Cape. *The Journal of Applied Business Rsearch*, 25(4), 37-46.
- Brounen, D., De Jong, A., and Koedijk, K. (2004). Corporate finance in Europe: Confronting theory with practice. *Journal Financial Management*, 33(4), 1-40.
- Brunzell, T., Liljeblom, E., & Vaihekoski, M. (2013). Determinants of capital budgeting methods and hurdle rates in Nordic firms. *Accounting & Finance*, 53(1), 85-110.
- Bryman, A., and Emma, B. (2003). *Business research methods*. UK: Oxford University Press.

- Burns, R., & Walker, J. (1997). Capital budgeting techniques among the Fortune 500: A rationale approach. *Managerial Finance*, 23(9), 3-15.
- Carleton, W., Kendall, G., & Tandon, S. (1974). Application of the decomposition principle to the capital budgeting problem in a decentralized firm. *The Journal of Finance*, 29(3), 815-827.
- CBSL. (2013). *Annual Report*. Colombo, Sri Lanka: Central Bank of Sri Lanka.
- CBSL. (2012). *Financial System Stability Review*. Colombo Sri Lanka: Central Bank of Sri Lanka.
- Chadwell-Hatfield, P., Goitein, B., Horvath, P., & Webster, A. (2011). Financial criteria, capital budgeting techniques and risk analysis of manufacturing firms. *Journal of Applied Business Research*, 13(1), 95-104.
- Chan, H., Kamal, H., and William, S. (2004). Capital budgeting practices of Chinese Firms. *The Journal of Global Business Management*, 1(1), 20-26.
- Chan, Y. (2004). Use of capital budgeting techniques to capital investment decisions in Canadian Municipal Governments. *Journal of Business Financial Accounting*, 24(2), 40-48.
- Chen, S. (1995). An empirical examination of capital budgeting techniques: Impact of investment types and firm characteristics. *The Engineering Economist*, 40(2), 145-170.
- Chen, S. (2008). DCF techniques and nonfinancial measures in capital budgeting: A contingency approach analysis. *Behavioral Research in Accounting*, 20(1), 13-29.
- Christy, G. (1966). *Capital budgeting current practices and their efficiency*. US: University of Oregon.
- CIA. (2010). *The world factbook*. Central Intelligence Agency Washington, US: Potomac Books Inc.
- Cohen, J., Cohen, P., West, S., & Aiken, L. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences* (3 ed.). British: Routledge.
- Coltman, G. (1995). An analysis of capital budgeting techniques and their impact on shareholder wealth. University of Cape Town.
- Cooper, D., & Petry, G. (1994). Corporate performance and adherence to shareholder wealth-maximizing principles. *Financial Management*, 23(1), 71-78.
- Copeland., T. E. (1992). *Financial theory and corporate policy*. London: Wesley Publishing Company Inc.

- Correia, C., Mayall, P., O'Grady, B., & Pang, J. (2005). *Corporate financial management* (2 ed.). Perth, Australia: Skystone Investments (Pty) Ltd.
- Covaleski, M., Dirsmith, M., & Samuel, S. (1996). Managerial accounting research: The contributions of organisational and sociological theories. *Journal of Management Accounting Research*, 8, 1-35.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. UK: Sage.
- CSE. (2014). *Colombo Stock Exchange*. Retrieved September 1, 2014, from <http://www.cse.lk/home.do>
- Daft, R., & MacIntosh, N. (1978). A new approach to design and use of management information. *California Management Review*, 21(1), 82-92.
- Daunfeldt, S., & Hartwig, F. (2014). What determines the use of capital budgeting methods? Evidence from Swedish listed companies. *Journal of Finance and Economics*, 2(4), 101-112.
- Dayananda, D., Irons, R., Harrison, S., Herbohn, J., & Rowland, P. (2002). *Capital Budgeting, financial appraisal of investment projects*. UK: Cambridge University Press.
- De Andrés, P., De Fuente, G., & San Martín, P. (2015). Capital budgeting practices in Spain. *BRQ Business Research Quarterly*, 18(1), 37-56.
- De Silva, K. (1981). *A history of Sri Lanka*. US: University of California Press.
- Denzin, N., & Lincoln, Y. (2011). *The sage handbook of qualitative research* (4 ed.). Los Angeles, US: Sage.
- Department of Census and Statistics. (2012). *Population Atlas of Sri Lanka*. Colombo, Sri Lanka: Ministry of Finance and Planning.
- Dixit, A., & Pindyck, R. (1994). *Investment under uncertainty* (1 ed.). New Jersey, US: Princeton University Press.
- Donkor, E., & Duffey, M. (2013). Optimal capital structure and financial risk of project finance investments: A simulation optimization model with chance constraints. *The Engineering Economist*, 58(1), 19-34.
- Doumpos, M., & Zopounidis, C. (2014). Introduction to financial decision making. In *Multicriteria Analysis in Finance* (pp. 1-10). Springer.
- Drury, C., & Tayles, M. (1996). UK capital budgeting practices: Some additional survey evidence. *The European Journal of Finance*, 2(4), 371-388.

- Du Toit, M., & Pienaar, A. (2005). A review of capital budgeting behaviour of large South African firms. *Meditari Accountancy Research*, 13(1), 19-27.
- Duchin, R., & Sosyura, D. (2013). Divisional managers and internal capital markets. *The Journal of Finance*, 68(2), 387-429.
- Duncan, R. (1972). Characteristics of organisational environments and perceived environmental uncertainty. *Administrative Science Quarterly*, 17(3), 313-327.
- Easterbrook, F. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 7(4), 650-659.
- Easton, P. (2004). PE ratios, PEG ratios and Estimating the implied expected rate of return on equity capital. *The Accounting Review*, 79(1), 73-95.
- Economic Research Department. (2008). South Asia's recent growth and future prospects. *SAARCFINANCE Governors' Symposium - South Asia's Recent Growth and Future Prospects* (pp. 2-8). Colombo, Sri Lanka: Central Bank of Sri Lanka.
- Eljelly, A., & Abuidris, A. (2001). A survey of capital budgeting techniques in the public and private sectors of a less developed country (LDC) the case of the Sudan. *Journal of African Business*, 2(1), 75-93.
- Elsas, R., Flannery, M., & Garfinkel, J. (2014). Financing major investments: Information about capital structure decisions. *Review of Finance*, 18(4), 1341-1386.
- Ermasova, N. (2013). Capital budgeting in the states after the great recession. *State and Local Government Review*, 45(2), 119-130.
- Eslake, S. (2002). An introduction to the Australian economy. *Encyclopaedia Americana International Edition*, 2, 733-741.
- Falusi, J. (1983). Capital budgeting techniques in practice. *Management Accounting Journal*, 19-25.
- Fama, E. (1977). Risk-adjusted discount rates and capital budgeting under uncertainty. *Journal of Financial Economics*, 5(1), 3-24.
- Fama, E. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288-307.
- Fama, E., & Jensen, M. (1985). Organisational forms and investment decisions. *Journal of Financial Economics*, 14(1), 101-109.
- Farah, M., Mansor, I., and George, W. (2008). Capital budgeting practices of listed Indonesian companies. *Asian Journal of Business and Accounting*, 1(2), 175-192.
- Farragher, E., Kleiman, R., and Sathu, A. (1999). Current capital investment practices. *The Engineering Economist*, 44(2), 137-141.

- Farragher, E., Kleiman, R., and Sathu, A. (2001). The Association between the use of Sophisticated capital budgeting practices and corporate performance. *The Engineering Economist*, 46(4), 300-311.
- Fatoki, O., Okubena, O., and Herbst, G. (2010). An investigation into the impact of investment appraisal techniques on the profitability of small manufacturing firms in the Nelson Mandela bay metropolitan area, South Africa. *African Journal of Business Management*, 4(7), 1274-1280.
- Firth, M. (1996). The diffusion of managerial accounting procedures in the People's Republic of China and the influence of foreign partnered joint ventures. *Accounting, Organizations and Society*, 21(7), 629-654.
- Flick, U. (2014). *An introduction to qualitative research* (5 ed.). UK: Sage.
- Franc-Dabrowska, J. (2009). Does dividend policy follow the capital structure theory? *Managing Global Transitions*, 7(4), 367-382.
- Freeman, M., & Hobbes, G. (1991). Capital budgeting: Theory versus practice. *Australian Accountant*, 61(1), 36-41.
- Freeman, R. (1994). The politics of stakeholder theory. *Business Ethics Quarterly*, 4(4), 409-421.
- Fremgen, J. (1973). Capital budgeting practices: A survey. *Management Accounting*, 54(11), 19-25.
- Frino, A., Hill, A., & Chen, Z. (2013). *Introduction to Corporate Finance* (5 ed.). NSW, Australia: Pearson Australia Group.
- Froot, K. (2007). Risk management, capital budgeting and capital structure policy for insurees and reinsurers. *Journal of Risk and Insurance*, 74(2), 273-299.
- GE. (2016). *Sri Lanka*. Global Economy. Retrieved February 26, 2014 from <http://www.theglobaleconomy.com/Sri-Lanka/Inflation/>
- Geis, G. (2007). Business outsourcing and the agency cost problem. *Notre Dame Law Review*, 82(3), 956-977.
- George, E. (2011). *Capital budgeting practices and economic development: A comparative study of companies in Western Europe and West Africa*. UK: LAP Lambert Academic Publishing.
- Gervais, S. (2009). Behavioral finance: Capital budgeting and other investment decisions. Retrieved June 10, 2015, from <https://faculty.fuqua.duke.edu/~sgervais/Research/Papers/BookChapter.OvCapitalBudgeting.pdf>

