

# Management Accounting Practices in Sri Lanka: An Empirical Investigation in Banking Sector

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**Abstract-** *The purpose of this paper is to report the results of an investigation on the use of management accounting techniques among Sri Lankan banking sector. This research findings based on questionnaire survey done among 30 banks in Sri Lanka. The analysis revealed that there is an enthusiasm among managers in implementing management accounting techniques in their organizations decision making process. According to the respondents response most of firms widely used net present value and internal rate of return techniques for decision making process. However, deeper analysis of data revealed that there is a lack of utilization of accounting rate of return, payback period and profitability index techniques among the managers. The findings of the paper will provide information to the practitioners to utilize management accounting techniques in their organizations and to academics to design courses for management accounting to enhance quality of management decision making process. It is important to implement the related techniques in full to realize the benefits of management accounting techniques. This paper reveals the level of use of these techniques by the banking sector managers in Sri Lanka.*

**Indexed Terms-** *Management Accounting Techniques, Banking Sector, Sri Lanka*

## I. INTRODUCTION

Sri Lanka is a developing country and it runs with a high budget deficit. The budget deficit is due to the foreign borrowings and low government non-taxable income. Sri Lanka private sectors provide high contribution to the Sri Lankan economy through income tax. In addition Sri Lanka government also provides a series of economic restructuring methods to increase country income. Such as provide some

incentives for entrepreneurs and develop infrastructure facilities. Those strategies are positively affected to Sri Lankan economy. However to increase revenue all of the parties have to pay their attention about the cost of production. If organization do not consider about cost of production they will not achieve their ultimate objectives. Cost and management accounting provide different kind of approaches to decrease cost of product. Due to the global competition most of developed countries scholars and experts introduced new approaches as activity based costing, activity based management, Balance score card and target costing (Pavlatos & Paggios , 2009 ). As same as technology and organization structure all have changers time to time to address global competition therefore very important to implications for the nature of management accounting. (Baldvinsdottir et al , 2010; Burns & Scapens, 2000).

Prior to 1980 most of organization applied cost accounting at that time organizations consider about Ascertainment of cost of production and mainly consider quantitative information but after the few years organizations implement management accounting concept in this era organizations consider to provide information to managers to set goals and forecast strategies and consider about quantitative and qualitative information. In this period organizations applied traditional management accounting techniques, such as absorption costing, standard costing, traditional budgets, CVP analysis and profit-based performance measures, focus on concerns internal to the organization. In 1996 period organization move to strategic management accounting therefore most of companies contemplate about internal and external qualitative , quantitative factors and implement activity based costing , balanced score card method, target costing, value chain analysis and bench marking have affected the

whole process of the organization. Basically number of new management accounting tools are introduced by western scholars but the implementation of those techniques in developing countries is questionable. According to Sulaiman et al (2004) Singapore, Malaysia, China and India countries applicability of management accounting tool is poor.

The aim of this paper is to investigate current use of management accounting techniques practices in decision making process. This investigation is not a easy one according to the Ittner and Larcker (2002) also reflected investigation of management accounting discipline is difficult when examination of actual practice without benefit. Brierley et al. (2001) also mentioned to compare current result and prior research result is difficult due to time lag.

Sri Lanka is a developing country therefore some of economic conditions are very compared to developed country. However Sri Lankan companies involve to produce products and services to the global market at that time consumers select quality product at a competitive price. Service companies are merely transplanting to new management techniques rather than other industries. (Bromwich & Bhimani, 1989). The study identified and highlights the management accounting practices in Banking Sector. It is hoped that the results of this review will help to reveal whether commonly used cost and management techniques of decision making can be applied in Sri Lankan context.

The remainder of the paper is organized as follows. The next section briefly sets out the current research in management accounting practices. This is followed by details of the research method. The fourth section contains a discussion of the survey results. Conclusions, limitations and implications for future research are presented in a final section.