- Gervais, S., Heaton, J., & Odean, T. (2012). Overconfidence, compensation contracts, and capital budgeting. *The Journal of Finance*, 66(5), 1735-1777.
- Gilbert, E. (2005). Capital budgeting: A case study analysis of the role of formal evaluation techniques in the decision making process. *South African Journal of Accounting Research*, 19(1), 19-36.
- Gitman, L., Juchau, R., & Flanagan, J. (2011). *Principles of managerial finance* (6 ed.). NSW: Pearson Education .
- Gitman, L., Juchau, R., Flanagan, J., Pearson, K., & Clemens, M. (1998). *Principles of managerial finance* (2 ed.). Melbourne, Australia: Addison Wesley Longman Australia Pty Limited.
- Gittman, L., & Forrestter, R. (1977). Forecasting and evaluation: Practices and performance. *Financial Management*, 6(3), 66-71.
- Gliem, J., & Gliem, R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. *Midwest Research-to-Practice Conference in Adult* (pp. 82-88). Ohio State University, Columbus, Ohio: Continuing, and Community Education.
- Godfrey, J., Hodgson, A., Holmes, S., and Tarca, A. (2006). *Accounting Theory* (6 ed.). Milton: John Wiley & Sons Australia Ltd.
- Godfrey, P. (2005). The relationship between corporate philanthropy and shareholder wealth: A risk management perspective. *Academy of Management Review*, 30(4), 777-798.
- Gombrich, R., Gombrich, R., & Obeyesekere, G. (1988). *Buddhism transformed: Religious change in Sri Lanka* (Vol. 8). Bangalore, India: Motilal Banarsidass Publication.
- Gordon, L., & Miller, D. (1976). A contingency framework for the design of accounting information systems. *Organisation and Society*, 1(1), 59-69.
- Gordon, L., & Smith, K. (1992). Postauditing capital expenditures and firm performance: The role of asymmetric information. *Accounting, Organizations and Society*, 17(8), 741-757.
- Götze, U., Northcott, D., & Schuster, P. (2015). Capital budgeting and investment decisions. In *Investment appraisal: Methods and models* (2 ed., pp. 3-26). Berlin, Heidelberg: Springer.
- Graham, J., and Harvey, C. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 2(3), 187-243.

- Graham, J., Harvey, C., & Puri, M. (2015). Capital allocation and delegation of decision-making authority within firms. *Journal of Financial Economics*, 115(3), 449-470.
- Grant, M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(1), 109-122.
- Gray, D. (2009). *Doing research in the real world*. UK: Sage.
- Grinyer, J. (1986). An alternative to maximisation of shareholders' wealth in capital budgeting decisions. *Accounting and Business Research*, 16(64), 319-326.
- Grinyer, P., Al-Bazzaz, S., & Yasai-Ardekani, M. (1986). Towards a contingency theory of corporate planning: Findings in 48 UK companies. *Strategic Management Journal*, 7(1), 3-28.
- Guedj, I., Jennifer, C., and Sulaeman, J. (2009). Internal capital allocation and firm performance. Retrieved April 10, 2014, from <http://dx.doi.org/10.2139/ssrn.1364924>
- Guerrero-Baena, M., Gómez-Limón, J., & Cardozo, J. (2013). The capital budgeting process: A methodological approach based on financial and intellectual value creation. *Intangible Capital*, 9(4), 1145-1169.
- Gugler, K. (2003). Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and capital investment. *Journal of Banking & Finance*, 27(7), 1297-1321.
- Gurnani, C. (1984). Capital budgeting: Theory and practice. *The Engineering Economist*, 30(1), 19-46.
- Gustavo, G., Roni, M., Shlomo, B., and Richard, H. (2003). Dividend changes do not signal changes in future profitability. Retrieved January 3, 2014, from Available at SSRN: <http://ssrn.com/abstract=431762> or <http://dx.doi.org/10.2139/ssrn.431762>
- Haddad, K., Sterk, W., & Wu, A. (2010). Capital budgeting practices of Taiwanese firms. *Journal of International Management Studies*, 5(1), 178-182.
- Hair, J., Bush, R., & Ortinau, D. (2000). *Marketing research: A practical approach for the new millennium*. Sydney, Australia: Irwin McGraw-Hill.
- Haka, S. (1987). Capital budgeting techniques and firm specific contingencies: A correlational analysis. *Accounting Organizations and Society*, 12(1), 31-48.
- Haka, S., Lawrence, A., and George, E. (1985). Sophisticated capital budgeting selection techniques and firm performance. *The Accounting Review*, 9(4), 651-669.
- Hakim, R., & Shimko, D. (1995). The impact of firm's characteristics on junk-bond default. *Journal of Financial and Strategic Decisions*, 8(2), 47-55.

- Haldma, T., & Lääts, K. (2002). Contingencies influencing the management accounting practices of Estonian manufacturing companies. *Management Accounting Research*, 13(4), 379-400.
- Hall, J. (2000). Investigating aspects of the capital budgeting process used in the evaluation of investment projects. *South African Journal of Economic & Management Sciences*, 3(3), 353-368.
- Hall, J., & Millard, S. (2010). Capital budgeting practices used by selected listed South African firms: financial management. *South African Journal of Economic and Management Sciences*, 13(1), 85-97.
- Hall, M., & Weiss, L. (1967). Firm size and profitability. *Review of Economics and Statistics*, 49(3), 319-331.
- Hamzah, A., & Zulkafli, A. (2014). Multiple shareholders structure (MSS) and corporate financial policy and corporate financial policy. *Journal of Finance*, 2(1), 107-134.
- Han, C. (1986). The sophistication of capital budgeting in Malaysian companies. *Omega*, 14(2), 175-181.
- Hanaeda, H., & Serita, T. (2014). Capital budgeting practices: Evidence from Japan. Retrieved December 1, 2014, from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2312264](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2312264)
- Harold, D., and Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance*, 7(1), 209-233.
- Harris, M., & Raviv, A. (1996). The capital budgeting process: Incentives and information. *The Journal of Finance*, 51(4), 1139-1174.
- Harrison, J., Bosse, D., & Phillips, R. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. *Strategic Management Journal*, 31(1), 58-74.
- Hassan, I., Shao, L., & Shao, A. (1997). Determinants of capital budgeting strategies: An econometric analysis of U.S multinational subsidiaries. *Multinational business review*, 5(1), 68-70.
- Hassan, M., Hosny, L., and Vasilya, S. (2011). Capital investment practices: A survey of large corporation in developing market. *Global review of Accounting and Finance*, 2(2), 39-60.
- Hastie, K. (1998). One businessman's view of capital budgeting. *Financial Management*, 3(4), 36-44.
- Hendricks, J. (1983). Capital budgeting practices including inflation adjustments: A survey. *Managerial Planning*, 3(4), 22-28.



- Heras, I., Dick, P., and Casadesus, M. (2002). ISO 9000 registration's impact on sales and profitability: A longitudinal analysis of performance before and after accreditation. *International Journal of Quality and Reliability Management*, 19(6), 774-791.
- Hermes, N., Smid, P., & Yao, L. (2007). Capital budgeting practices: A comparative study of the Netherlands and China. *International Business Review*, 16(5), 630-654.
- Hettihewa, S. (2016). The importance of risk management in the extractive sector for a sustainable economy. In S. Devasahayam, & M. Mahapatra, *Sustainability in minerals and energy sectors*. WA, Australia: CRS Press Taylor & Francis Group .
- Ho, S., & Pike, R. (1991). Risk analysis in capital budgeting contexts simple or sophisticated? *Accounting and Business Research*, 21(83), 227-238.
- Ho, S., & Pike, R. (1998). Organizational characteristics influencing the use of risk analysis in strategic capital investments. *The Engineering Economist*, 43(3), 247-268.
- Hodgkinson, L. (1989). *Taxation and corporate investment*. London: CIMA Research Studies.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Newbury Park, CA: Sage
- Holmen, M., & Pramborg, B. (2009). Capital budgeting and political risk: Empirical evidence. *Journal of International Financial Management & Accounting*, 20(2), 105-134.
- Hoon, H., and Larry, J. (2001). Tobin's Q, agency conflicts, and differential wealth effects of international joint ventures. *Global Finance Journal*, 12(2), 267-283.
- Hopwood, A. (1972). An empirical study of the role of accounting data in performance evaluation. *Empirical Research in Accounting*, 156-182.
- Hornstein, A. (2013). Corporate capital budgeting and CEO turnover. *Journal of Corporate Finance*, 20, 41-58.
- Hugo, G. (2014). Change and continuity in Australian international migration policy. *International Migration Review*, 48(3), 868-890.
- Human Development Report. (2011). *Sustainability and equity: A better future for all*. New York, US: United Nations Development Programme. Retrieved August 25, 2015, from [http://hdr.undp.org/sites/default/files/reports/271/hdr\\_2011\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/271/hdr_2011_en_complete.pdf)
- Hussaini, A., & Shafique, I. (2013). Capital budgeting practices in islamic banking: Evidence from Pakistan. *Euro-Asian Journal of Economics and Finance*, 1(1), 9-23.

- Idowu, S. (2011). Accounting for decision makers in a sustainable environment. In S. Idowu, & C. Louche, *Theory and practice of corporate social responsibility* (pp. 209-228). Berlin, Heidelberg: Springer .
- Ireland, D., Hoskisson, R., & Hitt, M. (2011). *The management of strategy: Concepts and cases* (9 ed.). Canada: South-Western, Cengage Learning.
- Ittner, C., Larcker, D., & Randall, T. (2003). Performance implications of strategic performance measurement in financial services firms. *Accounting, Organizations and Society*, 28(7), 715-741.
- Jackson, S., Keune, T., & Salzsieder, L. (2013). Debt, equity and capital investment. *Journal of Accounting and Economics*, 56(2), 291-310.
- Jain, P., Singh, S., & Yadav, S. (2013). Capital Budgeting Decisions. In *Financial Management Practices* (pp. 37-76). India: Springer .
- Jensen, M. (2001). Value maximization, stakeholder theory, and the corporate objective. *Journal of Applied Corporate Finance*, 14(3), 8–21.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jog, M., & Srivastava, A. (1995). Capital budgeting practices in corporate Canada. *Financial Practice and Education*, 5(2), 37-43.
- Johnson, N., Pfeiffer, T., and Schneider, G. (2013). Multistage capital budgeting for shared investments. *Management Science*, 59(5), 1213-1228.
- Johnson, P., and Murray, C. (2006). *Business and management research methodologies* (6 ed.). London: Sage.
- Johnson, R., & Onwuegbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
- Johnson. (1999). *Making capital budgeting decisions: Maximizing the value of the firm*. London: Pearson Education .
- Jung, K., Kim, Y., & Stulz, R. (1996). Timing, investment opportunities, managerial discretion, and the security issue decision. *Journal of Financial Economics*, 42(2), 159-186.
- Kahraman, C. (2008). Fuzzy sets in engineering economic decision-making. In C. Kahraman, *Fuzzy engineering economics with applications* (pp. 1-9). Berlin, Heidelberg: Springer.
- Kalay, A. (2014). International payout policy, information asymmetry, and agency costs. *Journal of Accounting Research*, 52(2), 457-472.

- Kalyebara, B. (1998). In practice, How do Australian companies determine and use the hurdle rate in capital budgeting? *Tenth Annual PACAP/FMA Finance conference*. Kuala Lumpur.
- Kalyebara, B., & Islam, S. (2014). Conceptual Framework for Investment appraisal, and capital markets research in accounting and the methodology. In *Corporate governance, capital markets, and capital budgeting* (pp. 45-74). Berlin, Heidelberg: Springer.
- Kantudu, A. (2007). Capital investment appraisal practices of quoted firms in Nigeria. Retrieved March 3, 2015, from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1000075](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1000075)
- Kaplan, R. (1984). The evolution of management accounting. *Accounting Review*, 59(3), 390-418.
- Kashyap, A. (2014). Capital allocating decisions: Time value of money. *Asian Journal of Management*, 5(1), 106-110.
- Kester, G., and Chong, T. (1998). Capital budgeting practices of listed firms in Singapore. *Singapore Management Review*, 20(1), 9-23.
- Kester, G., Chang, R., Echanis, E., Haikal, S., Mansor, M., Skully, M., . . . Wang, C. (1999). Capital budgeting practices in the Asi-Pacific Region: Australia, Hong Kong, Indonesia, Malaysia, Philippines and Singapore. *Financial Practice and Education*, 9(1), 25-33.
- Khan, M., & Jain, P. (2007). *Basic Financial Management* (3 ed.). New Delhi, India: The McGraw - Hill Companies.
- Kim, S., & Farragher, E. (1982). An empirical study of the relationship between capital budgeting practices and earnings performance. *The Engineering Economist*, 27(3), 185-196
- Kim, S.H. (1981). An empirical study on the relationship between capital budgeting practices and earnings performance. *The Engineering Economist*, 27(3), 185-196.
- King, P. (1975). Is the emphasis of capital budgeting theory misplaced? *Journal of Business Finance & Accounting*, 2(1), 69-82.
- Klammer, T. (1973). The association of capital budgeting and firm performance. *The Accounting Review*, 48(2), 353-364.
- Klammer, T., and Walker, M. (1984). The continuing increase in the use of sophisticated capital budgeting techniques. *California Management Review*, 27(1), 137-148.

- Kothari, C. (2004). *Research methodology: Methods and techniques*. (2 ed.). New Delhi, India: New Age International (P) Limited.
- Krockenberger, M. (2015). *Population growth in Australia*. Canberra, Australia: The Australia Institute. Retrieved December 10, 2015, from <http://www.tai.org.au/content/population-growth-australia>
- Kwong, H. (1986). The sophistication of capital budgeting in Malaysian companies. *Omega*, 14(2), 175-181.
- Lam, K., Wang, D., and Lam, M. (2008). Practices of Hong Kong building contractors in strategic asset allocation process: Longitudinal approach. *Journal of Financial Management of Property and Construction*, 13(3), 176-186.
- Lambert, R., & Larcker, D. (1987). An analysis of the use of accounting and market measures of performance in executive compensation contracts. *Journal of Accounting Research*, 25, 85-125.
- Larcker, D. (1983). The association between performance paln adoption and corporate capital invsetment. *Journal of Accounting and Economics*, 5(1), 3-30.
- Laux, J. (2011). Capital Budgeting. *American Journal of Business Education*, 4(7), 29-38.
- Lazaridis, I. (2004). Capital budgeting practices: A survey in the firms in Cyprus. *Journal of small business management*, 42(4), 427-433.
- Lee, S., & Ip, Y. (1984). Should a \$ 1,000,000 investment be made? *The Hong Kong Manager*, 13(1), 15-20.
- Leon, F., Isa, M., & Kester, G. (2008). Capital budgeting practices of listed Indonesian companies. *Asian Journal of Business and Accounting*, 1(2), 175-192.
- Lidija, D., & Silvija, O. (2007). Capital budgeting practices: A survey of Croatian firms. *South East European Journal of Economics and Business*, 2(1), 59-67.
- Lilienfeld-Toal, U., & Ruenzi, S. (2014). CEO ownership, stock market performance, and managerial discretion. *The Journal of Finance*, 69(3), 1013-1050.
- Liljeblom, E., & Vaihekoski, M. (2004). Investment evaluation methods and required rate of return in Finnish publicly listed companies. *Finnish Journal of Business Economics*, 53(1), 9-24.
- Lilleyman, P. (1984). Capital budgeting: current practices of Australian organisations. *The Australian Accountant*, 54(2), 130-133.
- Lincoln, Y., Lynham, S., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In K. Denzin, & S. Lincoln, *The Sage handbook of qualitative research* (4 ed., pp. 97-128). California, US: Sage.

- Louis, H. (2004). Earnings management and the market performance of acquiring firms. *Journal of Financial Economics*, 74(1), 121-148.
- Maccarrone, P. (1996). Organising the capital budgeting process in large firms. *Management Decision*, 34(6), 43-56.
- Machuga, S., and Pfeiffer, J. (2002). Economic value added, Future accounting earnings and Financial analysts' Earnings per share forecasts. *Review of Quantitative Finance and Accounting*, 18(1), 59-73.
- Mack, N., Woodsong, C., MacQueen, K., Guest, G., and Namey, E. (2005). *Qualitative research methods A data collector's field guide*. North Carolina: Family Health International. Retrieved July 20, 2014, from <http://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector%27s%20Field%20Guide.pdf>
- Major, E. (1995). *Fundamental of project appraisal*. Lagos, Nigeria: Masan Publishers.
- Makris, M. (2009). Incentives for motivated agents under an administrative constraint. *Journal of Economic Behavior & Organisation*, 71(2), 428-440.
- Manoj, A. (2002). Corporate finance practices in India: A survey. *Vikalpa*, 27(4), 29-56.
- Mao, J. (1970). A survey of capital budgeting theory and practice. *Journal of Finance*, 25(2), 349-360.
- Marcus, M. (1969). Profitability and size of firm: Some further evidence. *Review of Economics and Statistics*, 51(1), 104-107.
- Marino, A., & Matsusaka, J. (2005). Decision processes, agency problems and information; An economic analysis of capital budgeting procedures. *Review of Financial studies*, 18(1), 301-325.
- Maritan, C. (2001). Capital investment as investing in organisational capabilities: An empirically grounded process model. *Academy of Management Journal*, 44(3), 513-531.
- Mark, E., Richard, T., and Andy, L. (1999). *Management research: Introduction*. London: Sage.
- Maroyi, V., and van der Poll, H.M. (2012). A survey of capital budgeting techniques used by listed mining companies in South Africa. *African Journal of Business Management*, 6(32), 9279-9292.
- Maury, B. (2006). Family ownership and firm performance: Empirical evidence from Western European corporations. *Journal of Corporate Finance*, 12(1), 321-341.