## II. LITERATURE REVIEW

Cooper and Kaplan (1988) and Kaplan (1988) reflected that management accounting techniques fail to provide relevant, useful and timely information about processing activities that management needs for planning and control purposes. During the last

three decade number of researchers revealed practice of management accounting technique is questionable. Adam Vos & Ed Vos (2000), according to their study, they have investigated the investment decision making process in small business of New- Zealand. Their empirical study has discussed 238 small business's investment decision making analysis. As an investment evaluation techniques, they used NPV, IRR, PI, ARR and PBP. And their alternative objective is to maximize the shareholders wealth. According to their studies most frequently evaluation methods are accounting based procedures, PBP, ARR, PI are not providing considerable important to the respondents and they never used NPV analysis. There not giving any indicating of how cash flows were discounted. Among the respondents 49% & 51% companies were not using NPV or IRR techniques and 67% of firms normally done their decision making process based on the market knowledge, experience and managerial knowledge. These are the non-financial information provided that influenced to the decision making process. In this study couldn't be seen focused on shareholders wealth maximization and less emphasize on financial analysis. Because of the main purpose is to maximize the utility of the owners. 72% of small businesses used quantitative techniques in their decision making process. Finally it can be say this study used intuition and accounting based techniques instead of using market techniques in small listed businesses. This was very different when compared to the largest listed firms.

Karim Brennon (2013), as same as in this study have given the evidence of capital budgeting techniques which 88 largest companies used in Canada by using questionnaire. Towards their sophisticated techniques 17% did not use the discounting cash flow methods. Remains were used mostly NPV and the IRR methods. Among them 14.2% and 87.7% used NPV and IRR respectively. But at the present time most frequently methods are NPV & IRR. Also used as their primary model in capital decision making. Among the 17% non-discounted cash flow methods, they less used PI & MIRR. (Modified Required Rate of Return). According to their results result 91.5% firms are correctly used NPV analysis or IRR on a cash flow basis rather than based on the accounting income. One of the empirical evidence of this aspect

is non-existent. In Canada they have recognized as financial cost is scarce resource 76 percent large firms are employed WACC compared to the other methods and RRR were still used in this study. Mainly prior to the investment analysis, they have used to do the risk analysis which called sensitively analysis. Furthermore this study have mentioned the reason of not using complex and cumbersome techniques due to lack of management support, DCF being considered a proven method real opinions are risky.

Lingesiya Kengatharan (2016) has explained 363 research papers during the last 20 years. Through this 201 papers were concerned for this study. Based there study Nemours factors have been identified as the determinants of the capital budgeting. Therefore as a capital budgeting techniques they recommended discounting cash flow methods like NPV, IRR, MIRR, PBP & non discounted cash flow methods through the sensitivity analysis and the real option theory. Arnold & Hatzopoulos. (2000) According to this thesis, researcher have tried to show the gap between theoretical and practical aspect of the capital budgeting concept. Under this , empirically has recognized Multi-disciplinary concepts of capital budgeting , major themes, Therefore has identified complex models of capital budgeting practices are dependent on not only the use of DCF techniques, but also proper cash flows, discount rates and risk analysis (Brigham and Ehrhard, 2002). Furthermore there found in developing countries more sophisticated capital budgeting decisions are practiced in developed countries not like that situation.

Axeleson, Jakovicka (2002) regarding to this study has identified the capital budgeting sophistication and firm performance in Sweden market. There was a positive relationship between capital budgeting sophistication and firm performance theoretical and empirically. This study is a survey research using Swedish top 500 companies data collected via Questionnaire were sent to the CEO of company. As a result of this they found there was a negative relationship between capital budgeting sophistication and firm performance by using matched pairs approach (Haka et al., 1985) Klammer (1975) found that firms using PB periods better than the ARR and

other discounting techniques, indicating a negative relationship. However in short run there was positive relationship found through the regression analysis. According to Klammer's views, they have found the ARR and discounting techniques. (1975) showing negative relationship. Using matched pairs approach Haka (1985) found there is negative relationship adopting by capital budgeting techniques in long run and in short term it is positive relationship. Most of the survey researchers have found the negative relationship among the capital budgeting techniques have done their questionnaire in depth.