- McConnell, J., & Muscarella, C. (1985). Corporate capital expenditure decisions and the market value of the firm. *Journal of Financial Economics*, 14(3), 399-422.
- Mcdaniel, W., MCcarty, E., & Jessell, K. (1988). Discounted cas flow with explicit reinvestment rates: Tutorial and extension. *Financial Review*, 23(3), 369-385.
- McLachlan, R., Clark, C., & Monday, I. (2002). Australia's service sector: A study in diversity. *Productivity Commission Staff Research Paper*. Retrieved June 8, 2015, from <http://ssrn.com/abstract=304304> or <http://dx.doi.org/10.2139/ssrn.304304>
- McLaney, E., Pointon, J., Thomas, M., & Tucker, J. (2004). Practitioners' perspectives on the UK cost of capital. *European Journal of Finance*, 10(1), 23-38.
- McLean, I. (2004). Australian economic growth in historical perspective. *Economic Record*, 80(250), 330-345.
- McMahon, R. (1981). The determination and use of investment hurdle rates in capital budgeting: A survey of Australian practice. *Accounting and Finance*, 21(1), 15-35.
- Meegaskumbura, M.B.A., Bahir, M., Milinkovitch, M., & Schneider, C. (2002). Sri Lanka: An amphibian hot spot. *Science*, 298(5592), 379-379.
- Menachem, B., & Venetia, I. (1983). The effects of inflation and taxes on growth investments and replacement policies. *The Journal of Finance*, 38(5), 1519-1528.
- Mendes-Da-Silva, W., & Saito, R. (2014). Stock exchange listing induces sophistication of capital budgeting. *Revista de Administração de Empresas*, 54(5), 560-574.
- Michael, J., and Guilding, C. (2013). Factors affecting biasing of capital budgeting cash flow forecasts: Evidence from the hotel industry. *Accounting and Business Research*, 42(5), 519-545.
- Miller, K., & Waller, H. (2003). Scenerios, real options and integrated risk management. *Long Range Planning*, 36(1), 93-107.
- Mintzberg, H., Raisinghini, D., and Theoret, A. (1976). The structure of unstructured decision processes. *Administrative Science Quarterly*, 21(1), 246-275.
- Mitchell, F. (2002). Research and practice in management accounting: Improving integration and communication. *The European Accounting Review*, 11(2), 277-289.
- Modigliani, F., & Miller, M. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3), 261-295.
- Mohana, P. (2011). *Financial statement analysis and reporting* (1 ed.). New Delhi: PHI Learning Private Limited.

- Mooi, S., & Mustapha, M. (2001). Firm performance and degree of sophistication of capital budgeting practice: Some Malaysian evidence. *Proceedings of the Asia Pacific Management Conference, 19*, pp. 279-29. Kuala Lumpur, Malaysia.
- Moore, J., & Reichert, A. (1989). A multivariate study of firm performance and the use of modern analytical tools and financial techniques. *Interfaces, 19*(3), 79-87.
- Morgan, D. (2007). Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research, 1*(1), 48-76.
- Morgan, K. (2012). *Australia: A Very Short Introduction*. UK: Oxford University Press.
- Mukherjee, A., & Hanif, M. (2006). *Financial accounting* (5 ed.). New Delhi, India: McGraw Hill.
- Mukherjee, T.K., & Henderson, G.V. (1987). The capital budgeting process: Theory and practice. *Interfaces, 17*(2), 78-90.
- Mullin, S. (2007). *Business planning & strategy*. Fredericton, Canada: Macmullin Inc.
- Mutairi, M., Tian, G., & Tan, A. (2009). Corporate finance practice in Kuwait: A survey to confront theory with practice. *Australian Finance and Banking Conference* (pp. 1-26). Sydney, Australia: Social Science Electronic Publishing Inc.
- Myers, S. (1984). Finance theory and financial strategy. *Interfaces, 14*(1), 126-137.
- Ndubisi, N. (2012). Mindfulness, reliability, pre-emptive conflict handling, customer orientation and outcomes in Malaysia's healthcare sector. *Journal of Business Research, 65*(4), 537-546.
- Neely, A. (2002). *Business performance measurement: Theory and practice*. Cambridge, UK: Cambridge University Press.
- Nicholls, S., & Rosewall, T. (2015). The economic performance of the states. *RBA Bulletin, 13*-20.
- Nicholson, J., & Ffolliott, J. (1966). Investment evaluation criteria for Canadian companies. *The Business Quarterly, 54*-62.
- Nolan, S., & Heinzen, T. (2014). *Essentials of statistics for the behavioral sciences* (2 ed.). New York, US: Worth Publishers.
- Northcott, D. (1995). *Capital investment decision making*. London: The Dryden press.
- Ohlson, J., and Nauroth, B. (2005). Expected EPS and EPS growth as determinants of value. *Review of Accounting Studies, 10*(2), 349-365.
- Olawale, F., Olumuyiwa, O., & George, H. (2010). An investigation into the impact of investment appraisal techniques on the profitability of small manufacturing firms in

- the Nelson Mandela Bay metropolitan area, South Africa. *African Journal of Business Management*, 4(7), 1274-1280.
- Oliver, D. (1989). *Oceania: The native cultures of Australia and the Pacific Islands* (Vol. 1). US: University of Hawaii Press.
- Onwuegbuzie, A. (2002). Why can't we all get along? Towards a framework for unifying research paradigms. *Education*, 122(3), 518-530.
- Otley, D. (1978). Budget use and managerial performance. *Journal of Accounting Research*, 16(1), 122-149.
- Pandy, I. (1999). *Financial management* (8 ed.). New Delhi, India: Vikas Publishing Pvt Ltd.
- Parrino, R., Kidwell, D., Au-Yong, H., Mokrkel-Kingsbury, N., Dempsey, M., & Murray, J. (2011). *Fundamental of Corporate Finance* (1 ed.). NSW, Australia: John Wiley & Sons Limited.
- Pasiouras, F., and Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance*, 21(2), 222-237.
- Patrick, B., Chen, H., and Wang, N. (2011). A unified theory of Tobin's q, corporate investment, and risk management. *The Journal of Finance*, 56(5), 1545-1578.
- Patterson, C. (1989). Investment of companies listed on the New Zealand stock exchange. *Accounting and Finance*, 29(2), 73-89.
- Payne, J., Heath, W., & Gale, L. (1999). Comparative financial practice in the US and Canada: Capital budgeting and risk assessment. *Financial Practice and Education*, 9(10), 16-24.
- Peebles, P. (2006). *The history of Sri Lanka*. Portsmouth, UK: Greenwood Publishing Group.
- Peel, M. (1999). Planning, business objectives and capital budgeting in Japanese, German and domestic SMEs: Some evidence from the UK manufacturing sector. *Journal of Small Business and Enterprise Development*, 6(4), 350-365.
- Peirson, G., Brown, R., Easton, S., Howard, P., & Pinder, S. (2011). *Business finance* (11 ed.). NSW Australia: McGraw-Hill Australia Pty Limited.
- Pejovich, S. (1995). The firm and contracts. In *Economic analysis of institutions and systems* (pp. 171-188). Netherlands: Springer .
- Pereiro, L. (2006). The practice of investment valuation in emerging markets: Evidence from Argentina. *Journal of Multinational Financial Management*, 16(2), 160-183.



- Perera, H. (1988). *Buddhism in Sri Lanka: Short history*. Kandy, Sri Lanka: Buddhist Publication Society.
- Periasamy, P. (2013 ). *A textbook of financial cost and management accounting* (2 ed.). New Delhi, India: Himalaya Publishing House.
- Peter, A. (2012). *Financial management for decision makers* (6 ed.). Essex, UK: Pearson Education Limited.
- Peterson, P., & Fabozzi, F. (2002). *Capital budgeting: Theory and practice*. New York, US: John Wiley & Sons, Inc. Retrieved August 11, 2014, from <http://160592857366.free.fr/joe/ebooks/tech/Wiley%20Capital%20Budgeting%20Theory%20and%20Practice.pdf>
- Petrović, E., Radović, O., & Stanković, J. (2013). Individual investors' investment decision-making process. *Strategic Management*, 18(1), 3-14.
- Petty, W., Peacock, K., Martin, P., Burrow, M., Known, J., Scott, D., & Martin, D. (1996). *Basic financial management* (1 ed.). NSW, Australia: Prentice Hall.
- Phelan, P. (1997). Exposing the illusion of confidence in financial analysis. *Management Decision*, 35(2), 163-168.
- Pietroforte, R., & Gregori, T. (2003). An input-output analysis of the construction sector in highly developed economies. *Construction Management and Economics*, 21(3), 319-327.
- Pike, R. (1983). The capital budgeting behaviour and corporate characteristics of capital constrained firms. *Journal of Business Finance & Finance*, 10(4), 663-671.
- Pike, R. (1984). Sophisticated capital budgeting systems and their association with corporate performance. *Managerial and Decision Economics*, 5(2), 91-97.
- Pike, R. (1986). The Design of capital budgeting processes and the corporate context. *Managerial and Decision Economics*, 7(1), 187-195.
- Pike, R. (1988). An empirical study of the adoption of sophisticated capital budgeting practices and decision-making effectiveness. *Accounting and Business Research*, 18(72), 341-351.
- Pike, R. (1996). A longitudinal survey on capital budgeting practices. *Journal of Business, Finance and Accounting*, 23(1), 79-92.
- Pike, R., & Ho, S. (1991). Risk analysis in capital budgeting: Barriers and benefits. *Omega*, 19(4), 235-245.
- Pinches, G. (1982). Myopia, capital budgeting and decision making. *Financial Management*, 11(3), 6-19.

- Pindado, J., & Chabela, D. (2006). The role of investment, financing and dividend decisions in explaining corporate ownership structure: Empirical evidence from Spain. *European Financial Management*, 12(5), 661-687.
- Piper, J. (1978). *Determinant of financial control systems for mutiple retailers-some case study evidence*. US: University of Loughborough.
- Pirttila, T., & Sandstrom, J. (1995). Manufacturing strategy and capital budgeting process. *International Journal of Production Economics*, 41(1), 335-341.
- Pitty, J., David, S., & Bird, M. (1975). The capital budgeting decision making process of large corporations. *The Engineering Economist*, 20(3), 159-172.
- Pocock, A., Correia, C., & Wormald, M. (1991). An analysis of the approaches used by industrial comapnies listed on the JSE to identify their cost of capital. *Journal of Accounting Research*, 5(1), 27-40.
- Porter, M. (1992). Capital choices: Changing the way America invests in Industry. *Journal of Applied Corporate Finance*, 5(1), 579-589.
- Pradeep, B., and Lemay, Q. (2009). The use of capital budgeting techniques in business: A perspective from the Western Cape. *The Journal of Applied Business Research*, 25(4), 37-46.
- Pratt, S., & Grabowski, R. (2008). *Cost of capital: Applications and examples* (3 ed.). New Jersey, US: John Wiley & Sons.
- Proctor, M., & Canada, J. (1992). Past and present methods of manufacturing invetsment evaluation: A review of the empirical and theoretical literature. *The Engineering Economist*, 38(1), 45-58.
- Rajasekar, S., Philominathan, P., and Chinnathambi, V. (2006). Research methodology. Retrieved from May 10, 2014, <http://arxiv.org/pdf/physics/0601009.pdf>
- Rajkumar, S., & Hoolahan, B. (2004). Remoteness and issues in mental health care: Experience from rural Australia. *Epidemiologia e Psichiatria Sociale*, 13(2), 78-82.
- Rawlings-Way, C. (2011). *Australia* (16 ed.). Australia: Lonely Planet Publications (Firm).
- Reid, G., & Smith, J. (2000). The impact of contingencies on management accounting system development. *Management Accounting*, 11(4), 427-450.
- Rose, D. (2014). Arts of flow: poetics of 'fit'in Aboriginal Australia. *Dialectical Anthropology*, 38(4), 431-445.

- Ross, S., Bianchi, R., Christensen, M., Drew, M., Westerfield, R., & Jordan, B. (2014). *Fundamentals of corporate finance* (6 ed.). NSW, Australia: McGraw Hill Education.
- Ross, S., Westerfield, A., & Jordan, B. (2009). *Modern financial management* (8 ed.). US: Mc Graw Hill.
- Ross, S., Westerfield, R., Jordan, B., & Roberts, G. (2005). *Fundamentals of corporate finance* (5ed.). Toronto, Canada: McGraw Hill Pty Limited.
- Rossi, M. (2015). The use of capital budgeting techniques: An outlook from Italy. *International Journal of Management Practice*, 8(1), 43-56.
- Roubi, R., Barth, R., & Faseruk, A. (2011). Capital budgeting use in Canada: Sophistication and risk attributes. *Journal of Applied Business Research*, 7(4), 83-89.
- Ruhan, A. (1998). Malaysian capital budgeting methods: Survey and analysis. In *Annual PACAP/FMA Finance Conference on Asia Pacific Financial Market*. Kuala Lumpur.
- Ryan, B., Scapens, R., & Theobald, M. (2002). *Research method and methodology in finance and accounting* (2 ed.). UK: Academic Press Limited.
- Ryan, P., & Ryan, G. (2002). Capital budgeting practices of the fortune 1000: How have things changed? *Journal of Business & Management*, 8(4), 1-16.
- Salkind, J. (2000). *Statistics for people who hate statistics* (1 ed.). California, US: Sage Publications.
- Sandahal, G., and Sjogren, S. (2003). Capital budgeting methods among Sweden's target groups of companies. *Production Economics*, 84(1), 51-69.
- Sangster, A. (1993). Capital investment appraisal techniques: A survey of current usage. *Journal of Business Finance and Accounting*, 20(3), 307-333.
- Satish, V., Sanjeev, G., and Roopali, B. (2009). A survey of capital budgeting practices in corporate India. *The Journal of Business Perspective*, 13(3), 1-17.
- Saunders, M., Lewis, P., and Thornhill, A. (2012). *Research methods for business students* (6 ed.). Essex, UK: Prentice Hall.
- Schall, L., & Sundem, G. (1980). Capital budgeting method and risk: A further analysis. *Financial Management*, 9(1), 7-11.
- Schall, L., Gary, L., & William, R. (1978). A survey and analysis of capital budgeting methods. *The Journal of Finance*, 33(1), 281-287.

- Schiller, A., Herzfeld, M., Brinkman, R., & Stuart, G. (2014). Monitoring, predicting, and managing one of the seven natural wonders of the world. *Bulletin of the American Meteorological Society*, 95(1), 23-30.
- Schlegel, D., Frank, F., & Britzelmaier, B. (2016). Investment decisions and capital budgeting practices in German manufacturing companies. *International Journal of Business and Globalisation*, 16(1), 66-78.
- Schulz, A., & Cheng, M. (2002). Persistence in capital budgeting reinvestment decisions—personal responsibility antecedent and information asymmetry moderator: A note. *Accounting & Finance*, 42(1), 73-86.
- Scott, D., Martin, D., Petty, W., & Known, J. (1988). *Basic financial management* (4 ed.). NSW, Australia: Prentice Hall.
- Secombe, M., & Smolicz, J. (2015). Second international handbook on globalisation, education and policy research. In *Globalisation, cultural diversity and multiculturalism: Australia* (pp. 503-517). Netherlands: Springer.
- Segelod, E. (1998). A note on the survey of project evaluation techniques in major corporations. *International Journal of Production Economics*, 54(2), 207-213.
- Sekaran, U. (2003). Research methods for business: A skill building approach. *Journal of Education for Business*, 68(5), 316-317.
- Shao, L., and Alan, S. (1996). Risk analysis and capital budgeting techniques of U.S. multinational enterprises. *Managerial Finance*, 22(1), 41-57.
- Shan, G., & Xu, L. (2012). Do internal governance mechanisms impact on firm performance? Empirical evidence from financial sector in China. *Journal of Asia-Pacific Business*, 13(2), 114-142.
- Sheard, J. (2013). Quantitative data analysis. In K. Williamson, & G. Johanson, *Research Methods: Information, Systems and Contexts* (pp. 395-416). Prahran, Australia: Tilde Publishing and Distribution.
- Shields, M., Chow, C., Kato, Y., & Nakagawa, Y. (1991). Management accounting practices in the US and Japan: Comparative survey findings and research implications. *Journal of International Financial Management & Accounting*, 3(1), 61-77.
- Shin, H., & Kim, Y. (2002). Agency costs and efficiency of business capital investment: Evidence from quarterly capital expenditures. *Journal of Corporate Finance*, 8(2), 139-158.

- Shinoda, T. (2010). Capital budgeting management practices in Japan. *Economic Journal of Hokkaido University*, 39(1), 39-50.
- Shleifer, A., & Vishny, R. (1989). Management entrenchment: the case of manage-specific investments. *Journal of Financial Economics*, 25(1), 123-139.
- Singh, S., Jain, P. K., & Yadav, S. S. (2012). Capital budgeting decisions: Evidence from India. *Journal of Advances in Management Research*, 9(1), 96-112.
- Singleton, R., Straits, B., & Straits, M. (1993). *Approaches to Social Research* (2 ed.). New York, USA: Oxford University Press.
- Slagmulde, P., Bruggemana, W., & Wassenhaveb, L. (1995). An empirical study of capital budgeting practices for strategic investments in CIM technologies. *International Journal of Production Economics*, 40(1), 121-152.
- Smit, H.T., & Ankum, L.M. (1993). A real options and game theoretic approach to corporate investment strategy under competition. *Financial Management*, 241-250.
- Smolicz, J. (1997). Australia: From migrant country to multicultural nation. *International Migration Review*, 31(1), 171-186.
- Soltani, S., Nayebzadeh, S., & Moeinaddin, M. (2014). The Impact Examination of the techniques of management accounting on the performance of title companies of yazd. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(1), 382-389.
- Stulz, R. (1999). What's wrong with modern capital budgeting? *Financial Practice and Education*, 99(8), 7-11.
- Tappura, S., Sievanen, M., Heikkila, J., Jussila, A., & Nenonen, N. (2014). A management accounting perspective on safety. *Safety Science*, 71, 151-159.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches* (4 ed.). Thousand Oaks, CA: Sage.
- Tayles, M., Pike, R., & Sofian, S. (2007). Intellectual capital, management accounting practices and corporate performance: Perceptions of managers. *Accounting, Auditing & Accountability Journal*, 20(4), 522-548.
- Trahan, E., & Gitman, J. (1995). Bridging the theory-practice gap in corporate finance: A survey of financial officers. *The Quarterly Review of Economics and Finance*, 35(1), 73-87.
- Transparaency International. (2014). *Corruption Percetions Index 2014*. Transparaency International: the global coalition against corruption.  
doi:<http://www.ey.com/Publication/vwLUAssets/EY-transparency-international->

corruption-perceptions-index-2014/\$FILE/EY-transparency-international-corruption-perceptions-index-2014.pdf