Pike (1985) said that there is strong relationship between the capital budgeting sophistication and firm performance in certain period. But in the environmental uncertainty it can be assumed to be weaker. According to the cross sectional surveys, 85% evidenced using discounting cash flow methods. Furthermore Pike has mentioned, that the use of IRR is no longer related to company size and use of IRR and NPV are highly connected with firm size. And also mentioned that, it is size of firm which determines degree of computer usage which in combination, influence capital budgeting sophistication. Accuracy of the forecasting model include that usage of computer based investment packages and financial appraisal techniques suggests 88% usage tend to be used Discounted cash flow techniques (NPV and IRR).

According to Helen Axeleson (2002) study, finally they have gone to achieve shareholders wealth, but it has been unless due to the survey question. Northcott (1995) & Hamberg (2002) have recognized the capital budgeting techniques are mostly affected on human behavioral factors & goals of the individual decision maker targets of the firm. Human irrationality can hence be seen as a possible explanation for why Capital Budgeting could not be regarded as a convenient tool for maximizing the shareholders' wealth. Klammer (1973) has investigated using non- financial information like marketing, product development, executive recruitment, training, labor relations are more suitable or better way, instead of using various analytical tools for maximizing the performance of the firm.

Dharmasiri (2010) has highlighted that when the bank's size increases the large banks have a higher perceived significance for capital budgeting practices than the small banks due to having the large figure of mean and median scores and the Standard deviation also decreased. According to the Dharmasiri's results, he perceived the importance of the capital investment process was considered to be high in the banks in Sri Lanka. 50% banks were highlighted that figure was comparatively higher in the medium and large size banks than the small banks through the descriptive statistics used in the study. And also 91% banks have used three discounted techniques of NPV, IRR and the PBP through the survey. Banks of all sizes were used these three methods. ARR was most popular discounted technique in small and medium size banks and Profitability Index is not using in Sri Lankan Context.

Correia (2010), has mentioned that result of South Africa is similar to the results of the Ryan and Ryan (2002) survey of USA there 25% greater probability of using discounted cash flow methods as well as ARR and PBP s by using 100 listed firms in South Africa. Among these 49% used NPV, 46% used IRR. As same as Used PBP and the ARR. According to his views, he mentioned that there is a link between the usage of discounted cash flow and the firm size and the capital intensity. When the capital intensity is high, there more using discounted cash flow methods in firms by doing the survey.

### III. METHODOLOGY

The sample was drawn Banking Sector in Sri Lanka. Mainly Sri Lanka is a developing country therefore practice of management technique is very poor when comparing with developed companies as same as when management accounting change service organizations are very sensitive to those changers as a result researcher selected banking sector for this study. (Sulaiman & Mitchell, 2005).

Since the objective of the research was to analyze the level of adaption of management accounting techniques in the decision making process among Sri Lankan Banking Sector, this research was a essentially a survey based research. The study investigate five management accounting techniques

in the decision making process such as Net Present Value (NPV), Accounting Rate of Return (ARR), Internal Rate of Return (IRR), Pay Back Period (PBP) and Profitability Index (PI).

Sri Lankan Banking sector have registered 33 banks under central bank of Sri Lanka. They are two large state-owned commercial banks. Eleven private domestic commercial banks, thirteen foreign banks, a national saving bank, a regional development bank and three licensed specialized banks. This study focused capital investment decisions practice in banking sector. Therefore the population is considered to all categories of banks in Sri Lanka. The study mainly based on primary data which was collected from the head office of each and every bank, but due to some banks financial policies, they couldn't give the details to the outside parties therefore study consider all commercial banks and licensed specialized banks as a sample of the study.

According to Sekaran (2010), there are some different ways for gathering data for a statistical characterized research, those data can be primary or secondary. The Study based on primary data. Therefore data was gathered by using structured questionnaire. A comprehensive but short questionnaire was design to collect information from all commercial banks and licensed specialized banks in Sri Lanka. The study used the descriptive statistics and non-parametric statistics method to analyze collected data. Basically study calculated management accounting techniques usage by using percentage wise. Further researcher calculated the mean value and rank those methods respectively to disseminate better conclusion.

### IV. DISCUSSION & ANALYSIS

This section presented the practical aspect of management accounting decision techniques in Sri Lankan banking sector. This section mainly shows percentage of decision making techniques practices in the banking sector and discussion based on the analysis result.

Researcher distributed 33 questionnaires among all commercial banks and licensed specialized banks in Sri Lanka. to collect 30 completed questionnaires for

the analysis. According to the collected data researcher categorized Sri Lankan banking industry into two categories for deeper investigation. The study categorization based on total asset of the bank (Dang et al; 2018) and financial resource provision of the bank.

Categorization of the bank based on total asset as follows.

Table 01: Categorization of the bank based on total asset

Bank	Total Asset (Rs. Bn)		No. of Banks
	Minimum	Maximum	
Small Size	0	500	04
Medium Size	500	1000	13
Large Size	Above1000		13

Categorization of the bank based on financial resource provision as follows

Table 02: Categorization of the bank based on Financial Resource Provision

Bank	Financial Resource Provision (Rs. Bn)		No. of Banks
	Minimum	Maximum	
Small Scale	0	500	05
Medium Scale	500	1000	14
Large Scale	1000	2000	11

Level of adaption of management accounting techniques in decision making process based on Total asset of the bank

Small Size Banks

Table 03: Small Size Banks Management Accounting Technique Adaptability

	Al wa ys Use	Us ual ly Use	Some times Use	Ra rel y Us e	N ot Us e	To tal	Wei ghte d Scor e	R an k
NPV	0%	0%	100%	0%	0%	100%	20%	2
A	0%	50	0%	50	0	10	20%	2

RR		%		%	%	0%		
IRR	50%	25%	0%	25%	0%	100%	27%	1
PBP	25%	0%	25%	50%	0%	100%	20%	2
PI	0%	50%	0%	50%	0%	100%	20%	2

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return; PBP: Payback period; PI: Profitability Index

From the analysis it is clear that IRR is the most widely used concept among small size of banks. According to the analysis IRR method use at a 50% in small size banks but they use usually ARR and PI techniques however small size banks apply all of the management accounting techniques in the decision making process.

Medium Size Banks

Table 04: Medium Size Banks Management Accounting Technique Adaptability

	Al wa ys Use	Us ual ly Use	Some times Use	Ra rel y Us e	N ot Us e	To tal	Wei ghte d Scor e	R an k
NPV	15%	38%	31%	0%	15%	100%	23%	2
ARR	8%	46%	15%	0%	31%	100%	20%	4
IRR	15%	46%	31%	8%	0%	100%	25%	1
PBP	15%	8%	62%	0%	15%	100%	21%	3
PI	8%	0%	54%	23%	15%	100%	17%	5

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return;  
 PBP: Payback period; PI: Profitability Index

The analysis reflect that medium size of banks most widely used IRR technique as a management accounting techniques in the decision making process. The banks usually use NPV, ARR and IRR techniques for decision making process. However some of the medium size banks did not apply NPV,ARR , PBP and PI management accounting techniques for their decision making process.

Large Size Bank

Table 05: Large Size Banks Management Accounting Technique Adaptability

	Al wa ys Us e	Us ual ly Use	Som etim e s Use	Ra rel y Us e	N ot U se	To tal	Wei ghte d Scor e	R an k
NPV	31%	46%	23%	0%	0%	100%	27%	1
ARR	23%	15%	8%	8%	46%	100%	17%	3
IRR	46%	31%	15%	0%	8%	100%	27%	2
PBP	15%	8%	23%	8%	46%	100%	16%	5
PI	23%	0%	23%	15%	38%	100%	17%	4

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return;  
 PBP: Payback period; PI: Profitability Index

Large size banks give priority to the NPV as 46% at least “Usually”, but those banks “always” use the IRR as 46%. Except NPV & IRR, other methods weren’t giving the contribution priority to the usage. However some of large size organisations do not apply ARR, IRR, PBP and PI techniques as a

management accounting techniques in the decision making process.