- Trigeorgis, L. (1993). The nature of option interactions and the valuation of investments with multiple. *The Journal of Financial and Quantitative Analysis*, 28(1), 1-20.
- Truong, G., Partington, G., and Peat, M. (2008). Cost of capital estimation and Capital budgeting practice in Australia. *Asutralian Journal of Management*, 33(1), 95-122.
- Turner, G. (2003). *British cultural studies: An introduction..* UK: Psychology Press.
- Vadeei, M., Mahmoudi, P., and Saeid, A. (2012). An analysis and explanation of the relationship between techniques of capital budgeting and the performance of companies admitted to Tehran stock exchange. *Journal of Basic and Applied Scientific Research*, 2(7), 6420-6423.
- Velez, I., & Nieto, G. (1986). Investment decision-making practices in Colombia: A survey. *Interfaces*, 16(4), 60-65.
- Verbeeten, F.H. (2006). Do organizations adopt sophisticated capital budgeting practices to deal with uncertainty in the investment decision? A research note. *Management Accounting Research*, 17(1), 106-120.
- Verma, S., Gupta, S., & Batra, R. (2009). A survey of capital budgeting practices in corporate India. *The Journal of Business Perspective*, 13(1), 1-17.
- Waterhouse, J., & Tiessen, P. (1978). A contingency framework for management accounting system research. *Accounting, Organisation and Society*, 3(1), 65-76.
- Weston, J., & Copeland, T. (1992). *Managerial Finance* (9 ed.). Hinsdale, US: Dryden Press.
- Westwick, C., & Shohet, P. (1976). *Investment appraisal and inflation: Report*. England: Institute of Chartered Accountants in England and Wales.
- Whitman, D., & Terry, R. (2012). Fundamentals of engineering economics and decision analysis. *Synthesis Lectures on Engineering*, 7(1), 1-219.
- Whittington, G. (1971). *The prediction of profitability*. Cambridge, UK: Cambridge University Press.
- Wijewardena, H., & De Zoysa, A. (1999). A comparative analysis of management accounting practices in Australia and Japan: An empirical investigation. *The International Journal of Accounting*, 34(1), 49-70.
- Wilkes, F., Samuels, J., & Greenfield, S. (1996). Investment decision making in UK manufacturing industry. *Management Decision*, 34(4), 62-71.

- Williamson, K., & Johanson, G. (2013). *Research Methods: Information, system, contexts* (1 ed.). Victoria, Australia: Tilde Publishing and Distribution.
- Wilson, C., & Keers, B. (2003). *Financial Management: Principles and applications* (4 ed.). NSW, Australia: Pearson Education Australia.
- Wnuk-Pel, T. (2014). Capital budgeting practices in non manufacturing companies in Poland. *Social Sciences*, 82(4), 59-69.
- Wong, K., Farragher, E., and Leung, R. (1987). Capital investment practices: A survey of large corporations in Malaysia, Singapore, and Hong Kong. *Asia-Pacific Journal of Management*, 4(2), 112-113.
- Woods, J., & Randall, M. (1989). The net present value of future investment opportunities: Its impact on shareholder wealth and implications for capital budgeting theory. *Financial Management*, 18(2), 85-92.
- World Bank. (2013). *World bank annual report*. The World Bank. Retrieved July 1, 2015, from [http://siteresources.worldbank.org/EXTANNREP2013/Resources/9304887-1377201212378/9305896-1377544753431/1\\_AnnualReport2013\\_EN.pdf](http://siteresources.worldbank.org/EXTANNREP2013/Resources/9304887-1377201212378/9305896-1377544753431/1_AnnualReport2013_EN.pdf)
- Zeeman, R., & Naumann, K. (2005). *Principles of managerial finance* (4 ed.). NSW, Australia: Pearson Education.
- Zhang, W., Qing, C., and Schniederjans, M. (2004). Neural network earnings per share forecasting models: A comparative analysis of alternative methods. *Decision Sciences*, 35(2), 205-236.
- Zinn, C., Lesso, W., & Motazed, B. (1977). A probabilistic approach to risk analysis in capital investment projects. *The Engineering Economist*, 22(4), 239-260.

## Appendices

### Appendix A: Plain Language Statement

#### SCHOOL OF BUSINESS

<b>Project Title:</b>	Capital Budgeting Practices and Firm Performance: A Comparative Study of Australia and Sri Lanka
<b>Principal Researcher:</b>	Dr Samantha Hettihewa
<b>Other/Student Researchers:</b>	Dr Gavin Hurst Mr Pratheepkanth Puwanenthiren

Dear Sir/Madam,

You are invited to participate in a PhD research study being undertaken by Pratheepkanth Puwanenthiren, under the supervision of Dr Samantha Hettihewa, and Dr Gavin Hurst of The Faculty of Business, Federation University Australia, entitled: **Capital budgeting practices and firm performance: a comparative study of Australia and Sri Lanka.**

The aim of the research is to investigate whether the capital budgeting practices differ significantly between Australia and Sri Lanka in terms of performance maximisation and to contribute to the existing literature, and understanding of capital budgeting practices and firm performance in Australian and Sri Lankan listed firms across several industries and in doing so will provide a framework capable of being adopted by both developed and less developed countries. Particularly, how capital budgeting practices impact on firm performance in developed and emerging economies. Moreover, this study would benefit the academics, researchers, policy-makers and practitioners of both countries and other similar countries through exploring the impact of capital budgeting practices on firm performance, and pursuing policy to improve the current status of it.

Your contact details have been obtained from your company's website. Participation in this research will involve completing the enclosed questionnaire which will take about 25-30 minutes to complete. If you are willing to participate, please complete the attached survey and return using the enclosed postage-paid envelope by (date).

Responses to the questionnaire will be anonymous and confidential. Please note that your participation in this research is completely voluntary, and if you do not wish to take part you are not obliged to do so. Also note that the reply paid envelope provided is coded to allow the researchers to track non-respondents, however, the questionnaire will be removed



and immediately separated from the envelopes on receipt. The questionnaire and the envelopes will then not be able to be linked in any way. The return of the survey will be recorded on a database using the coded envelope and the envelopes will then be shredded immediately so as to assure complete confidentiality. All data from the research will be stored securely by the principal researcher. Data collected from the questionnaires will be destroyed after 5 years. You should note however that it is impossible to withdraw once your survey is returned by mail, due to the anonymous nature of the survey.

Please contact the researchers by an email (provided below) if you would like to receive a summary of findings on completion of the project.

In the unlikely event that you feel any distress, Australian participants can contact lifeline on 13 11 14 and Sri Lanka participants can contact lifeline on 1333.

If you have any questions or concerns about completing the questionnaire, you may contact me at 61 3 5327 9158 or [s.hettihewa@federation.edu.au](mailto:s.hettihewa@federation.edu.au)

Your cooperation and participation in this study is greatly appreciated.

Sincerely,

Dr Samantha Hettihewa

If you have any questions, or you would like further information regarding the project titled Capital Budgeting Practices and Firm Performance: A Comparative Study of Australia and Sri Lanka, please contact the Principal Researcher Dr Samantha Hettihewa of the Faculty of Business. Telephone: 61 3 5327 9158, Email: [s.hettihewa@federation.edu.au](mailto:s.hettihewa@federation.edu.au)

Should you (i.e. the participant) have any concerns about the ethical conduct of this research project, please contact the Federation University Ethics Officer, Research Services, Federation University Australia, PO Box 663, Mt. Helen VIC 3353. Telephone: (03) 5327 9765, Email: [research.ethics@federation.edu.au](mailto:research.ethics@federation.edu.au)

CRICOS Provider Number 00103D

## Appendix B: A Survey Questionnaire

### Survey on Capital Budgeting Practices

- When completing the questionnaire, please focus only on the firm to which you are attached in providing your responses. Do not focus on other companies in the group.
- The questionnaire contains two series of questions. Series A requests general information of your company. Series B investigates the capital budgeting practice variables under eight sub-sections.

### Part A: General Information

Please indicate your ✓ responses in the relevant box for the given statements/questions.

A1 Indicate your position in the firm.

Chief Financial Officer	Chief Executive Officer	Director	Accountant	Finance Manager	Other

A2 Gender

Male	Female

A3 Indicate your highest educational background.

Diploma	Bachelor	Honours	Master	PhD	Other

A4 Specify your age group.

Below twenty five years (<25)	Twenty five to thirty five years (25-35)	Thirty five to fifty five years (36-55)	Over fifty five years (55<)

A5 Indicate your management experience.

One to five years (1-5)	Six to ten years (6-10)	Eleven to fifteen years (11-15)	Over fifteen years (16<)

A6 Select best label for your firm's industry.

Utilities		Telecommunication		Materials	
Information		Industrials		Health Care	
Energy		Consumer staples		Consumer Discretionary	

A7 How many employees does your firm employ?

Below hundred (<100)	Hundred to two fifty (100-250)	Two fifty to five hundred (250-500)	Above five hundred (500<)

A8 What percentage of your annual income is earned domestically?

Below twenty (<20%)	Twenty to forty (20%-40%)	Forty to eighty (40%-80%)	Above eighty (80%<)

A9 Specify the firm's ownership.

Domestic	Foreign

A10 What do you perceive as being the overall risk situation of your firm?

Very High (5)	High (4)	Moderate (3)	Low (2)	Very Low (1)

A11 Weigh the relative effect of the following risk factors on the apparent risk of your firm.

	Very High (5)	High (4)	Moderate (3)	Low (2)	Very Low (1)
Cash flow					
Access to credit					
Firm size					
New markets					
Competitive pressure					
Innovations to your way of doing business					
Reliance on staff-competence					
Legal risk					
Regulatory risk					
Other (Please specify)					

A12 How important are each of the following objectives of your firm?

	Very Important (5)	Important (4)	Neutral (3)	Slightly important (2)	Not at all important (1)
To maximise profit					
To maximise sustainable growth					
To retain market position					
To maintain productivity					
To maintain continuity					
Other (Please specify).....					
.....					

A13 How important are the following stakeholders to your firms?

	Very Important (5)	Important (4)	Neutral (3)	Slightly important (2)	Not at all important (1)
Customers					
Employees					
Shareholders					
Suppliers					
Government					
Other (Please specify) .....					
.....					