Among the banking sector, most popular management accounting techniques are NPV & IRR in the decision making process. Overall it can be conclude that small size banks most practical technique is IRR, medium size banks and large size banks utilized NPV & IRR as most practical management accounting techniques in the decision making process. It summarized as follows.

Table 06: Management Accounting Technique Adaptability based on Total Asset

Managemen t Accounting Techniques	Overall Banking Ranks	Large Scale	Mediu m Scale	Smal l Scale
IRR	1	2	1	1
NPV	2	1	2	2
ARR	3	3	4	2
PBP	4	5	3	2
PI	5	4	5	2

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return;  
 PBP: Payback period; PI: Profitability Index

Level of adaption of management accounting techniques in decision making process based on financial resource provision of the bank

Small Scale Bank

Table 07: Small Scale Banks Management Accounting Technique Adaptability

	Al wa ys Us e	Us ual ly Use	Som etim e s Use	Ra rel y Us e	N ot U se	To tal	Wei ghte d Scor e	R an k
NPV	20%	40%	40%	0%	0%	100%	25%	1
ARR	0%	60%	0%	0%	40%	100%	19%	3
IRR	0%	60%	20%	0%	20%	100%	21%	2
PBP	20%	20%	0%	0%	60%	100%	16%	4
PI	20%	0%	20%	0%	60%	100%	15%	5

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return; PBP: Payback period; PI: Profitability Index

According to the analysis result ARR and IRR management accounting techniques did not use always but those two techniques utilized usually to take decision in the organisation. However all of small scale banks utilize NPV techniques to evaluate decision in the firm. Therefore NPV techniques was the widely used method in small scale bank.

Medium Scale Bank

Table 08: Medium Scale Banks Management Accounting Technique Adaptability

	Al wa ys Us e	Us ual ly Use	Som etim e s Use	Ra rel y Us e	N ot U se	To tal	Wei ghte d Scor e	R an k
NPV	21%	21%	57%	0%	0%	100%	24%	2
ARR	14%	29%	14%	0%	43%	100%	18%	5
IRR	50%	29%	21%	0%	0%	100%	29%	1
PBP	29%	0%	50%	7%	14%	100%	21%	3
PI	14%	14%	29%	29%	14%	100%	19%	4

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return; PBP: Payback period; PI: Profitability Index

According to the results, can be concluded that medium scale projects more using discounted cash flow techniques. The analysis result reflected that 50% chance of possibility available to use IRR method as always in the decision making process as well as company widely use NPV management accounting technique also.

Large Scale Bank

Table 09: Large Scale Banks Management Accounting Technique Adaptability

	Always Use	Usually Use	Sometimes Use	Rarely Use	Not Use	Total	Weighted Score	Rank
NPV	20%	50%	10%	0%	20%	100%	23%	2
ARR	10%	40%	0%	10%	40%	100%	18%	3
IRR	20%	50%	10%	10%	10%	100%	24%	1
PBP	0%	10%	40%	0%	50%	100%	14%	5
PI	10%	0%	40%	10%	40%	100%	15%	4

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return; PBP: Payback period; PI: Profitability Index

Large scale projects more used IRR and large investment projects also have used always four management accounting techniques except PBP. However large scale organisations also widely use IRR and NPV methods as a management accounting techniques.

According to the financial resource provision among the banking sector, most popular management accounting techniques are NPV & IRR in the decision making process. Overall it can be conclude that small scale, medium scale and large scale bank utilized IRR and NPV as most practical management accounting techniques in the decision making process. It summarized as follows.

Table 10: Management Accounting Technique Adaptability based on Financial Resource Provision

Management Accounting Techniques	Overall Banking Ranks	Large Scale	Medium Scale	Small Scale
IRR	1	1	1	2
NPV	2	2	2	1
ARR	3	3	5	3
PBP	4	5	3	4
PI	5	4	4	5

NPV: Net Present Value; ARR : Accounting Rate of return; IRR: Internal Rate of return; PBP: Payback period; PI: Profitability Index

The analysis result of the study has proved that IRR is the most practical method in Sri Lankan Banking sector. NPV, ARR, PBP and PI are the next most popular techniques respectively. In fact NPV is the next used technique and finally other methods practically have used, but not as a considerable amount. Finally survey data has proved that all banks are using management accounting techniques practically in the decision making process.

When looking at the past literatures, they also have highlighted that NPV, IRR & PI are the best techniques.

Table 11: Summary of previous research

Country	South Africa	USA	UK	Australia	Hong Kong	Singapore	Indonesia	Malaysia	Philippines
Author	Correa & Cramer	Ryan & Ryan	Alkaraan & Northcott	Kestret	Kestret	Kestret	Kestret	Kestret	Kestret
Y.of survey	2006	2002	2003	2004	1997	1996	1997	1996	1996
Y.of publication	2008	2002	2006	2008	1999	1999	1999	1999	1999
IRR	79%	77%	89%	96%	86%	88%	94%	89%	94%
NPV	82%	85%	99%	96%	88%	86%	94%	91%	81%
ARR	14%	15%	60%	73%	80%	80%	56%	69%	78%
Payback	54%	53%	96%	93%	100%	98%	81%	94%	100%



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Many researchers have found that size of the bank is the main factor of management accounting techniques where the larger banks more using management accounting techniques rather than small banks. Because of large banks consisted of high amount of total assets. Hermes (2007), Graham & Harvey (2001). According to that table, results are clearly shown that IRR & NPV are the most popular methods in Sri Lankan banking sector. Otherwise ARR, PBP & PI are the next practically used methods among small medium and large banks. Therefore there was a significant impact on management accounting techniques of NPV & IRR and size of the bank rather than other techniques. The research findings in line with Kengatharan (2015), Yet Hall (2000), Du Toit & Pienaar (2005). Kengatharan (2015) was highlighted that NPV & IRR was statistically significant with the size of the capital budget. Yet Hall (2000), has investigated that large capital budgets are highly associated with IRR than NPV. Rs.500m greater than projects more used NPV & IRR and up to Rs.50m used PBP, ARR or Discounted PBP and also mentioned that IRR is the primary method which used over Rs.5m capital budgets (Du Toit & Pienaar ;2005).

### CONCLUSION

Sri Lanka is a country that has large service sector and banking industry is a one of major service sector in the market. However the competition of Sri Lankan firm is very high. In such situation adaptability of management accounting techniques is imperative to address turbulent environment issues. In order to achieve sustainable development managers have to use existing resources carefully therefore it is very important that the managers of these organisations have a good understanding of management accounting techniques utilization in the decision making process. The analysis of the responses by the selected sample emphasized that NPV and IRR are the widely used management accounting technique in the decision making process. However other techniques such as ARR, PBP and PI also used but not widely.

Some of authors (Correia & Cramer; Ryan & Ryan,, Alkaraan & Northcott; , Kester et al;) also emphasized management accounting techniques adaptability in their context. According to their findings also emphasized that IRR and NPV as widely used method rather than the ARR and payback techniques. In depth analysis of the study reflected that some of organisation do not practice management accounting tools in the decision making process to evaluate their decisions. Hence it is clear lack of understanding of the usefulness of management accounting techniques in the decision making process among managers. Therefore there is a need for introduction of quantitative calculation, qualitative analysis of management accounting techniques in the decision making process under short training courses of the universities and training institute. The study findings based on one particular service sector therefore future researchers can extend this investigation into different industries and more management accounting techniques can be used for decision making process.

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