## Part B: Capital Budgeting Practices

### *Section 1: [Long-term strategic planning]*

B1. Indicate the level of agreement with the following statements. Please specify your response by placing tick only in ✓ one box per line.

	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
Long-term investment planning for investment is a significant phase in the capital budgeting practices of your firm.					
Long-term investment decisions derive from an explicit corporate strategy of your firm.					
Long-term investment decisions emerge through the formal planning processes of your firm.					
The evaluation of long-term investments is left to the decision of top level management.					
Long-term investment decisions are influenced by negotiations among associations in the firm.					
Financial evaluation methods are often used in the early analysis of long-term investments.					
An investment project whose expected return falls below the required level may still be accepted for intentional reasons.					
Strategic long-term investment decisions are influenced by competitors.					
A long-term investment project will be accepted if its expected return meets the minimum requirements of return on investment.					
Maximising the profit is the long-term goal of our firm.					

**Section 2: [Search for investment opportunities]**

B2. Indicate the level of agreement with the following statements. Please specify your response by placing tick only in one box ✓ per line.

	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
The identification of investment opportunities is a significant phase in the capital budgeting practices of your firm.					
The firm has a formal process for searching and identifying investment opportunities which is in accordance with the firm's strategic goals.					
Corporate vision and strategy may be changed to accommodate beneficial projects that are identified.					
If excellent investment opportunity presents itself the corporate vision and strategy may be changed to accommodate it.					
The firm has research and development divisions constantly searching and researching into attractive investment opportunities.					
Firm should find alternatives of each investment opportunities before tune the final investment decision.					
A profitable investment proposal is not just born; someone has to suggest it.					
The individuals' rewards and motivation is significant tool for identifying potential investments to your firm.					
Investment opportunities are identified and proposed by top level management.					
The firm should ensure that it has identified potentially profitable investment opportunities.					

**Section 3: [Review and screening]**

B3. Indicate the level of agreement with the following statements. Please specify your response by placing tick only in one  box per line.

	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
The review and screening of projects is a substantial phase in the capital budgeting practice in your firm.					
The firm has proper process for screening of investments that is in accordance with the firm's investment goals.					
The firm has written investment screening guidelines for investment decisions.					
The firm considers the investment's review aspects throughout the entire capital budgeting process in your firm.					
All identified investment opportunities are subjected to a preliminary screening process by management to isolate marginal and unsound investments.					
There exist proper processes for screening investment opportunities where pathetic investments are sorted out.					
Review and screening involves some preliminary quantitative analysis and judgements based on past experience.					
The firm has an established review staff /board for screening identified investment opportunities.					
The review and screening phase decision clearly affects the success or failure of the firm and its future direction.					
The firm has regular and pre -decided procedures for review of the majority of the investments.					

**Section 4: [Analysis and evaluation]**

B4. How frequently has your firm used the following **capital budgeting techniques** when deciding which investment to pursue over the past ten years? Please specify your response  by placing tick only in one box per line.

	Frequently (5)	Mostly (4)	Neutral (3)	Rarely (2)	Never (1)
Payback period (PBP)					
Discounted payback period (DPP)					
Accounting rate of return (ARR)					
Net present value (NPV)					
Internal rate of return (IRR)					
Other (Please specify)..... .....					

B5. When valuing an investment how did you assess your firm's **investment risk**? Please specify your response by placing  tick only one box per line.

	Frequently (5)	Mostly (4)	Neutral (3)	Rarely (2)	Never (1)
Scenario approach					
Sensitivity analysis					
Decision tree approach					
Probabilistic (Monte Carlo) simulation					
Risk adjusted discount rate					
Other (Please specify)..... .....					

B6. How did you determine your firm's **cost of capital**? Please specify your response by placing  tick only in one box per line.

	Frequently (5)	Mostly (4)	Neutral (3)	Rarely (2)	Never (1)
Weighted average cost of capital					
Capital asset pricing model					
Interest payable on debt capital					
Dividend yield on shares					
Earnings yield on shares					
Other (Please specify) ..... .....					



B7. How frequently has your firm used the following **techniques or information** to guide long-term investment decisions? Please specify your response by placing tick ✓ only in one box per line.

	Frequently (5)	Mostly (4)	Neutral (3)	Rarely (2)	Never (1)
Real option approach					
Game theory approach					
Balanced scorecard					
Value chain analysis					
Other (Please specify) .....					
.....					

**Section 5: [Accept/reject decisions]**

B8. Please indicate how important you consider the following factors when making the decision to accept or reject an investment. Please specify your response by placing tick ✓ only in one box per line.

	Very Important (5)	Important (4)	Neutral (3)	Slightly important (2)	Not at all important (1)
The accept/reject decision is an important phase in the capital budgeting practice in your firm					
Quantitative analysis judgment					
Consistency with corporate strategy					
Improved market image for the company					
Improved competitive position					
The ability to expand in the future					
Increased market share					
Business expansion/development					
Increased saving from disposable expenses					
Risk position					
Environmental factors					
Competitive advantage					

**Section 6: [Implementation]**

B9. Indicate the level of agreement with the following statements. Please specify your response by placing tick only in one  box per line.

	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
Implementation is a significant phase in the capital budgeting practice in your firm.					
The establishment of an implementation plan and the assignment of a project team occur when the investment decision is made.					
During the implementation phase entire divisions of your firm are involved.					
The firm reviews implementation procedures each year.					
Top management are involved in all aspects of the implementation and evaluation process.					
When developing implementation strategies, consideration is given to the barriers to implementation activities.					
The firm is prepared to adopt corrective steps if required at the implementation level.					
Top level management constantly monitor and observe the implementation process.					
Implementation mechanisms heavily influence the corporate framework.					
The implementation phase is scrutinised by examining risk analysis and alternative cash estimations.					

**Section 7: [Expenditure control and monitoring]**

B10. Indicate the level of agreement with the following statements. Please specify your response by placing tick only in ✓ one box per line.

	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
Expenditure control is an important phase in the capital budgeting practice in your firm.					
There is constant monitoring of progress of investments with the strategic planning of the firm.					
Deviations from the estimated cash flows are monitored on a regular basis with a view to taking corrective actions when needed.					
Top management usually support for expenditure control and monitoring process.					
CFOs can receive progress reports at regular intervals concerning the project monitoring.					
The firm has the ability to assess the effect of inflation factors on financial decisions.					
The firm has an established effective operational internal control system					
The firm updates its monitoring procedures on a timely basis, particularly when new investments are accepted.					
The firm's accounting system provides sufficiently detailed breakdowns of accounts to enable analysis of variances.					
When firm finds any unexpected variations in future cash flows from forecasts it should be reported to top management immediately.					

**Section 8: [Post-audit]**

B11. Indicate the level of agreement with the following statements. Please specify your response by placing tick only in  one box per line.

	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
The post-audit is an important phase in the capital budgeting practice in your firm.					
The auditor discusses key results with CFO during the progress of the review of investment decisions.					
Overall, firm satisfies with the purpose, scope, objectives, conduct, and results of the post completion audit.					
The firm has regular and pre-agreed procedures for post-audits that is in accordance with the firm's investment goals.					
The results of post-audits assist to evaluate projects and to improve future forecasts.					
A post implementation audit provides useful feedback to investment appraisal in your firm.					
Audit information prompts management to consider a thorough review of the firm's strategic plan.					
Post-audits relate to the current long-term decisions support process of the investment implementation.					
Audits contribute greatly to improvement of current investment decision making by analysing past rights and wrongs.					
Post-audit conclusions and opinion are logical and well documented.					

Thank you

## Appendix C: HREC Approval

Approval  
Human Research Ethics Committee



Principal Researcher:	Samantha Hettihewa
Other/Student Researcher/s:	Gavin Hurst Puwanenthiren Pratheepkanth
School/Section:	TBS
Project Number:	B14-054
Project Title:	Capital Budgeting Practices and Firm Performance: A Comparative Study of Australia and Sri Lanka.
For the period:	29/05/2014 to 29/02/2016

*Please quote the Project No. in all correspondence regarding this application.*

**Comment:** In the application page 7 under Research Methodology it states the questionnaire is expected to take 20 days to complete, please change to 25-30 minutes as stated in the Plain Language Information Statement.

### **REPORTS TO HREC:**

An annual report for this project must be submitted to the Ethics Officer on:  
**29 May 2015**

A final report for this project must be submitted to the Ethics Officer on:  
**29 March 2016**

These report forms can be found at:

<http://federation.edu.au/research-and-innovation/research-support/ethics/human-ethics/human-ethics3>

Fiona Koop

A handwritten signature in black ink, appearing to read "Fiona Koop".

**Ethics Officer**  
**22 June 2015**

## Appendix D: Publication Synopsises

No	Date	Journal/Conference	Topic	Synopsis	Decision
<b>Refereed Journal Publications (ABDC Ranked)</b>					
01	2015	Global Review Journal of Accounting and Finance	Capital Budgeting Practices in Australia and Sri Lanka: A comparative Study	<i>This research explores how its firms' choose capital budgeting techniques. In theory, firms in developed countries have better access to the human capital needed to drive sophisticated models. However, in practise, large firms (whatever their environment) want to use the best capital allocation methods. Australian firms rely heavily on sophisticated capital budgeting methods (including Scenario and Sensitivity analysis) and Sri Lankan firms tend to use simple alternatives as the prime means of evaluating capital investment, the effect of firm and CFOs features and sophistication tended to swamp the national effects. Thus, the development level of the nation in which a firm is embedded appears to drive the choice of capital budgeting techniques of small less sophisticated firms but has little or no effect on larger more sophisticated firms. This study adds to the general knowledge on capital budgeting techniques by showing that the nature of the firm appears to swamp the nurture of its environment.</i>	<b>Global Review Journal of Accounting and Finance, 6(2), 16-30</b>
02	2016	Global Review Journal of Accounting and Finance	Corporate Governance and Financial Performance: The Case of Australia and Sri Lanka	<i>This study analyses the correlation between Board attributes and firm performance in a sample of 100 Australian and 100 Sri Lankan firms to analyse. The analysed board attributes include size; gender ratio; non-independent-to-total members; and experience. The level of economic development is considered as an overlaying potential confounding effect on the outcomes. The analysis and an inspection of the data suggest that: Australian Boards are much larger than Sri Lankan Boards; in both nations, Boards are male dominated; and while board structure provides predictive insight into firm performance, only a few individual attributes are significant. The most important finding of this research is that the larger Boards of Australia appear to have a significantly stronger influence on firm performance than the relatively smaller boards of Sri Lanka. Future research should extend the review of the effects of Board size on corporate performance.</i>	<b>Global Review Journal of Accounting and Finance, 7(1), 1-12</b>
03	2016	Accounting & Finance	National-Development-Level Effects on Capital-Budgeting Practices Comparative Study of Nature vs. Nurture	<i>This study seeks to untangle two key drivers of capital-budgeting sophistication. Specifically, the relative sophistication (nature) of firms and the development level (nurture) of the nations in which they are embedded. This research should help determine whether development should focus on individual firms or will raising the national development level act like a rising tide and raise the performance of all corporations. The study is based on data collected from 150 Australian companies listed on the ASX200 index and 150 Sri Lankan firms listed the Colombo stock exchange. The findings demonstrate that capital budgeting practices are more influenced by contingency features and sophistication in Australia and Sri Lanka. Also, Australian firms tend to use capital-budget models with good-to-strong predictive power (except for ROE) and Sri Lankan firms tend to use capital-budget models with fair-to-poor predictive power. Further, the analysis of Australian firms yielded much stronger and more statistically significant results than the analysis of Sri Lankan firms. Future research should expand consideration of the influence of firm, capital expenditure size and sophistication on the capital budgeting practices.</i>	<b>Provisionally Accepted</b>

<b>04</b>	2016	Australian Accounting Review	Capital Budgeting, Cost of Capital and Firm Performance in a Developed Country's Firms Juxtaposed with Equivalent Firms in an Emerging Country	<i>A survey of 150 firms in Australia and 150 firms in Sri Lanka are used in this study to examine the influence of national-development level on the choice and application of capital-budgeting-techniques (CBT), risk analysis methods, and in turn the cost of capital and long-term investment and firm performances. Using a qualitative and quantitative descriptive approach findings demonstrate that Australian firms rely heavily on sophisticated CBTs while Sri Lankan firms are relatively likely to rely on simple analysing techniques. Also, the results confirm that Australian firms applying CBTs found to have positive association on firm performance except TQ while the choice of CBTs has a negative influence on firm performance except EPS in Sri Lanka. This could be interpreted that Australian CFOs relies heavily on the sophisticated applications than their Sri Lankan colleagues do. Thus, the overall conclusion that the choice to use more sophisticated techniques vs. simpler alternatives tends to vary with an environment attributes, adds to the research knowledge and provide useful information for policy makers.</i>	<b>Under Review</b>
<b>05</b>	2016	-	Capital Budgeting Practices in Developed and Developing Countries Context: Theoretical Perspective	<i>The main purpose of this paper is to analyse existing literature (1960-2015) the use of capital budgeting methods by firms in a comparative perspective to see whether any differences between developed and emerging countries context. Initial findings demonstrate that developed nations have extensive human capital, making the use of sophisticated evaluation methods more convenient, applicable and necessary in terms of domestic competition. In contrast, emerging nations, have less ready access to human capital, which makes the use of sophisticated evaluation methods more difficult and less necessary in terms of local competition</i>	<b>Working Paper Federation University Australia</b>
<b>Peer-Reviewed International Conferences</b>					
<b>06</b>	24-25 <sup>th</sup> November 2014	29 <sup>th</sup> International Business Research Conference, Novotel Hotel, Sydney, Australia	Capital Budgeting Practices in Developed and Emerging Countries: Divergent or Convergent?	<i>This paper theoretically and empirically investigates how capital investment appraisal and risk analysis techniques diverge between developed and emerging countries. This study reveals that, Australian firms tend to rely heavily on sophisticated capital budgeting techniques and that while PBP method continue to be used, that usage is declining. Scenario analysis and sensitivity analysis are, also, widely utilised by Australian firms. In contrast, Sri Lankan firms tend to use PBP as the primary method for evaluating capital investment and scenario analysis is often applied. The choice of whether to use more sophisticated techniques vs. simpler alternatives tends to vary with a firm's attributes (size, available human capital, etc.) as well as the economic and financial market development around the firm.</i>	<b>Published in Conference Proceeding</b>
<b>07</b>	06 <sup>th</sup> November 2014	Federation University Australia's Annual Research Conference Ballarat, Australia	Capital Budgeting Practices and Firm Performance: A Comparative Study of Australia and Sri Lanka.	<i>This research attempts to addresses Capital budgeting practices and firm performance of Australian and Sri Lankan listed firms. Australia is a typical example of a developed market, and albeit in the world arena it is often considered a small open economy, its business practices are well respected. Although Sri Lanka is an emerging economy it is still considered developing. Since the conclusion of the civil war in 2009, recently adopting several economic reforms. (e.g., infrastructure development, deregulation and fostering integration into international markets). As a result, long-term investment has increased significantly. The studies conducted in this area have been inconclusive and have produced mixed results. A review of the existing literature points to the existence of a gap in the understanding of this relationship, not only concerning the mixed results but also of the emerging effect this may have on firms in developing economies. Particularly, this relationship has not been researched or tested, in a comparative sense, considering the Australian and Sri Lankan context. Given the dominance of Australia and the increasing development of industry in Sri Lanka in the Australasian market this research will significantly contribute to the existing literature, and understanding, of capital budgeting practices and firm performance in Australian and Sri Lankan listed firms across several industries and in doing so will provide a framework capable of being adopted by both developed and emerging countries.</i>	<b>Published (Abstract) in Conference Proceeding</b>

08	25-27 <sup>th</sup> May 2015	4 <sup>th</sup> Global Business and Finance Research Conference, Marriott Hotel, Melbourne, Australia	Effects of Board structure on Firm Performance: A comparison between Australia and Sri Lanka	<i>The paper examines and compares the relationship between board structure (board size, female directors' ratio, non- independence directors' ratio and director's experience) and firm performance. The purpose of this paper is to analyse the effectiveness of board structure and its influence on firm performance in both countries from a comparative perspective to see whether economic development matters. The results provide evidence that there are strong differences in the board size between Australia and Sri Lanka whereas there is still a lack of female directors in highest-level positions either developed or emerging economics. The results also reveal that a significant and positive relationship between board size and ROA of Australian companies. For Sri Lankan companies, board structure variables are positively related to ROA and ROE. There is also evidence that board structure play important role on firm performance in Australia and Sri Lanka.</i>	<b>Published in Conference Proceeding</b>
09	5-7 <sup>th</sup> July 2015	AFAANZ Conference, Hotel Grand Chancellor, Hobart, Tasmania, Australia	Corporate Capital Budgeting Practices: The Relative Influence of the Nature of the firm and National-Development Level	<i>This paper evaluates the association between capital-budgeting process and the characteristics of the firm and its managers with firm performance in a developed country and an emerging country, this paper seeks to disentangle the effects of key drivers of capital budgeting sophistication. Findings reveal that the Australian capital budgeting process model was statistically clearer with generally more significant variables, it was also found that firm characteristics in both countries and that larger firms in both countries tend to use more sophisticated capital budgeting methods than those of smaller firms in Sri Lanka. Findings demonstrate that capital-budgeting process are more influenced by contingency characteristics and sophistication in both countries and should help determine whether focus of development should be on individual firms or will raising the country development level, raise the performance of all corporations.</i>	<b>Published in Conference Proceeding</b>
10	19-20 <sup>th</sup> February 2016	2nd International Conference on Business Management and Economics, Galle Face Hotel, Colombo, Sri Lanka.	Development Level, Capital Budgeting Techniques, Cost of Capital and Firm Performance: from a Developed and Emerging Country Perspective	<i>This study considers the influence of national-development level on a firm's choice of: CBT and risk-analysis method. These decision choices can be key factors in the cost of capital, long-term investment, and financial performance of firms. A comparative understanding of what to expect in the two study-target nations and insight into what should be examined in the questionnaire is developed in the qualitative-descriptive literature-review analysis. A quantitative analysis is developed from responses to questionnaires sent to 300 stock-exchange-listed firms (150 in Australia and 150 in Sri Lanka). It was found that while Australian firms tend to rely heavily on sophisticated CBTs, relatively small Sri Lankan firms prefer simple analysis techniques, but larger Sri Lankan firms tend to be as adept at sophisticated CBT analysis as Australian firms. Also, Australian firms have a positive association between their performance and their use of more sophisticated CBTs (Tobin's Q, excepted). However, Sri Lankan firms tended to experience a negative association between their performance and their use of more sophisticated CBTs (earnings per share, excepted). This study shows that the nature of larger firms tends to overpower environmental effects and that for small firms the opposite tends to be true.</i>	<b>Published in Conference Proceeding</b>



